UNEP

Global Outlook on Sustainable Consumption and Production Policies

Taking action together

United Nations Environment Programme

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The Global Outlook on SCP Policies

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Contents

Acronyms and Abbreviations

ABS	Access Benefit Sharing
ACES	American Clean Energy and Security Act (2009)
ACSR	Arabia Corporate Social Responsibility Network
ACWUA	Arab Countries Water Utilities Association
ADB	Asia Development Bank
AEM	African Eco-labelling Mechanism
AFSED	Arab Fund for Economic and Social Development
AGD Group	Aviation Global Deal Group
AMCEN	African Ministerial Conference on Environment
ANPED	Northern Alliance for Sustainability
APFED	Asia-Pacific Forum for Environment and Development
APRSCP	Asia-Pacific Roundtable for Sustainable Consumption and Production
ARSCP	African Roundtable on Sustainable Consumption and Production
ARSO	African Organisation for Standardisation
ASEAN	Association of Southeast Asian Nations
AWC	Arab Water Council
BMP	Best Management Practices
BSR	Business for Social Responsibility
CAF	Andean Corporation for Development
CAMRE	Council of Arab Ministers Responsible for Environment
CBD	Convention on Biological Diversity
CCAD	Central American Commission for Environment and Development
CDP	Carbon Disclosure Project
CEGESTI	Centro de Gestion Tecnologica e Informatica Industrial
CEJ	Colectivo Ecologista Jalisco
CFC	Chlorofluorocarbons
CI	Consumers International
CJM	Comercio Justo Mexico A.C.
CO2	carbon dioxide
CoC	Chain of custody
COM+	Sustainable Development Communication Alliance
COP	Conferences of Parties
CP	cleaner production
CRI	Copenhagen Resource Institute
CSD	Commission on Sustainable Development
CSO	civil society organization
CSR	corporate social responsibility
DEFRA	Department of Environment, Food and Rural Affairs (U.K.)
DJSI	Dow Jones Sustainability World Indexes
DOT	Department of Transportation
DSM	Demand-Side Management
EAC	East Africa Community
ECLAC	Economic Commission for Latin America and the Caribbean
EEA	European Environment Agency
EECCA	Eastern Europe, the Caucasus and Central Asia
EEG	Emirates Environmental Group
EfE	Environment for Europe
EFTA	European Free Trade Association
EICC	Electronic Industry Citizenship Coalition
EMS	Environmental Management System
EPR	extended producer responsibility
ESG	environmental, social and governance
EU	European Union
EV	electric vehicles
FAO	Food and Agriculture Organization
FARO	Foundation for the Advance of Reforms and Opportunities
FLO	Fairtrade Labelling Organizations International
FoEI	Friends of the Earth International
FSC	Forest Stewardship Council
FYR of Macedonia	Former Yugoslav Republic of Macedonia
GAIA	Global Alliance for Incinerator Alternatives
GCC	Gulf Cooperation Council
GCCIA	GCC Interconnection Authority
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GHG	greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for Technical Cooperation) (GIZ was formerly known as the GTZ)
GPN-J	Green Purchasing Network of Japan
GPP	green public procurement
GRI	Global Reporting Initiative
GTL	gas-to-liquid
GTZ	German Technical Cooperation
HCFC	Hydrochlorofluorocarbons
HLPE	High Level Panel of Experts on Food Security and Nutrition
HUD	Department of Housing and Urban Developement
IARSE	Argentinean Institute of Corporate Social Responsibility
IATA	International Air Transport Association

IBLF	International Business Leaders Forum
ICC	International Chamber of Commerce
ICIPE	International Centre of Insect Physiology and Ecology
IFA	International Fertiliser Association
IFOAM	International Federation of Organic Agriculture Movements
IGES	Institute for Global Environmental Strategies
IIED	International Institute for Environment and Development
ILAC	Latin America and the Caribbean Initiative for Sustainable Development
ILO	International Labour Organization
INCR	Investor Network on Climate Risk
IndyAct	League of Independent Activists
IPCC	Intergovernmental Panel on Climate Change
ISEAL	International Social and Environmental Accreditation and Labelling
ISO	International Organization for Standardization
ISWM	Integrated solid waste management
ITUC	International Trade Union Confederation
IUCN	International Union for Conservation of Nature
IWRM	integrated water resource management
JaNEAP	Jamaica National Environmental Action Plan
JCEDAR	Joint Secretariat of the Joint Committee on Environment and Development in the Arab Region
JPOI	Johannesburg Plan of Implementation
KIOF	Kenya Institute of Organic Farming
KIPPRA	Kenya Institute for Public Policy Research and Analysis
LAC	Latin American and the Caribbean
LAS	League of Arab States
LCA	life-cycle assessment
LCEC	Lebanese Center for Energy Conservation
LDC	least-developed country
MDG	Millennium Development Goal
MEA	multilateral environmental agreements
MENA	Middle East and North Africa
MEW	Ministry of Electricity and Water (Kuwait)
MFCG	Muliru Farmers' Conservation Group
MGP	Mumbai Grahak Panchayat
MPA	marine protected area
MPG	miles per gallon
MSC	Marine Stewardship Council
MSME	micro, small and medium enterprises
NASCA	North American Sustainable Consumption Alliance
NBI	Nile Basin Initiative
NCPC	National Cleaner Production Centres
NEPAD	New Partnership for Africa's Development
NGO	non-governmental organization
NSSD	national strategy for sustainable development
ODS	ozone-depleting substance
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
PEEF	Protection and Energy Efficiency Fund (Croatia)
PERL	Partnership for Education and Research for Responsible Living
POP	persistent organic pollutants
PRI	Principles for Responsible Investment
PSCI	Pharmaceutical Supply Chain Initiative
PV	photovoltaic
QNDS	Qatar's National Development Strategy 2011-2016
RAED	Arab Network for Environment and Development
RAED	Arab Network for Environment and Development
REACH	Registration, Evaluation, Authorization and restriction of Chemicals
RTA	Roads and Transport Authority (Dubai)
SAN	Sustainable Agriculture Network
SBI	Sustainable Business Institute
SCI	Sustainable Commodity Initiative
SCP	sustainable consumption and production
SD	Sustainable Development
SDI	Sustainable Development Indicator
SDDG	Sainsbury's Dairy Development Group
SDS	EU Sustainable Development Strategy
SEE	South-Eastern Europe
SIP	sustainable industrial policy
SMEs	small and medium-sized enterprises
SPP	sustainable public procurement
SUSHI	Sustainable Urban Housing Initiative
TaTEDO	Tanzania Traditional Energy Development and Environmental Organization
TEMM	Tripartite Environment Ministers Meeting
TMT	Toyota Motor Thailand
TSC	The Sustainability Consortium
UAE	United Arab Emirates
UNAID	United States Agency for International Development
UNCED	United Nations Conference on Environment and Development
UNDAF	United Nations Development Assistance Framework

UNDESA	United Nations Department of Economic and Social Affairs
UNDESD	United Nations Decade of Education for Sustainable Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNEP FI	UNEP Finance Initiative
UNEP-SBCI	United Nations Environment Programme – Sustainable Buildings and Climate Initiative
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCWA	United Nations Economic and Social Commission for Western Asia
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
UNGC	United Nations Global Compact
UNWTO	United Nations World Tourism Organization
USAID	United States Agency for International Development
VSC	Virtual Schools of Consumption
WBCSD	World Business Council for Sustainable Development
WCE	Western and Central Europe
WEF	World Economic Forum
WRI	World Resources Institute
WSA	World Steel Association
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature (World Wide Fund for Nature was formerly called the World Wildlife Fund for Nature, which remains its official name in Canada and the United States)
YXC Med	YouthXChange in the Mediterranean
6th EAP	Sixth Environment Action Programme of the European Community
10YFP	10-Year Framework of Programmes on Sustainable Consumption and Production

Foreword

We are facing deeply interlinked economic, social and environmental crises that stem, in large part, from current unsustainable patterns of consumption and production, and pose serious threats to human development. Health, education, equity and empowerment are all adversely affected. Humanity is now consuming more resources than ever, both per person and in absolute terms, exceeding by far our planet's regenerative capacity.

But the many challenges confronting us should not stop us in our tracks. Instead, they should spur us to innovation and creative solutions. They should encourage us to scale up our efforts to adopt more sustainable economic activities and lifestyles, and the policies and measures required to bring about this transition.

The necessary shift to sustainable consumption and production (SCP) patterns will do much to improve the lives of some of the world's poorest people, as well as protect the rich resources that nature provides. These are essential requirements for sustainable development. But we will not succeed in this shift unless we have effective policies in place, encourage social and technological innovation, and stimulate public and private investment. This requires the engagement of governments, business, civil society, consumers, educators, the media and all citizens. In other words, each and every one of us has a role to play.

Fortunately, these efforts have already begun. The *Global Outlook on SCP Policies* – a joint effort of the United Nations Environment Programme and the European Commission – identifies examples of effective policies and initiatives being implemented worldwide. It reviews 56 case studies ranging from global multilateral agreements and regional strategies to specific policies and initiatives. For example, Africa, the Arab region, the European Union and Latin America have all developed regional strategies for SCP, and the Asia-Pacific region is working on a Green Growth strategy.

Furthermore, the *Global Outlook* reviews policy tools such as regulatory, economic, voluntary and information-based instruments. The *Outlook* also examines the promotion of SCP in key economic sectors including energy, transport and food, and integrated approaches such as waste management around the world.

Likewise, business and industry have engaged in a broad range of initiatives to reduce resource depletion and environmental impacts. Civil society organizations are also highly active in promoting SCP, for instance, establishing effective ecolabelling and certification schemes to enable wiser consumer choices.

While much has been achieved, a lot more remains to be done. We need now to rise to the challenge and steer the transition to a more sustainable world. *The Global Outlook on SCP Policies* was prepared to inspire and encourage cooperation across the globe. It shows progress achieved in promoting SCP, highlighting best practices and offering recommendations to scale up and replicate these important efforts worldwide.

As we look forward to the 2012 United Nations Conference on Sustainable Development (Rio+20), we hope that it will successfully deliver a framework and set of concrete actions to advance sustainable development across the globe that will be followed up in the years to come. It is clear that existing policies, capacity-building activities and experiences in promoting SCP patterns already provide essential tools and recommendations for transitioning to a Green Economy – but we need to go further and accelerate the pace of our progress towards truly sustainable patterns of consumption and production *The Global Outlook on SCP Policies* is one step forward in gathering and sharing information on SCP policies supporting this transition. We encourage you to contribute by reporting your initiatives to the online database that will keep expanding *The Global Outlook on SCP Policies*.

We hope that the current report will be useful to support your endeavors to promote SCP and is a valuable contribution for delivering on Rio+20.

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Executive Summary

The Global Outlook on Sustainable Consumption and Production (SCP) Policies, developed by the United Nations Environment Programme (UNEP) with the financial support of the European Commission, provides a non-exhaustive review of policies and initiatives that are promoting the shift towards SCP patterns. It is illustrated by 56 case studies ranging from global multilateral agreements and regional strategies to specific policies and initiatives being implemented by governments, businesses and civil society organizations.

The Global Outlook on SCP Policies' main objectives are to provide information about existing activities promoting SCP, to identify best practices, and to provide recommendations to adapt, replicate and scale up SCP policies and initiatives contributing to the overarching goal of achieving sustainable development.

The Imperative of Sustainable Consumption and Production

Although economic development over the past 30 years has managed to lift millions out of poverty and expand the number of countries reaching middle-income status, it has also been accompanied by a wide array of negative environmental and social impacts. These impacts threaten to undermine, or even reverse, the economic development that has been achieved to date. Globally, resource consumption continues to rise, waste and pollution grows, and the gap between rich and poor stretches wider. As we gain greater scientific understanding about our planet's bio-physical constraints, so too do we appreciate the growing scale of the challenges before us.

At the time of writing this report, the global economic system is still plagued by recent multiple crises with significant consequences for the world's poor. Highly volatile and rising oil prices put further pressure on the gains that have been achieved through economic development. Rapidly increasing food and commodity prices, in part driven by increased fuel prices, reflect further the inter-linkages of economic and environmental challenges. Considering a projected population of 9 billion in 2050, feeding the world will be a major challenge, given current consumption trends. Putting in place a more sustainable food supply systems is clearly an urgent need.

Consumption of natural resources is increasing and will accelerate further if projected growth rates of the world economy are realized. This is alarming for both non-renewable and renewable resources that depend on ecosystems, which can irreversibly collapse after overexploitation.

One thing in common for all of these challenges is the need for a concerted, cooperative effort to overcome them. In our interconnected world, supply chains are truly global. Resource extraction, the production of intermediate inputs, distribution, marketing, waste disposal and re-use of most products take place across and linking the world's national economies. The consumption patterns in one country can have negative impacts on the bio-physical and social environment in neighbouring or even distant ones.

Chapter one explores the evolution of the SCP concept and its approach, with the life-cycle perspective at its core. SCP focuses on the sustainable and efficient management of resources at all stages of value chains of goods and services. It encourages the development of processes that use fewer resources and generate less waste, including hazardous substances, while yielding environmental benefits and frequently productivity and economic gains. Such improvements can also increase the competitiveness of enterprises, turning solutions for sustainability challenges into business, employment and export opportunities.

The fundamental objective of SCP is to decouple economic growth from environmental degradation. Achieving SCP patterns will sustain improvements in economic development and human welfare that we depend on, including improvements in health and education. In other words, SCP aims at **doing more and better with less** – across the entire life cycle of products, while increasing quality of life for all. 'More' delivered in terms of goods and services, with 'less' impact in terms of resource use, environmental degradation, waste and pollution.

SCP at the Global Level

The Global Outlook on SCP Policies reviews international efforts to promote SCP that are being driven by intergovernmental organizations, business and civil society (Chapter 2). It highlights that at the **intergovernmental level**, the adoption of a SCP approach as an international commitment and goal is an important milestone in tackling these challenges. The 1992 United Nations Conference on Environment and Development in Rio de Janeiro (the Earth Summit), and the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg laid the global foundation for many efforts to

promote SCP at the regional and national levels. Another important way in which governments have promoted SCP has been through the negotiation and implementation of multilateral environmental agreements (MEAs). Although most MEAs do not explicitly refer to SCP, in practice treaties impact and alter many stages of a product's life cycle. For example, defining and understanding ozone layer depletion were central to the speed with which the Vienna Convention and the Montreal Protocol on Substances that Deplete the Ozone Layer were agreed upon. Governments have since reduced or controlled use of ozone-depleting substances in the production, consumption and disposal phases of many products.

Intergovernmental efforts to promote SCP have also been developed through initiatives focused on thematic issues. For example, the informal, multi-stakeholder **Marrakech Process**, which responded to the call by the 2002 WSSD to develop a 10-Year Framework of Programmes on SCP (10YFP), supported the development of a global multi-stakeholder platform for dialogue and cooperation to help implement SCP worldwide. The Marrakech Process facilitated the establishment of seven thematic task forces, and development of expertise and approaches to promote and implement SCP at regional, national and local levels. These task forces have provided policies, capacity-building methodologies, as well as supporting demonstration projects on SCP.

Parallel to these activities, **businesses** in the past few decades have developed and put into practice a number of tools to promote SCP, such as environmental management systems (EMS). This has been an important way for companies to operationalize the concept of SCP, offering opportunities to improve environmental performance, while yielding cost-savings. The International Organization for Standardization (ISO) has also been instrumental in establishing standards for EMS and tools to guide companies around the world on the conduct of Lifecycle Assessments (LCAs). The ISO 14000 suite of standards enables an organization to identify and manage the environmental impacts of its activities, establish environmental performance objectives and targets, and adopt a life-cycle perspective in managing those impacts.

Reporting on commitments to sustainability is also becoming increasingly common and important to business interests. The Global Reporting Initiative (GRI) sets out the reporting principles and generic performance indicators that organizations can use to measure and report on the sustainability of their operations. With the aim of creating such a globally accepted integrated reporting framework, the GRI and the Prince's Accounting for Sustainability Project announced the formation of the International Integrated Reporting Committee, which brings together financial, environmental, social and governance information in a clear, concise, consistent and comparable format.

At the global level, the **Civil Society Organizations (CSOs)** represent a highly diverse set of actors on SCP. Many have evolved significantly in the past few decades, beginning as small, single-issue organizations, and ultimately transforming into international organizations with wide portfolios of activity and large budgets. Many CSOs can be seen multiplying their individual impacts through partnerships with governments, business and other actors, which have been key means to promote SCP at all levels.

The CSOs have also been instrumental in developing and harmonizing some important voluntary standards. For example, Fairtrade International (FLO) coordinates labels for around 15 product groups, from agricultural commodities to gold and sports balls. FLO's label promotes sustainable consumption by helping consumers identify goods that have been produced under socially fairer and more environmentally friendly conditions. The label also promotes sustainable production by guaranteeing that the price for each product group is set to be socially sustainable, giving producers the means to improve their living and working conditions. FLO-certified product sales saw a significant increase of 15 per cent between 2008 and 2009, amounting to €3.4 billion worldwide.

Action on SCP at the Regional and National Levels

At the regional level, a number of intergovernmental bodies have established SCP frameworks, such as the European Union's Sustainable Consumption and Production and Sustainable Industrial Policy (SCP/SIP) Action Plan. Africa, the Arab region and the Latin America and Caribbean regions have developed SCP strategies with the support of the Marrakech Process. Those strategies have been endorsed by the relevant regional intergovernmental bodies.

Each regional chapter analyses activities on SCP undertaken by governments, business and civil society as well as an analysis of the type of instruments (regulatory, economic, voluntary or information-based) that are used or promoted by these three actors (chapters 3 to 8).

In Africa, the regional 10-Year Framework of Programmes on SCP has spurred the development and implementation of a number of sub-regional, national and local SCP programmes. For example, pilot projects for mainstreaming SCP in national- and

city-level development policies and action plans on SCP were conducted in Tanzania and Cairo in Egypt. The recently launched African Ecolabelling Mechanism helps to validate and harmonize ecolabelling initiatives in the region, to better identify sustainable products and increase markets for them in Africa and beyond.

The National Cleaner Production Centres (NCPCs) are very active in Africa. They have supported the establishment of the African Roundtable on SCP in 2002, which plays a key role in implementing various SCP activities. Businesses in Africa have started to integrate corporate social responsibility (CSR) by establishing business linkages with the local communities, forming public-private partnerships and voluntary reporting. The CSOs in Africa are focusing on education, skill development, promotion of clean production methods and conservation of natural resources; all this contributing to empowerment and capacity-building. If enabled technically and financially, this group has the potential to disseminate the concept of SCP more widely in both rural and urban areas (Chapter 4).

In **Asia and the Pacific**, the Green Growth Initiative has been widely adopted by countries as a way to reconcile tensions between poverty reduction and environmental sustainability. The Green Growth Initiative promotes SCP, development of sustainable infrastructure, and the introduction of green tax reform, while improving the eco-efficiency of economic growth. Another important regional initiative is the European Commission-funded SWITCH Asia Programme, promoting SCP among Small and Medium-sized Enterprises (SMEs) and supporting Asian policymakers in shifting towards SCP practices. The SWITCH Asia Programme has funded more than 47 projects in 15 Asian countries in areas such as green public procurement, cleaner production and ecolabelling. An important multi-stakeholder platform is the Asia and the Pacific Roundtable on SCP which is an increasingly active forum for dialogue and cooperation (Chapter 5).

In Latin America and the Caribbean (LAC), a Regional Council of Government Experts on SCP was set up in 2003 to support the implementation of the SCP regional strategy. This Council works closely with the LAC Forum of Environment Ministers, which has endorsed important elements of the SCP Regional Strategy. The region has identified four SCP priorities: national SCP action plans, sustainable public procurement (SPP), SMEs, and education and sustainable lifestyles. Various activities are also taking place at the sub-regional level such as the Central American Commission for Environment and Development initiative on SPP. The Mercosur countries have developed a *Policy for Promotion and Cooperation on SCP*, which focuses on harmonizing policies, encouraging cooperation on SPP and sustainable consumption, stimulating eco-innovation and promoting education.

In the LAC region, over 95 per cent of the companies are micro enterprises or SMEs. Although they contribute to less than 50 per cent to the region's Gross Domestic Product (GDP) they are the source of almost 70 per cent of employment. An increasing number of tools and instruments are being developed to promote social and environmental management in SMEs, such as the guidelines for SMEs of the GRI; the indicators for CSR; and training on cleaner production and resource efficiency. The NCPCs have become key players in helping businesses adopt good environmental practices and move towards SCP (Chapter 6).

The United Nations Economic Commission for Europe (UNECE), the extent to which SCP related policy has been implemented in different countries of the UNECE region reflects the widely divergent levels of economic development, political structure and differences in governance. In the European Union (EU) and European Free Trade Association regions SCP is high on the political agenda. The Europe 2020 Strategy focuses on 'smart, sustainable and inclusive growth' including a flagship initiative on resource efficiency. The South Eastern Europe (SEE) and Eastern Europe, the Caucasus and Central Asia (EECCA) countries have no regional strategy on SCP – however, some countries have adopted National Sustainable Development Strategies, including SCP as a key priority. Regulatory tools are the most common instruments in this sub-region, with policies such as standards in chemical use, construction and energy labelling. North America is notable for its effective use of partnerships with industry and civil society, such as the multi-stakeholder process that led to the development of the Leadership in Energy and Environmental Design (LEED) certification programme for buildings. The public sector in the United States gives strong signals to the market through executive orders requiring federal agencies to acquire products that are energy and water efficient, and environmentally preferable.

In general, businesses in the UNECE region have been making significant headway in responding to public demand for more sustainable products and greater transparency. In particular, retailers have been driving upstream improvements not only within the UNECE region, but across global markets. Government-business initiatives in the EU and EFTA regions have been useful in forming sectoral consensus (e.g., the European Food SCP Roundtable and the EU Retail Forum) and engaging in collaborative action promoting SCP. The nature of CSOs is diverse. They promote partnerships, create and participate in platforms with the business

sector, inform and communicate on SCP and sustainable development, build capacity, and set standards. One example is Transition Towns, an initiative that advocates for sustainable living and seeks practical solutions to lessen dependence on oil. It has spread globally, and such towns are now established in 130 countries (Chapter 7).

In West Asia, the Arab Regional Strategy for SCP was endorsed in 2009 by relevant regional intergovernmental organizations. It encourages the use of products and services that ensure environmental protection; conserve water and energy as well as other natural resources, while contributing to poverty eradication and sustainable lifestyles. The strategy identifies six priorities: (i) energy for sustainable development (ii) water resources management (iii) waste management (iv) rural development and eradication of poverty (v) education and sustainable lifestyles and (vi) sustainable tourism. The regional cooperation on SCP policies and initiatives are strengthened by initiatives such as the Arab Regional Roundtable on SCP. The region is also experiencing an important increase in environmental policies, such as improving the efficiency of an electricity grid, providing new modes of transportation, and new technologies. The Gulf Cooperation Council (GCC) countries' interconnection grid, the project on rational energy use in Kuwait, the Masdar Green City and Qatar Water Policy are good examples of SCP initiatives (Chapter 8).

The Global Outlook on SCP Policies identifies a range of market, regulatory and voluntary policy instruments and initiatives spanning entire product value chains and different sectors and themes, involving all major stakeholders. An example of a policy initiative is the 50 per cent tax deduction on environmentally friendly hybrid cars imported into Jordan. An illustrative regulatory instrument is the European Union's REACH (Registration, Evaluation, Authorization and restriction of Chemicals) directive that regulates chemicals. Information-based instruments include the National Green Passport campaigns in Brazil, Ecuador and South Africa.

At the **national level**, many countries have adopted SCP action plans or strategies. In Africa, this includes Ghana, Mauritius, Tanzania and Zambia. In LAC, such plans have been drawn up in Brazil, Colombia, Cuba, the Dominican Republic, Ecuador, Mexico, Peru and Uruguay. In the EU, dedicated national SCP action plans have been developed by the Czech Republic, Finland, Poland, and the United Kingdom. In some regions, SCP has been integrated into other planning processes. In SEE, EECCA, North America and West Asia, for example, national-level SCP planning is largely part of existing national strategies for sustainable development or other short- and medium-term development plans.

In the Asia-Pacific region, national Green Growth strategies have proliferated since 2005. These strategies focus on investment in sustainable infrastructure, raising revenue and improving eco-efficiency while reducing poverty. Many governments also target policies in specific sectors, where strategies have been put together to promote sustainable agriculture. Transparent and open consultation processes have been central to the successful elaboration and further implementation of such national SCP action plans, as has the engagement of a broad range of stakeholders.

More generally, SCP programmes in emerging and developing countries continue to face significant funding challenges and continue to rely on international donor support. A particular gap exists with regard to action on the consumption side.

Initiatives and instruments promoted by Business and Civil Society Organizations

Businesses are highly dynamic actors in the promotion of SCP. Indeed, many information-based policies and schemes are voluntary and based on principles of corporate social and environmental responsibility (CSER). Sustainability reporting is on the rise in a number of regions. This rise indicates that an increasing number of businesses have implemented resource efficiency, cleaner production and environmental management programmes. Similarly, environmental management standards have increasingly been taken up. In most countries in Asia and the Pacific, for example, the number of ISO 14001 standards adopted jumped by more than 130 per cent between 2006 and 2010. Businesses have also formed platforms for information-sharing on wider sustainable development issues, such as the World Business Council for Sustainable Development and the Africa Corporate Sustainability Forum.

In some cases, business initiatives also concentrate on innovation in the design, production and distribution of products that is informed by a life-cycle approach. Some businesses in the LAC region are focusing particularly on improvements to production processes through the introduction of clean energy, the reduction of environmentally harmful inputs and the recycling of waste. The NCPCs in developing and transition economies, have been supporting businesses by generating data on resource-efficient practices and providing technical assistance to SMEs. Government strategies have recognized the need for dedicated funding, such as the Resource-Efficient Europe strategy calling for a Small Business Act that helps SMEs face the challenges of globalization and climate change. But SCP has not yet become a core criterion in financial decision-making, which

represents an obstacle to replicate and scale up good practices.

Civil society organizations (CSOs) have also played a key role in making sure that SCP remains on both government and business agendas. Worldwide, the CSOs are strong advocates for SCP and an important channel for informing, training, enabling and empowering citizens. In Africa in particular, CSOs fill a service provision gap for sustainable products by providing seed financing for their development, offering education on sustainable development and establishing income-generating ventures. In West Asia, a number of CSO activities, while not labelled as SCP, clearly promote SCP through campaigns and education programmes related to sustainable development.

A wide range of activities has been undertaken by governments, businesses and CSOs. However, much more needs to be done to bring us on to a path towards achieving the sustainable patterns of consumption and production that necessarily underpin sustainable development. Enhancing cooperation and more concerted and coordinated action at all levels will be essential to achieving the necessary transformation in consumption and production patterns.

The Way Forward

The existing policies, tools and programmes presented in *The Global Outlook on SCP Policies* must be continued, expanded and improved upon; as well as new and innovative strategies are needed. The last section of this report provides a summary of the main findings and recommendations for both policymakers and decision makers in businesses and CSOs, aiming to foster such scaling up and replication, and accelerating the transition to SCP.

As we look forward to the 2012 United Nations Conference on Sustainable Development (Rio+20), it is clear that implementing existing policies, expanding capacity-building activities and sharing experiences in promoting SCP patterns around the world, are required. The establishment of a 10-Year Framework of Programmes on SCP (10YFP), as elaborated at the 19th Session of the Commission on Sustainable Development, would make a crucial contribution in this regard.

The Global Outlook on SCP Policies is one step forward in gathering information on SCP policies supporting this transition. Building on this effort, as well as on the work achieved by the Marrakech Process on SCP, UNEP will continue to collect good initiatives and practices on SCP. This will be done in close cooperation with all stakeholders and UN agencies, with the objective of sharing information and experience among all regions and all actors. In the future, these efforts could contribute to the establishment of a more structured and dynamic global clearinghouse on SCP, facilitating exchange of information, knowledge on effective policies, and disseminating capacity-building tools. Such a clearinghouse could play an important role in promoting dialogue, cooperation and partnerships that are needed to inspire and accelerate the shift towards SCP patterns.

Decision-makers in all arenas are encouraged to take action to:

- Integrate SCP into policy frameworks and strategic plans.
- Ensure the collection of more SCP data to measure policy effectiveness and track progress.
- Learn from experience to develop an optimal policy mix.
- Provide enabling policy frameworks to encourage business investments on SCP.
- Adopt and apply alternative measures of progress beyond GDP.
- Give more emphasis to the demand side to promote sustainable lifestyles.
- Enhance responsible marketing and media through policies and campaigns.
- Draw on and further develop partnerships among all actors and regions.

We continue to welcome contributions at http://web2.unep.fr/globaloutlook/Login.aspx

The full report is available for download at http://www.unep.fr/scp/go/publications.htm

1 Background and Approach

1.1 Current challenges

Although economic development over the past 30 years has managed to lift millions out of poverty and expanded the number of countries reaching middle-income status, it has also been accompanied by a wide array of negative environmental and social impacts. These impacts threaten to undermine, even reverse the economic development that has been achieved to date. Globally, resource consumption continues to rise, waste and pollution grows, and the gap between rich and poor stretches wider. As we gain greater scientific understanding about our planet's bio-physical constraints, so too do we appreciate the growing scale of the challenges before us.

At the time of writing this Global Outlook, the global economic system is still plagued by risk and instability that erupted in the 2008 financial crisis, with significant consequences for the world's poor. For many, the world economy has failed to deliver on its promises of sustainable improvements in well-being: according to a recent United Nations Millennium Development Goals report, an estimated 1.4 billion people live in extreme poverty (United Nations, 2010).

At the same time, highly volatile and rising oil prices put further pressure on the gains that have been achieved through economic development. The Food and Agriculture Organization (FAO) Food Price Index, for example, reached a record high of 238 points in the first months of 2011 and remains high (United Nations, 2011). The FAO has estimated that the 2007/2008 price spike increased the number of undernourished people from about 850 million in 2007 to about 1,023 million in 2009 (FAO, 2010). The High Level Panel of Experts on Food Security and Nutrition, in its report on price volatility and food security, considers among the causes for rising prices and increased price volatility the increased demand for food and feed, along with underinvestment in agriculture (High Level Panel of Experts on Food Security and Nutrition, 2011). This shift may represent an early signal of a long lasting scarcity. Considering a projected population of 9 billion in 2050, feeding the world will be a major challenge, given current consumption trends.

Putting in place a more sustainable food supply systems is not the only urgent need. There is also no clear road ahead for the transition to sustainable energy systems. According to the report on the implementation on Agenda 21, growth rates in the diffusion of renewable energy technologies are still insufficient to achieve the required decarbonized global energy system by 2050. At the same time, the lack of access to modern energy services is also a pressing development problem. Electrification is vital for basic services such as health and education, and the time and risk involved in collecting traditional fuel sources incurs a high opportunity cost, particularly for women and children (United Nations, 2011).

Box 1: Navigating the Outlook

This report is structured into four main parts clustered in 9 chapters:

- Chapter 1: 'Background and Approach' exposes the interlinked crises that the world is facing from current unsustainable patterns of production and consumption. It outlines the objectives of the report and depicts the methodology and analytical framework used for *The Global Outlook on SCP Policies*
- Chapter 2: The 'SCP at the global level' provides the historical evolution of SCP and an outline of international efforts to promote SCP, including intergovernmental policies and business and civil society initiatives
- Chapters 3 to 8: The 'SCP at the regional level' provides an overview of SCP policies and initiatives undertaken by governments, business and civil society organizations. These chapters also analyze the type of instruments (regulatory, economic, voluntary or information based) that are used or promoted by these three actors. These chapters cover the following regions: Africa (Chapter 4); Asia and the Pacific (Chapter 5); the Latin America and the Caribbean (Chapter 6); the United Nations Economic Commission for Europe (UNECE) region comprising Europe, the Commonwealth of Independent States, Canada and the United States of America (Chapter 7); and West Asia (Chapter 8)
- Chapter 9: The 'Way Forward' summarizes a wide range of SCP policies and initiatives identified by *The Global Outlook on SCP Policies* and proposes recommendations for policy makers to foster more coherent policy frameworks to shift the world toward SCP

Concurrently, greenhouse gas emissions (GHGs), mostly stemming from the use of fossil fuels, but also from agriculture and deforestation and more intensive agriculture, have caused an unfolding and already tangible climate crisis. Deforestation is contributing an estimated 17 per cent and agriculture about 14 per cent of global GHG emissions (UNDESA, 2011). The impacts that have been linked to the increase of GHGs in the atmosphere include more intense heat waves, floods, storms, droughts and sea level rise (Intergovernmental Panel on Climate Change, 2007). The poor are the most vulnerable to these disruptions, lacking options to mitigate and adapt to changing climactic conditions.

More generally, global consumption and production patterns are inexorably driving humanity toward future crises, as extractive industries and waste generation cause the destruction of natural capital on a wide scale. The increasing exploitation of non-renewable resources is unsustainable, particularly with the currently inadequate recycling rates. The Organisation for Economic Co-operation and Development (2008) estimates, that even at a moderate growth rate in primary production of 2 per cent per year, the world's copper, lead, nickel, silver, tin and zinc reserves will all be depleted at the latest by 2030. Yet, for example, an estimated global stockpile of 225 million metric tons of copper is estimated to sit in landfills (United Nations Environment Programme [UNEP], 2011d).

Although material intensity of production has been decreasing on average by 1 per cent per year in the last decade, the consumption of resources in absolute terms continues to increase with the world's rising population and growing economic demand. According to data from 2005, primary raw materials are being harvested at a rate of 47 to 50 billion metric tons per year globally. The volume of internationally traded materials has increased from 5.4 billion tons in 1970 to 19 billion tons in 2005 (UNEP, 2011c). Consumption of natural resources is increasing and will accelerate further if projected growth rates of the world economy are realized. This is alarming for both non-renewable and renewable resources that depend on ecosystems, which can irreversibly collapse after overexploitation (UNEP, 2011b).

Among renewable natural resources, fisheries are a stark example for over-exploitation. The FAO estimates that around half of commercial stocks are fully exploited with no further room for expansion, 19 per cent are overexploited and eight per cent are already depleted (FAO, 2009). The prevailing modes of agriculture are also unsustainable, leading to deforestation and increased land degradation. Though an estimated 1.5 billion people directly depend on agriculture globally, about 40 per cent of the world's land surface is now thought to be degraded. (United Nations, 2011).

The consumption of both renewable and non-renewable resources also contributes to a massive loss of biodiversity – with current extinction rates of birds, mammals and amphibians estimated to be at least 100 times, but possibly over 1,000 times, higher than pre-industrial rates (Millennium Ecosystem Assessment, 2005). This loss, in turn, undermines those parts of our economies that depend on largely under-valued ecosystem services, such as the supply of water, raw materials or a stable climate. The poorest are again most affected by these changes, as many depend most directly on intact ecosystems and natural resources for their livelihoods, such as fishing, small-scale agriculture or forestry-related activities (UNEP, 2011e).

All of these crises adversely affect equity, health, education and development more generally, undermining progress towards the Millennium Development Goals. Poor environmental quality can result, for instance, in waterborne diseases, resulting in as many as 443 million school days missed due to diarrhoea (UNDP, 2006), and respiratory infections caused by the inefficient combustion of solid fuels in inadequately ventilated buildings.

The sustainability of the world economic system also needs to be analysed through the social lens. Although economic growth has caused living standards to improve significantly for some, the rise of income inequality, as measured by the Gini coefficient, is now higher than in the 1980s (UNDP, 2010). The world economic system needs to offer decent work and opportunities for people to increase their well-being if we are to avoid serious social crises.

One thing in common among all of these challenges is the need for a concerted, cooperative effort to overcome them. In our interconnected world, supply chains are truly global. Resource extraction, the production of intermediate inputs, distribution, marketing, waste disposal and re-use of most products take place across and linking the world's national economies. The consumption patterns of people in one country can have negative impacts on the bio-physical and social environment of people in neighbouring or even distant ones. Increased demand for agricultural products for food, feed, and other uses such as biofuels is driving prices up (High Level Panel of Experts on Food Security and Nutrition, 2011). These price increases are not expected to significantly reduce demand in developed and emerging economies where rising incomes have made food demand much less sensitive to price increases. Instead, the impact of the price increases will fall disproportionately on the poor in developing countries. Efforts to address one specific sustainability issue can quickly become ineffective when they drive unsustainable activity to other parts of the world or other parts of a product

life cycle. Ultimately, sustainable consumption and production (SCP) offers the kind of holistic approach that is needed to render our economic activity, as a whole, more sustainable.

1.2 Objectives of this report

The Global Outlook on SCP Policies, commissioned from UNEP by the European Commission, provides a non-exhaustive review of government policies and business and civil society initiatives to move towards SCP. Broad in scope and worldwide in coverage, it includes examples ranging from global multilateral agreements and regional strategies to specific policies and initiatives being implemented by individual countries, business groups and civil society organisations (CSOs).

The Global Outlook on SCP Policies identifies policies that, in effect, address unsustainable consumption and production patterns, even though they may not have derived from the international processes that developed the term SCP, and may not make explicit reference to SCP itself. For example, policies and sectoral initiatives addressing resource efficiency were both considered a vital step towards SCP.

The Global Outlook on SCP Policies pursues six main objectives:

- Providing information about government, business and civil society policies and actions to move towards resource efficiency and SCP more broadly
- Reporting on examples of current practice that are noteworthy for their effectiveness, innovation or potential for replication elsewhere
- Sharing information on progress and action on SCP
- Identifying the needs of different actors for implementing SCP
- Providing inputs into the nineteenth session of the Commission on Sustainable Development in the form of a preview brochure (UNEP, 2011d)
- Informing on effective policies and investments to support the transition to a Green Economy, including providing inputs into the deliberations on Green Economy in the context of poverty alleviation and sustainable development at the upcoming United Nations Conference on Sustainable Development in 2012 (Rio+20)
- Building a database of practices with demonstrated development benefits across the entire life cycle of products

More broadly, the report aims to serve as an inspirational tool for the design and implementation of further SCP policies and actions.

1.3 Methodology

The analytical framework for *The Global Outlook on SCP Policies* was developed jointly by the Copenhagen Resource Institute and UNEP. It guided researchers to identify many different types of SCP-related activities and strategies at three different levels: intergovernmental and governmental, businesses, and civil society. Emphasis was placed on developing a robust overview of strategies at the governmental and intergovernmental levels. Researchers were guided to include SCP action plans and relevant strategies for sustainable development, such as Green Economy and Green Growth strategies, as well as a range of policy instruments, such as regulatory, economic, voluntary and information-based instruments. The methodology also encouraged researchers to focus on energy, food and housing as key thematic areas. At the level of business and industry, it emphasized the importance of identifying business models and management strategies that address SCP. With respect to civil society, it identified influencing governments and businesses as well as empowering citizens as two key areas of activity. In addition, the methodology also emphasized more generally the importance of SCP capacity-building activities and multi-stakeholder partnerships, while identifying needs and gaps that must be addressed to achieve further progress.

Primary and secondary literature, as well as empirical data from a dedicated survey, served as inputs to this report. The survey was conducted online from October 2010 to March 2011, using a questionnaire tested with the Marrakech Task Forces on SCP and other partners in close cooperation with research institutions in five regions. Targeting government, business and civil society representatives, it sought answers on how policies and initiatives have brought about change, and what impact they have had. Questions related to: the scope of policies; implementation activities; monitoring and evaluation mechanisms; funding; partnerships; challenges and needs; and social, environmental and development benefits.

The survey was distributed through UNEP regional offices, the Marrakech Process partners, thematic mailing lists and links posted on networks such as the Central Asia Gateway. More than 280 users registered, which resulted in more than 100 completed questionnaires. The information was integrated into an online global database of SCP policies, programmes and initiatives (see Figure 1). Policies and initiatives were screened against selection criteria such as timeliness, innovation, inclusiveness of stakeholders and development benefits. To ensure wide participation, the questionnaire was translated in five languages – English, French, Spanish, Russian and Arabic.

Figure 1: Online Global Outlook on SCP Policies database

Register to the survey and submit your example!
http://web2.unep.fr/globaloutlook/Login.aspx

The objective of the survey was to build a living record of the global move towards SCP, serving governments and stakeholders as a resource in the design of solutions and policies for SCP. Because of the continuing need for valuable data on SCP policies, it will remain accessible online and open to all stakeholders. And, in response to the interest in the survey from the academic community, a new questionnaire has been added to capture academic research efforts in the field of SCP.

UNEP has partnered with SCP institutions and experts from all over the world to depict and analyse the status quo and promising initiatives relating to SCP. Partners include the African Roundtable on SCP (Dar es Salaam, Tanzania); Colectivo Ecologista Jalisco (Zapopan, Mexico); the Copenhagen Resource Institute (Copenhagen, Denmark); the Center for Environment and Development for the Arab Region and Europe (Cairo, Egypt); the Institute for Global Environmental Strategies (Kanagawa, Japan); and the International Institute for Sustainable Development (Geneva, Switzerland). Consequentially the report is able to examine progress on SCP at the global as well as regional levels in Africa; Asia and the Pacific; Europe; the Commonwealth of Independent States (CIS); Canada and the United States of America; Latin America and the Caribbean; and West Asia.

1.4 The evolution of the concept of SCP: From end-of-pipe to life-cycle solutions

The concept of sustainable consumption and production (SCP) emerged out of an evolutionary process with a long history. During the rise of environmentally focused legislation in the late 1960s and early 1970s, policy solutions were generally characterized by being single-issue, reactive, site-specific and end-of-pipe. At that time, two separate 'wings' of policy emerged. They still exist today, although as different areas of emphasis within what has become an integrated set of tools, methods and approaches: sustainable consumption and cleaner production.

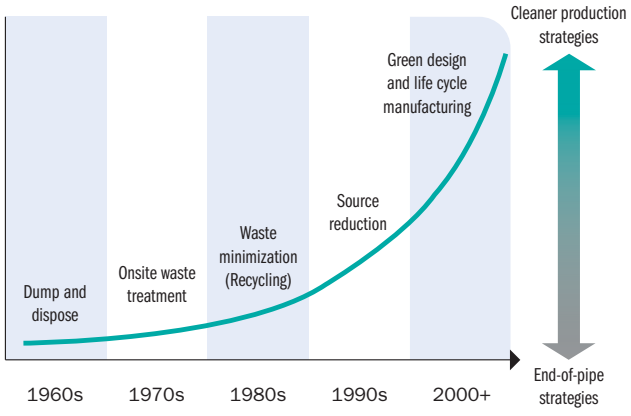
In the 1980s, 'cleaner production' (CP) was a policy-making approach with growing importance in environmental policy. This was the result of several parallel trends, including the application of a systems perspective to environmental policy. CP has seen a number of shifts in approach, including:

- From reactive to preventative measures
- From acute to chronic problems and sources of impacts
- From single-pollutant or single-media to multi-media and multi-impact pollutants
- From site-specific to supply chains
- From throughput to material cycles

CP was promoted as a strategy for increasing the efficiency of natural resource use (eco-efficiency) and minimizing waste. Importantly, it implied the preventative and precautionary approach that was eventually endorsed by the Rio Declaration on Environment and Development. This meant reducing pollution and health risks at their point of generation, rather than the end of the production process – the 'end-of-pipe' stage. The adoption of CP has typically involved improving maintenance, technology or entire production processes and could generate economic savings for companies by improving efficiency of production processes.

Following close on the heels of CP, the same paradigm shift in environmental policy saw increasing attention paid to the subject of 'sustainable

Figure 2: Evolution of the Cleaner Production Approach



Source: UNEP (forthcoming)

consumption.' This emphasized a number of shifts toward a more systemic approach, including:

- From production orientation to product life-cycle orientation
- From single-company search to life-cycle-wide search for solutions
- From consumers as objects to consumers as agents
- From adversarial stance to partnerships
- From regulation to voluntary initiatives

Significantly, the Rio Summit in 1992 placed high importance on consumption and production patterns and the need to explore ways of reducing environmental pressure caused by intensifying and unsustainable consumption and production patterns worldwide. At the 2002 World Summit on Sustainable Development, this focus was reflected in the third chapter of the Johannesburg Plan of Implementation, titled Changing Unsustainable Patterns of Consumption and Production, which called on governments to encourage and promote a 10-Year Framework of Programmes (10YFP) in support of regional and national initiatives to promote SCP. This shift toward SCP triggered a multi-stakeholder process to develop specific plans, management practices, partnerships and capacity-building activities to develop pilot elements of the 10YFP (United Nations Department of Economic and Social Affairs, 2011a).

Underlying the new approach were several important trends that had become apparent over the preceding ten years. First, it was evident that attempts to reduce environmental degradation through gains in eco-efficiency had been overtaken and reversed by the overall increase in production. Second, while environmental problems during production were better understood and controlled, problems that arose during the use of products were not being adequately addressed. Third, the transition from an industrial and manufacturing-based economy to a technology-based economy – the 'new economy' – had led to the emergence and quick development of sectors that had yet to be effectively addressed. Fourth, it was clear that environmental considerations were still not being integrated into many economic and social programmes and vice versa. The call for a new approach to the life cycle of a product--from conception through consumption and to the end of its life--coincided with a call for better integration across all three pillars of sustainable development: economic development, social development, and environmental protection.

Today, the most widely accepted definition of SCP, as developed at the multi-stakeholder workshop hosted by the Norwegian Ministry of Environment at the Oslo Symposium on Sustainable Consumption in 1994, is "**the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations**" (Norway Ministry of Environment, 1994).

1.5 SCP: A holistic approach

Achieving SCP requires a holistic approach. At its core is the life-cycle perspective. Accordingly, it considers: the total use of resources as well as the resulting emissions, effluents and waste; aiming to minimize negative environmental impacts; and promoting inclusive well-being. Its focus on the sustainable and efficient management of resources at all stages of value chains of goods and services encourages the development of processes that use fewer resources and generate less waste, including hazardous substances, while yielding environmental benefits and frequently productivity and economic gains. Such improvements can also increase the competitiveness of enterprises, turning solutions for sustainability challenge into business, employment and export opportunities. SCP also encourages capturing and reusing or recycling valuable resources, thereby turning waste streams into value streams.

The fundamental objective of SCP is to decouple economic growth from environmental degradation. Achieving SCP patterns will sustain improvements in economic development and human welfare that we depend on, including improvements in health and education. In other words, SCP aims at doing more and better with less – across the entire life cycle of products, while increasing quality of life for all. "More" delivered in terms of goods and services, with "less" impact in terms of resource use, environmental degradation, waste and pollution.

Central to SCP is life-cycle management, which is based on precautionary and preventive approaches. It aims to avoid the shifting of problems between stages of consumption and production, geographic areas or impact categories in the life cycle. The life-cycle approach covers the whole value chain, from the point where a product is designed and developed, to the selection, procurement and supply of raw materials. It examines the manufacturing, packaging and distribution phases and considers potential impacts throughout the retail, purchasing, usage and service phases. Finally, it analyses the impacts of products when recycled, reused or disposed of.

A life-cycle approach also assesses the value chain from an environmental and social perspective, identifying impacts on local communities; access

to material and non-material resources; cultural heritage; safety and living conditions; as well as considering the rights of indigenous people, community engagement and local employment. Hence it evaluates the true cost of a product over its full life cycle and points to benefits distributed along the whole value chain. In essence, the life-cycle approach incorporates tools to achieve the following aims (UNEP and Society of Environmental Toxicology and Chemistry [SETAC], 2009):

- Improving environmental performance of goods and services and their production processes by reducing ecological footprints (e.g., water- and carbon-intensities)
- Taking account of the social impacts of consumption and production
- Decreasing cost of production and/or use
- Incorporating benchmarks and standards for assessing life-cycle impacts
- Providing the basis for an objective and verifiable environmental claim

The Global Outlook on SCP Policies survey mentioned in the methodology section above identified many actors that contribute to the design and implementation of SCP using life-cycle approaches. For example, Chalmers University of Technology develops methods to characterize the environmental performance of products; the Danish company Novozymes uses life-cycle assessments to evaluate *ex ante* the environmental performance of new products under development; the European photovoltaic industry assesses the environmental footprints of photovoltaic technologies (energy payback time and CO_2 generation); and the UNEP-SETAC Capability Maturity Framework for Business helps to strengthen the capability of suppliers to use life-cycle management tools effectively (Chalmers University of Technology, 2010; Novozymes, 2010; Sustainability by Design, 2010).

Figure 3: The life cycle of products and influencing factors. Policies, innovation, market forces and our values and lifestyles are factors that can all influence various stages of the life cycle

The SCP policies and initiatives examined in this report incorporate the life-cycle approach in one way or another by having been designed and implemented so as to address the impacts of more than one stage in the life cycle of a product.

1.6 Translating SCP into action

The SCP approach is being applied in a wide variety of different forms and settings. It has been applied to: multilateral environmental agreements; national strategies; market, regulatory and voluntary tools on multiple governmental levels; and a broad range of business and civil society initiatives. Furthermore, many initiatives are formed by stakeholders from different sectors, each leveraging their unique assets.

At the international level, multilateral environmental agreements have often directly or indirectly promoted SCP by fostering changes in production and consumption patterns. To this end, for instance, the Montreal Protocol has successfully provided financial assistance to pay for industrial conversion and other activities that protect the ozone layer.

National SCP policy frameworks include dedicated SCP strategies or sustainable development strategies explicitly addressing SCP. These have been developed (or are currently being developed) in several countries, including: Brazil, Burkina Faso, Colombia, Côte d'Ivoire, Croatia, Czech Republic, Dominica, Ecuador, Finland, Ghana, Indonesia, Kazakhstan, Mali, Mauritius, Poland, Senegal, St. Lucia, Tanzania, Uganda, the United Kingdom and Zambia. Green growth strategies are further being developed in China and Korea. National policies also include thematic strategies such as integrated waste management and forestry programmes also supporting the shift to SCP. At the regional level, the European Union had adopted an SCP action plan. Africa, the Arab region and the Latin America and Caribbean regions have also developed SCP strategies with the support of the Marrakech Process. Those strategies have been endorsed by the relevant regional intergovernmental bodies.

The Global Outlook on SCP Policies also explores a range of market, regulatory and voluntary policy instruments and initiatives spanning entire product

value chains and different sectors and themes, involving international organizations, governments, business, research institutes and CSOs.

Examples of economic instruments include deposit schemes, emissions trading systems and environmental taxes. An example of an environmental tax is a 50 per cent tax deduction on environmentally friendly hybrid cars imported into Jordan. An illustrative regulatory instrument is the European Union's REACH (Registration, Evaluation, Authorization and restriction of Chemicals) directive that regulates chemicals. Information-based instruments include the National Green Passport campaigns in Brazil, Ecuador and South Africa. These advise tourists on how to minimize their ecological footprints by choosing cleaner forms of transport, eco-friendly accommodations and products that improve livelihoods in host communities, as well as showing how to offset the unavoidable greenhouse gas emissions from travel. Other examples from Africa include regional- and national-level ecolabelling initiatives, such as Kenya's standard for footwear and Tunisia's standard for dates (Janisch, 2007).

Business initiatives that promote SCP include environmental management strategies, green supply-chain management and sustainability reporting. In the area of environmental management systems, which helps to reduce the impact of production processes, the two countries with the most International Organization for Standardization (ISO) certificates registered in 2008 were China and Japan (ISO, 2009). Business has also contributed to SCP through voluntary initiatives and partnerships. A bike-sharing scheme in Paris, for example, shows the viability of public-private partnerships to foster sustainable mobility, with many millions of bike trips being undertaken every year (France 2, 2010). The concept has been exported to other cities in France as well as Japan, the United Kingdom and Mexico. Another category of business action is corporate social responsibility. At the global level, in 2009 more than 350 corporate signatories in over 60 countries adhered to the United Nations Global Compact platform Caring for Climate, committing themselves to setting voluntary targets and strategies for energy efficiency (United Nations Global Compact and HSBC, 2009).

Individual businesses also participate in voluntary industry sector initiatives with UNEP, among others. Another significant field is integrated reporting by corporations, using guidelines developed by the Global Reporting Initiative.

There are numerous examples of civil society initiatives that promote SCP. The kinds of activities CSOs engage in include advocacy, research, partnership-building with business and governments and awareness-raising. An example is the Partnership for Education and Research about Responsible Living, which connects educators and researchers from over 50 countries to empower citizens to live responsible and sustainable lifestyles (Partnership for Education and Research about Responsible Living, 2011). In Latin America, CSOs have supported the establishment of 'virtual consumption schools,' educating consumers on issues such as toxins at home, biodiversity and urban mobility (Colectivo Ecologista Jalisco, 2011). In the area of advocacy campaigns, the non-governmental organizations Greenpeace and World Wide Fund for Nature (WWF) are active on both the national and global levels to promote more sustainable consumption and production methods. These and other organizations follow multi-facetted approaches, also engaging in research and forging partnerships. Other groups focus on the promotion of sustainably produced goods, such as Fairtrade Labelling Organizations International or the Forest Stewardship Council, for agricultural and forestry products, respectively. Promoted by CSOs, sustainable goods have seen strong growth throughout the last years and are poised to push SCP further into the mainstream.

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2 SCP at the Global Level

2.1 Introduction

Global recognition of the need for sustainable consumption and production (SCP) dates back to the United Nations Conference on Environment and Development (UNCED) held 1992 in Rio de Janeiro. Agenda 21, the action plan for sustainable development adopted at the summit, called for "action to promote patterns of consumption and production that reduce environmental stress and will meet the basic needs of humanity" (United Nations Department of Economic and Social Affairs [UNDESA], 2009b). Ten years later, the World Summit on Sustainable Development (WSSD) in Johannesburg reaffirmed at the highest political level in the Johannesburg Plan of Implementation (JPOI) that "poverty eradication, changing unsustainable patterns of production and consumption and protecting and managing the natural resource base of economic and social development are overarching objectives of, and essential requirements for, sustainable development" (UNDESA, 2011). In order to accelerate the shift to SCP, the WSSD encouraged the development of a 10-Year Framework of Programmes on SCP. The multi-stakeholder Marrakech Process, launched in 2003, has supported the implementation of SCP and provides inputs for the development of the 10-Year Framework.

This chapter outlines how governments and intergovernmental organizations, business and civil society organizations (CSOs) have been promoting SCP at the global level through policies, agreements and initiatives. Given the scale and scope of global activity in this area, the chapter focuses on a sample of these international efforts, chosen in order to represent the broad spectrum of actors and strategies involved in the promotion of SCP in the world today. Where possible, it also highlights examples that are timely, high-impact, innovative, effective and have the potential for replication. The objective is to identify broad outlines of the state of play, highlight good practice and pinpoint areas where more focused action is needed in the short- to medium-term.

One way in which governments have promoted SCP has been through the negotiation and implementation of multilateral environmental agreements (MEAs), which often involve efforts to change production and consumption patterns. Although the term 'sustainable consumption and production' as such is absent from many convention texts, some SCP aspects and policies to altering consumption and production patterns have nonetheless been successfully addressed across a number of treaties, such as the waste-related Basel, Stockholm and Rotterdam conventions. In other cases, the SCP approach is clearly reflected at the point of operations and implementation. For example, the Montreal Protocol's Multilateral Fund, which promotes cleaner and more sustainable products, as well as providing information to consumers and households, has successfully disbursed billions of U.S. dollars for industrial conversion to switch to sustainable production technologies and practices and other activities to protect the ozone layer. Elsewhere, MEAs are important for their future potential to promote SCP, such as the emerging climate governance framework: reducing greenhouse gas (GHG) emissions in line with scientific recommendations would require a fundamental change to production and consumption patterns worldwide.

Governments have also tasked intergovernmental organizations and initiatives to promote SCP. Some of these have been formally linked with ongoing international processes. The Marrakech Process on SCP, for example, has developed and implemented policies, and projects, and has provided inputs for the elaboration of a 10YFP on SCP. Others have focused on building the scientific evidence for policymaking or improving SCP methodologies or practice in specific sectors, such as the International Resource Panel, which has produced analytical reports on materials flow, metals and biofuels, and the UNEP Sustainable Buildings and Climate Initiative, which works to promote sustainable buildings practices and elaborates carbon dioxide (CO_2) and energy-efficiency baselines for the building sector.

Global business coalitions and multinationals have contributed to the promotion of SCP too. One avenue for progress has been eco-innovation. More sustainable products have been developed in many sectors, including agriculture, forestry, tourism, building and construction, telecommunications, electronics and financial services. The adoption of add the abbreviation after responsibility (CSER) practices has also had a large impact. A common approach is to focus on reducing the environmental footprint of goods and services along supply chains, while respecting international employment and human rights principles. Some businesses are leading the way by going beyond compliance with international and national legislation, especially through support for their members in addressing emerging, less regulated challenges. This chapter highlights a range of business organizations and initiatives that contribute to the promotion of

SCP. One example is the International Business Leaders Forum, which provides a platform for the exchange of best practices by engaging over 100 multinational companies. Others working to improve the environmental and social sustainability of supply chains include: the United Nations Global Compact (UNGC), which has partnered with Business for Social Responsibility (BSR) to develop a guide to assist business practitioners in embedding sustainability in supply chains, and the World Environment Center, which takes a sectoral approach to supply-chain sustainability.

CSOs have also made significant contributions to SCP. At the global level, they have promoted SCP through a wide variety of activities, including research, advocacy, training, awareness-raising, education, networking and catalysing multi-stakeholder partnerships. They have developed some effective and widely used environmental product labels and environmental and social certification programmes, such as those of the Rainforest Alliance and Fairtrade Labelling Organizations International (FLO). The International Social and Environmental Accreditation and Labelling (ISEAL) Alliance, has taken steps to advance objective benchmarking and harmonization of certification schemes. In the areas of consumer protection and awareness, organizations like Consumers International (CI) have continued to promote consumer consciousness of lifestyle and product information issues. The Partnership for Education and Research for Responsible Living (PERL) builds capacity through the organization of training seminars and publication of toolkits, such as the one on personal consumption and climate change. CSO research has also been contributing to the provision of scientific evidence for policymaking such as such as the International Union for Conservation of Nature (IUCN), which provides knowledge and tools for biodiversity conservation. Meanwhile, labour unions have fought to ensure the social pillar is better served by consumption and production patterns, calling for its definition of 'decent work' to be reflected throughout the global economy. Unions have also increasingly begun to address areas where the environmental and social pillars intersect, such as climate change, the management of hazardous substances and waste at the workplace.

The following chapter outlines how governments, business organizations and CSOs have influenced the promotion of SCP through action on the global level. Although the lens of analysis focuses on each of these actors in turn, it should be noted that partnerships between these three groups are common and often instrumental to developing effective policies, initiatives and campaigns.

2.2 Intergovernmental efforts on SCP

Many of the problems that lead to unsustainable consumption and production patterns are above the national and regional levels. To achieve a global solution, cooperation and intergovernmental action is needed to address issues that national and regional governments – or other actors for that matter – cannot effectively address alone. This Chapter focuses on a sample of MEAs, as well as some intergovernmental initiatives. Special attention is also paid to partnerships, which have been vital to promoting SCP on the intergovernmental level. The examples that are highlighted were chosen on the basis of their timeliness, effectiveness, innovation, scale of impact and potential for replication, as well as in order to represent the broad spectrum of intergovernmental policies and initiatives involved in the promotion of SCP.

The evolution of intergovernmental efforts to promote SCP at the global level

A major milestone for progress on SCP was the 1992 UNCED in Rio de Janeiro, which paved the way for many of the intergovernmental efforts described in this chapter. The Rio Declaration on Environment and Development was one of the key accomplishments of the conference. It consisted of principles laying out both rights and responsibilities of states in achieving sustainable development. Directly relevant to SCP is Principle 8, which established that states should "should reduce and eliminate unsustainable patterns of production and consumption" (United Nations General Assembly [UNGA], 1992b). As a declaration, the document, adopted by 172 governments, is not legally binding. However, its principles laid the foundation for many subsequent agreements that have bound parties to specific actions contributing to the shift to SCP patterns.

The second major outcome of the 1992 Rio Summit with particular relevance for SCP was Agenda 21, the comprehensive action plan for sustainable development at global, national and local levels. Often described as the rallying call for sustainable development, it created the momentum for much international, national and local action. One hundred and seventy eight states committed to its full implementation, as reaffirmed by the General Assembly in the 1997 Programme for Further Implementation of Agenda 21 and the 2002 Johannesburg Declaration on Sustainable Development (UNGA, 1997; UNDESA, 2004b).

Agenda 21's fourth chapter positioned consumption and production as one of the major leverage points for the mitigation of global environmental deterioration

and the sustainable improvement of human welfare. It also noted the importance of consumption and production in particular issue areas – such as energy, transportation, waste – and implementation tools – such as economic instruments and the transfer of technology (UNDESA, 2009a). This created the basis for SCP to be reflected in the national strategies for sustainable development and local Agenda 21 strategies that parties had agreed to establish. Importantly, Agenda 21's emphasis on *consumption* patterns marked a significant change in environmental policymaking, which had previously focused more on production. This stimulated a number of countries in the 1990s to convene symposia on the environmental implications of consumption. The Organisation for Economic Co-operation and Development (OECD), the United Nations Commission on Sustainable Development, and UNEP launched work programmes around this theme.

The WSSD, held in Johannesburg, South Africa, was instrumental in establishing the vital importance of establishing SCP patterns at a global level to achieve sustainable development. The Johannesburg Declaration on Sustainable Development recognized that "poverty eradication, changing consumption and production patterns and protecting and managing the natural resource base for economic and social development are overarching objectives of and essential requirements for sustainable development" (UNDESA, 2004a). Virtually the same text is included in the more detailed JPOI, also adopted by governments at the summit, along with an entire chapter devoted to unsustainable patterns of consumption and production. This latter chapter opens by declaring that "[f]undamental changes in the way societies produce and consume are indispensable for achieving global sustainable development" (UNDESA, 2004b). Recognizing that consumption patterns often undermine progress made in improving resource efficiency in production, the text placed the term 'consumption' ahead of the term 'production' resulting in the consistent reference to 'sustainable consumption and production' from then on. This term also sought to recognize the interrelation between consumption and production, between supply and demand, and the need to move beyond the tendency at the time to treat these aspects in isolation from each other.

Photo courtesy of IISD Reporting Services

World Summit on Sustainable Development, 2002

The JPOI also laid the ground work for follow-up in the longer term, with states agreeing to:

> "Encourage and promote the development of a 10-Year Framework of Programmes in support of regional and national initiatives to accelerate the shift towards sustainable consumption and production to promote social and economic development within the carrying capacity of ecosystems by addressing and, where appropriate, delinking economic growth and environmental degradation through improving efficiency and sustainability in the use of resources and production processes and reducing resource degradation, pollution and waste. All countries should take action, with developed countries taking the lead, taking into account the development needs and capabilities of developing countries, through mobilization, from all sources, of financial and technical assistance and capacity-building for developing countries." (UNDESA, 2004b).

Launched in 2003, the global, multi-stakeholder Marrakech Process was the response to this call (see Case Study 3 on the Marrakech Process and its associated Task Forces). Its main objectives were to support the implementation of SCP in all regions of the world and to develop inputs for the elaboration of the 10YFP, which was considered by the Commission on Sustainable Development (CSD) during its 2010-2011 implementation cycle (United Nations Envionment Programme [UNEP], 2011b).

Recent negotiations in the course of the nineteenth session of CSD (CSD19) in May 2011 resulted in an agreed-upon text establishing the 10YFP, comprising a vision, goals, objectives, functions, an institutional structure, and an initial, open list of programmes for inclusion in the framework. The work of the Marrakech Process was duly acknowledged by the eighteenth and nineteenth sessions of CSD, where it was recognized as a sound basis to develop a 10YFP. However, disagreements over other issues, such as the preamble regarding the thematic cluster of transport, chemicals and mining, and the means of implementation in chemicals and waste management, prevented CSD19 from adopting an official decision (International Institute for Sustainable Development [IISD], 2011b). However, SCP and the 10YFP have gained more visibility since CSD19, in various regional meetings and the national submissions for the 2012 United Nations Conference on Sustainable Development (Rio+20). Various countries are requesting the adoption of a 10YFP including: Australia, Croatia, the Dominican

Republic, Indonesia, Japan, Mexico, Singapore, the European Union, CARICOM, the G77 and the entire African region.[1] Many of these submissions make reference to the adoption of the 10YFP as contained in the CSD19 Chair's Summary. Hence, the 10YFP could become an important outcome of Rio+20.

Multilateral environmental and trade agreements and SCP

MEAs are important formal channels where SCP has been addressed and promoted directly or indirectly in a holistic manner or in some stages of the life cycle. One of the most prominent examples of this is the Vienna Convention for the Protection of the Ozone Layer, negotiated in 1985 and in force since 1988. This framework agreement for global efforts to protect the ozone layer makes no explicit reference to SCP or an SCP approach, but its accompanying Montreal Protocol, which sets out legally binding reduction targets for ozone-depleting substances (ODS), has in practice required interventions across the consumption and production chains for a number of goods (see Case Study 1). It was agreed at the 1992 Rio-Summit that the United Nations Framework Convention on Climate Change (UNFCCC) has even greater potential to stimulate a revolution in consumption and production – indeed, nothing short of this can achieve the reduction in atmospheric levels of GHG concentrations recommended by scientific assessments. An SCP approach is fundamental to this goal throughout the different stages of the life cycles of many goods and services. A full life-cycle analysis is now accepted as good practice in assessing the potential of policy interventions, from investments in renewable energy technologies to increased sustainable public procurement (Intergovernmental Panel on Climate Change [IPCC], 2011; Perera and others, 2009).

The influence of SCP is even clearer in the thematically-related conventions on waste. Adopted in 1989, the Basel Convention was originally focused principally on the transboundary movement of hazardous waste. Since 2000, however, it has also emphasized the minimization of waste through environmentally sound management that addresses virtually all stages in its production and consumption, including generation, storage, transport, treatment, reuse, recycling, recovery and final disposal, thereby adopting an integrated life-cycle approach (United Nations, UNEP and Food and Agriculture Organization [FAO], 2007; Basel Convention and UNEP, undated; Basel Convention, 2007b). The Rotterdam Convention, adopted in 1998, complements its sister treaty by establishing mandatory rules regarding the import and export of hazardous chemicals and pesticides, creating mechanisms for information sharing and encouraging the environmentally sound management of permitted chemicals (United Nations, UNEP and FAO, 2004; United Nations, UNEP and FAO, 2007). The Stockholm Convention, adopted in 2001, addresses both production and waste treatment processes in order to minimize, and in some cases eliminate, the release of long-lasting chemical pollutants, as well as promoting the development of substitute materials, products and processesd (Stockholm Convention, 2009). Together, the three treaties represent a framework for the life-cycle management of hazardous chemicals (United Nations, UNEP and FAO, 2007).

How MEAs have contributed to the promotion of SCP

As a foundation for international action, information is vital. The conclusion of agreements rests on reaching consensus around a strong body of scientific evidence and its implications. The role of science in defining and understanding ozone layer depletion, for example, was a crucial factor that explains the rapidity with which the Vienna Convention and Montreal Protocol were agreed. The IPCC is another example of the need to forge consensus around problems and solutions. Its comprehensive reviews of scientific and policy literature have been highly influential in establishing the fact base for political discussions. More generally, the information requirement of an SCP approach is inherently high. Policy analysis and science, for example, played a key role in successful implementation of the Montreal Protocol: identifying products and life-cycle stages that led to the release of ODSs and developing solutions, including substitutes (see Case Study 1). **A strong scientific evidence base is therefore central to stimulating holistic, timely and effective agreements and policy actions at the global level**.

MEAs have been implemented most effectively when they include strong mechanisms for implementation at a national level. This is particularly important in developing countries, which often face financial and institutional barriers to compliance. The Multilateral Fund for the Implementation of the Montreal Protocol is an outstanding example of an international financial mechanism that has enabled countries to implement plans to eliminate the consumption and production of ODSs, having disbursed more than US$2.6 billion since its creation in 1991 (see Case Study 1). Where financial mechanisms exist as a part of other MEAs, they have also proven to be significant in enabling countries to take action. The Stockholm Convention, for example, through the Global Environmental Facility (GEF), had as of 2009 distributed US$360 million to persistent organic

1. Submissions from all regions are available at http://www.uncsd2012.org/rio20/index.php?menu=115.

pollutant-related projects, leveraging an additional US$440 million in co-financing (UNEP, 2009a).

Strong mechanisms for implementation are not only a question of provision of financial resources. For example, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, in force since 1975, has achieved some success in promoting SCP. The convention regulates the trade of wildlife products involving endangered species through a licensing system and two negotiated lists of threatened species, trade in which is restricted or banned depending on their conservation status. In addition to this formal regulation, applied through governments, TRAFFIC, a specialist NGO, provides reliable and objective information for enforcement agencies, alerts government agencies to emerging threats, promotes dialogue and communicates wildlife trade news (TRAFFIC, 2010). In general, flexibility mechanisms have also been key in allowing states to achieve progress within the bounds of their national constraints while still complying with international targets. **With many global policy agreements, mechanisms are needed to promote national implementation, taking into account differing national capacities.**

Hawksbill Turtle, endangered species

Despite the significant progress represented by the number of MEAs that have been agreed since the Stockholm Conference on the Human Environment in 1972, today the large number of agreements – numbering over 500 – and their relative fragmentation is increasingly being recognized as an operational problem. This is further complicated by the fact

Parts of mobile phones for recycling

that agreements are forged under the different organizations, frequently of diverse institutional natures, memberships and regional coverage (Najam and others, 2006). This complexity leads to overlapping competencies between agreements, a neglect of the linkages between the ecological problems being addressed by different MEAs and inefficient deployment of financial resources, as well as placing significant administrative and financial burdens on national governments (UNEP, 2011f). In recognition of this, a consultative group of ministers and high-level representatives was established under a UNEP Governing Council decision to identify options for the reform of international environmental governance. Among these, the 'clustering' of MEAs was recommended: encouraging 'synergies' between agreements and the joint delivery of services, to maximize the impact of resources (UNEP, 2010c; UNEP, 2009c). The three major treaties on waste – the Basel, Rotterdam and Stockholm Conventions – have recently experimented with coordinating their Conferences of Parties (COPs), and, judging it a success, initiated processes to further coordinate a number of operational functions (see Case Study 2). Similarly, the African, Caribbean and Pacific on MEAs programme is a partnership of countries and international organizations seeking to enhance capacities to implement MEAs. Its activities include promoting regional frameworks for harmonized legislation and the establishment of information clearinghouses (UNEP, 2010a). **Efforts by regional organizations to cluster and integrate MEAs should lead to more effective responses to the range of impacts along the full life cycle of goods and services.**

It should also be noted that MEAs are only one part of a web of international agreements. As a significant area of global policymaking, international trade agreements have very important implications for SCP, as life cycles in a globalized economy often span a number of nations. For example, the average mobile telephone contains nine basic parts, each of which has its own

CASE STUDY 1

The Montreal Protocol

The Montreal Protocol on Substances that Deplete the Ozone Layer is an excellent example of how SCP can be promoted and achieved by an intergovernmental agreement.

Although SCP is not mentioned explicitly in the Montreal Protocol or its framework Vienna Convention (the Protocol entered into force five years prior to the signing of the Rio Conventions), they have nonetheless achieved important changes to consumption and production patterns at the country level given the wide range of products and life-cycle stages involving ozone depleting substances (ODS) they address.

It is implicitly understood by Parties that actions undertaken under the Montreal Protocol should promote sustainable and environmentally friendly results. For developing countries, SCP issues are primarily addressed through the review, approval and monitoring activities of the Protocol's financial mechanism – the Multilateral Fund. The Fund provides financial and technical assistance for inter alia agreed incremental costs, including those related to the supply of non-ODS substitutes (e.g., conversion of existing production facilities), ODS use in manufacturing as an intermediate good (e.g., conversion of existing equipment and product manufacturing facilities), and end use (e.g., recovery and recycling, technical assistance to reduce consumption and unintended emission of ODS) (Ozone Secretariat, 2006, pp. 511-512).

The Parties to the Montreal Protocol have been conscious about the need to transfer "best available and environmentally safe alternatives" since the early days of the Multilateral Fund (Ozone Secretariat, 2006, p. 532). In 2007, when the Parties agreed to accelerate the phasing out of hydrochlorofluorocarbons (HCFCs), they decided that the Multilateral Fund should give priority to cost-effective projects and programmes that focus on, inter alia, substitutes and alternatives that minimize other impacts on the environment, including on the climate, taking into account global-warming potential, energy use and other relevant factors (UNEP, 2007).

Projects funded by the Protocol's Multilateral Fund have included: product-specific and sector-wide efforts to identify and eliminate ODS-related production processes; the development of substitutes for ODS; controls on the movement of ozone-depleting substances across borders; incentives for the conversion or retrofitting of ODS-based technology; and the processing of ODS-related waste (Ozone Secretariat, 2007; EPA, 2011b).

The implementation of the Montreal Protocol created a huge new international market for chemical products and equipment that replace ODS, plus the related ancillary services (e.g., training, planning and consultancies). For example, industry has developed a wide range of technologies to replace ODS including those based on natural refrigerants (e.g. ammonia, carbon dioxide, hydrocarbons and blends), hydrofluorocarbons (HFCs, unsaturated HFCs or hydrofluoroolefins) and 'not-in-kind' approaches (e.g. avoiding unecessary cooling requirements and sustainable building design).

For the manufacturers of chemicals and equipment – many of which were previously mature and stable industries with relatively fixed market shares – the Montreal Protocol provided the chance for them to better their rivals and capture new markets and market shares by researching, developing and bringing to market new technologies faster than their competitors. Additionally, costs for new technologies were initially high, which provided incentives for companies to commercialize alternatives quickly. The Montreal Protocol also created new opportunities for previously untapped or under-exploited opportunities. This market creation has been the main driver stimulating a massive and global investment by the private sector in

life cycle. Materials extraction, processing, manufacturing, packing and transportation, a phone's useful life and its end-of-life stage may all take place in different countries (Environmental Protection Agency [EPA], undated, a). Interventions that lead to cost increases in one country may simply lead companies to shift the location of unsustainable life-cycle stages to other countries, effectively tying the hands of national policymakers. This implies the need for coordination, cooperation and agreements among states and between stakeholders across all areas of policymaking.

It also implies ensuring that policies in non-environmental areas are nonetheless aligned with countries' environmental priorities.

One example of cooperation among states on the environment in economic agreements is the World Trade Organization's Committee on Trade and Environment, which has been tasked with identifying environmental goods and services, for which tariff and non-tariff barriers to trade might be reduced as part of the Doha Trade Round (Wooders, 2009). Alternatively, it might take the form of agreements

Photo courtesy of SolarChill

developing a wide range of technologies in a very short time span.

The success of the Montreal Protocol is undeniable: 98 per cent of all chemicals it controls were phased out by the end of 2009 (Ozone Secretariat, 2010). This been attributed to a number of factors, including:

- **The role of science in defining and understanding the problem**. Scientific and political consensus about the nature of the problem helped to create a shared sense of global urgency, with the world's major powers actively pushing for an agreement.
- **The relatively limited number of ODS to be controlled**. This MEA controls 96 chemicals used in several dozen industrial and agricultural subsectors. Though challenging, this scope has proven to be manageable, has made it easier to define actions and was a manageable burden for reporting. Related to this, the fact that leading industries were technically capable of developing alternatives to ODSs was central to the speed of agreement and implementation.
- **The creation of the Multilateral Fund**, the first dedicated fund to assist developing countries technically and financially in implementing this kind of agreement. It has so far disbursed more than US$2.6 billion for industrial conversion, technical assistance, training and capacity-building to reverse the deterioration of the ozone layer (United Nations and UNEP, 2011; UNEP Multilateral Fund Secretariat, 2011, p. 1).
- **The use of ODS-related trade measures to induce non-members to join the Montreal Protocol**. The Montreal Protocol is the first and so far only MEA to have achieved universal ratification by all UN member states, with 196 Parties.
- **Providing information, training and other support** to ensure the success of national ODS phase-out strategies. This included funding for the establishment of 'national ozone units' for developing countries, improving national ownership of implementation programmes, improving communication with Multilateral Fund implementing agencies and improving compliance with reporting requirements (Secretariat of the Multilateral Fund, 2007).
- **Establishing an Implementation Committee to verify compliance** by checking annual country reporting. Provisions were made to bring countries back on track in cases of non-compliance, such as helping them to comply by providing additional technical assistance.

The elimination of the remaining major ODS (i.e., HCFCs and methyl bromide) is still ongoing and will last until 2015 and 2030, respectively, for developing countries. The Montreal Protocol's prospects for the future are excellent, based on the track record of Parties with regard to respect of compliance targets and of the Multilateral Fund in assisting developing countries through technology transfer and capacity-building. The Montreal Protocol remains relevant by flexibly responding to emerging needs, via amendments such as expanding the list of controlled substances, modifying compliance procedures and making decisions on financial assistance. It has successfully pursued this in the past by negotiating amendments as 'packages.' For example, when new or additional substances were classified as ODS in 1990, Parties ensured that developing countries were allocated additional funds to implement the phase out (Weiss, 2010; Ozone Secretariat, 2003).

allowing states to impose environmentally related taxes on imported products, or the provision of technical assistance and capacity-building to developing countries and SMEs to enable them to secure certification to environmental standards so as to secure access to international markets. **For the successful promotion of SCP patterns, therefore, it is vital that both trade and environmental policies facilitate a rational, equitable and integrated approach to addressing life-cycle impacts of products, which must be reflected in the relevant international agreements**.

In the run-up to the 2012 Earth Summit, Rio+20, and against the backdrop of a rising world population, increasing per capita consumption, and food and fuel resource scarcities, many voices are calling for better implementation of multilateral agreements that have been made to halt environmental degradation (UNGA, 2011). This means policies at a global level need to shift from negotiation of agreements to the implementation of change, particularly the promotion of projects at the country level.

Examples of such implementation-focused international activity abound at the level of intergovernmental initiatives, many of which might support the promotion of SCP. **If intergovernmental agreements are to contribute to resource efficiency and promote SCP effectively, the focus of intergovernmental activity must shift away from the negotiation of goals – the 'what' – to mechanisms for inducing tangible progress – the 'how'.**

The last decades have seen a wide range of intergovernmental efforts that have progressed SCP. Many of these have been mentioned above. Table 1 offers a concise selection of some multilateral environmental agreements that have contributed to SCP in the past decades, either in one or several stages of the life cycle.

CASE STUDY 2

The Basel Convention

In its first decade, the 1992 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was created to control the transboundary movement of hazardous waste. Since 2000 it has built on this foundation by emphasizing the implementation of its criteria for the 'environmentally sound management' of waste: using an integrated life-cycle approach to minimize waste from the moment it is generated to its transport, storage, treatment, recovery, recycling, reuse and final disposal (Basel Convention, 2011b).

Countries commit to annual reporting on the generation and movement of such wastes, and a compliance committee reviews country implementation. The Basel Convention actively helps countries implement it in a number of ways, including technical and legal advice regarding national legislation and policies, the establishment of Regional Centres for Training and Technology Transfer, and encouraging the development of cleaner technologies and production methods. It has also established public-private multi-stakeholder partnerships, such as the Partnership for Action on Computing Equipment and the Mobile Phone Partnership Initiative. These programmes aim to establish guidelines for the environmentally sound management, refurbishment, recycling and disposal of their respective product groups (Basel Convention, 2011b; Basel Convention, 2011c). In its next decade of operation, the Basel Convention aims to place additional emphasis on partnerships and lowering demand for goods and services involving hazardous side-products (Basel Convention, 2011b).

The Basel Convention and its sister chemical and waste treaties – the Rotterdam and Stockholm Conventions, respectively – have been the testing ground for attempts to rationalize resources dedicated to thematically related MEAs. In 2010 they held the first-ever simultaneous extraordinary meeting of their COPs, with the aim of better using limited resources and improving coherence in decision making. During the COP, the three conventions agreed to take further steps to cooperate and coordinate, calling for the creation of joint services within the three secretariats in the areas of administration, information technology, legal services, public awareness and outreach, and resource mobilization, as well as the alignment of budget cycles and auditing of operations. This is seen as a way for the conventions to maximize their resources and their impacts, with consequent implications for the effectiveness in promoting SCP (Basel Convention, 2011a; UNEP, 2009c). Discussions are now underway regarding the potential for further clustering of agreements, with UNEP having proposed 'marine and freshwater' and 'atmosphere' clusters (UNEP Division of Environmental Law and Conventions [DELC], 2011).

Table 1: Conventions and multilateral agreements

Background	General focus and purpose	Notable mechanisms for the promotion of SCP
Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol (UNEP, 2007; Ozone Secretariat, 2010)		
The Vienna Convention, negotiated in 1985, is a framework agreement for which legally-binding measures were set out by the 1987 Montreal Protocol that entered into force in 1989. The Montreal Protocol has 196 parties and is legally binding.	The Montreal Protocol agreed to phasing out the production and consumption of entire groups of ODSs, setting out provisions for this to take place more gradually in developing countries. The list of ODSs and reduction schedules were subsequently strengthened and the Multilateral Fund was created to help pay the incremental costs incurred by developing countries. The Montreal Protocol also required annual reporting on production, imports and exports of controlled substances and developed a mechanism to facilitate implementation in cases of non-compliance.	Its recognition of common but differentiated responsibilities has been effective in agreeing to timelines for the compliance of developing countries, and its financial mechanism, having disbursed over US$2.6 billion since its creation, has promoted implementation and compliance with annual reporting requirements. Industry also played a key role in its effectiveness through the development of cost-effective ODS alternatives (see Case Study 1).
The Basel Convention (Basel Convention, undated, a)		
The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which came into force in 1992, is a global agreement addressing the problems and challenges posed by dangerous waste, including its generation and illegal dumping in developing countries. The Convention has 178 parties and 53 signatories.	Developed principally to prevent the transboundary movement of hazardous wastes from developed to developing countries, the Basel Convention also has provisions that affect the entire product life cycle, which it has emphasized in particular since 2000. The agreement places conditions on the import and export of hazardous wastes and requires states to submit extensive annual reports. In 1995 an amendment was adopted to ban the movement of hazardous wastes from certain developed countries to developing countries for recovery, recycling or final disposal, although 17 ratifications are still needed before it can enter into force.	The Basel Convention obliges parties to implement and enforce its provisions, has requirements for monitoring and compliance and measures for encouraging compliance. Its partnership programme has also encouraged the promotion of SCP in a number of sectors, for example, establishing guidelines on the sound management of end-of-life mobile phones and computing equipment (Basel Convention, 2011c).
Convention on Biological Diversity (CBD) (CBD, 2011)		
The CBD was opened for signature at the 1992 UNCED at Rio, entered into force in 1993 and now has global participation with 193 parties and 168 signatories. Sustainable use of the components of biological diversity is one of its three main goals. Major new developments took place at the tenth COP in Nagoya in 2010, where a protocol on Access and Benefit Sharing (ABS) was agreed.	The CBD sets out the principle that, although states have the right to exploit natural resources for the benefit of their people, the conservation of biodiversity is a common concern for the international community and they are responsible for the biological resources in their jurisdiction. It made new and additional funding available to developing countries for this purpose, to be managed by the GEF. It has significant implications for SCP given the direct and indirect impacts on ecosystems that are caused by resource extraction, production processes, consumption and waste. In 2010, Parties to the Convention agreed on an ABS protocol, establishing that access to genetic resources should be based on a country's prior informed consent and the equitable sharing of benefits. In 2010, Parties to the Convention also agreed upon a new strategic plan on biodiversity use and conservation targets until the year 2020.	While much of the CBD relies on effective national implementation, it supports countries in establishing National Biodiversity Strategies and Action Plans, as well as providing information clearing houses, finance through the GEF and cooperation and partnerships with other agencies. The adoption of the protocol on ABS in 2010 is widely regarded as a critical step in promoting SCP, as its requirement for countries to equitably share the benefits of economic resources will enable countries to capture some of the economic value of biodiversity, thus incentivizing conservation. Decision X/44 on incentive measures, also taken at the Nagoya COP, explicitly invited countries to foster "sustainable consumption and production patterns for the conservation and sustainable use of biodiversity" (CBD, 2010).

Table 1 *Continued*

Background	General focus and purpose	Notable mechanisms for the promotion of SCP
Forest Principles (UNGA, 1992a)		
The Forest Principles are the "non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests." They were signed at the 1992 UNCED at Rio (UNGA, 1992a). The Forest Principles were adopted by 178 governments.	The 15 principles had broad implications for SCP, stating that national policies and programmes for the sustainable conservation and management of forests should take into account "all aspects related to the production, consumption, recycling and/or final disposal" (UNGA, 1992a) of forest products, as well as noting the need for SCP patterns at a global level. It included explicit recommendations for countries to undertake environmental impact assessments and adopt national forestry action plans.	As a non-legally binding statement of principles only, no secretariat was established to ensure compliance and facilitate implementation. Nonetheless, the principles established an SCP approach as fundamental to the forestry and timber sectors and created the foundation for further partnerships and agreements that would promote implementation. In 2001, 14 international organizations formed the Collaborative Partnership on Forests, with a mission to promote the sustainable management of forests, including the FAO, World Bank and UNEP (Collaborative Partnership on Forests, 2003). In 2007 the United Nations General Assembly also passed a Non-Legally Binding Agreement Instrument on All Types of Forests to "strengthen political commitment and action at all levels to implement effectively sustainable management of all types of forests" (UNGA, 2008, p. 3; UNFF, 2011).
UN Framework Convention on Climate Change (UNFCCC) (UNFCCC, 2011)		
The UNFCCC was agreed at the 1992 UNCED at Rio. It is the framework agreement on climate change for which more powerful, legally binding measures were set out by the 1997 Kyoto Protocol, which entered into force in 2005. The UNFCCC is now attempting to develop a post-Kyoto agreement. The Copenhagen Accord and Cancun Agreements are the latest developments in this process. There are 194 parties to the UNFCCC and 193 to the Kyoto Protocol.	The Kyoto Protocol set GHG emissions targets for 37 industrialized countries until 2012. Due to the release of GHGs throughout much economic activity, the Protocol has wide implications for consumption and production patterns. A range of provisions were included in the Kyoto Protocol to promote its implementation, including three flexibility mechanisms – emissions trading, Joint Implementation, and the Clean Development Mechanism – as well as mandatory emissions reporting by Annex I Parties (generally the developed countries) and the principle that these should transfer technology and funding to non-Annex I countries.	The Kyoto Protocol's targets are legally binding and its comprehensive range of implementation mechanisms is based on the principle of common but differentiated responsibilities. It can be seen as directly responsible for the establishment of regional and national policies with far-reaching implications throughout consumption and production chains, such as the European Union's Emissions Trading System or Japan's Nippon Kaidanren's Voluntary Action Plan on the Environment (European Commission, 2010; Nippon Kaidanren, 1997). If an ambitious post-Kyoto agreement can be agreed, it would necessarily require interventions throughout the consumption and production stages of the life cycle of many products.

Background	General focus and purpose	Notable mechanisms for the promotion of SCP
Copenhagen Accord and Cancun Agreements (UNFCCC, 2010; UNFCCC, 2011)		
The Copenhagen Accord was the outcome of the UNFCCC COP15 in December 2009. The Cancun Agreements were agreed upon at UNFCCC COP16 in December 2010. The Accord and Agreement have 114 parties and 193 parties, respectively.	The Copenhagen Accord is a non-legally binding document that addresses a series of major issues under discussion in climate change negotiations and asks countries to submit their emissions targets and planned actions through a bottom-up approach. This included countries 'taking note' of an aspirational goal of limiting global temperature increase to 2°C and the need for action with respect to adaptation to climate change, forestry, finance and technology transfer (Diringer and others, undated). One year later, the Cancun Agreements legally adopted many of the Copenhagen Accord's provisions and spelled them out in more detail to make progress in their operationalization. Decisions included the creation of a Green Climate Fund, a mechanism for the transfer of technologies and a framework for helping countries with adaptation to climate change (UNFCCC, 2011).	As part of the UNFCCC process, the outcomes of the two COPs are deeply intertwined with consumption and production patterns, by covering a multitude of issues, such as quantified emission reduction targets, Nationally Appropriate Mitigation Actions on GHG emissions; Reducing Emissions from Deforestation and Forest Degradation (REDD+); financing; technology transfer and capacity-building and the monitoring, reporting and verification (MRV) of emissions (Diringer and others, undated; UNFCCC, 2011). The Cancun Agreements can be seen as a step toward facilitating the implementation of SCP, particularly by addressing emissions from all major emitters, committing additional finance and representing progress towards a post-Kyoto agreement.
Stockholm Convention on Persistent Organic Pollutants (POPs) (Stockholm Convention, 2011; Stockholm Convention, 2009)		
The Stockholm Convention is a global treaty, adopted in 2001 and entering into force in 2004, to protect human health and the environment from chemicals that remain in the environment for long periods of time. It is concerned with promoting more sustainable production, as POPs are often inputs or by-products of production processes, and consumption, as POPs may be released into the environment when chemicals are used. The Stockholm Convention has 176 parties and 151 signatories.	The Stockholm Convention lists pollutants that parties have to eliminate, restrict or reduce unintentional releases of. It also provides a standardized toolkit to identify POPs and to deal with them, and has a global monitoring plan, which includes an effectiveness evaluation of measures taken. The Stockholm Convention uses the GEF to fund technical and financial assistance, including funding for the development and updating of national implementation plans. It is supported at a regional level by 15 regional and subregional Stockholm Convention Centres for capacity-building and technology transfer. The Stockholm Convention is working on a compliance mechanism.	Although it does not refer to SCP explicitly, by recognizing the need to address the creation of POPs throughout different stages in the life cycle of goods, it implicitly recognizes the need for a holistic analysis of product life cycles. The Stockholm Convention is legally binding, widely adopted, and has financial and technical support mechanisms for developing country members to support compliance. It includes a monitoring and reporting mechanism on the elimination, restriction and reduction of listed pollutants.

United Nations initiatives to promote SCP at the global level

In addition to MEAs, there are also a wide number of intergovernmental initiatives promoting SCP at the global level. As the United Nations body specialized on the environment, UNEP is the organization that has perhaps most explicitly placed SCP at the heart of its activities. Resource efficiency and SCP is one of the six cross-cutting thematic priorities that guide the work of UNEP, with the objective that "natural resources are produced, processed and consumed in a more environmentally sustainable way, in which environmental impact is decoupled from economic growth and social co-benefits are optimized" (UNEP, 2010d, p. 79). Towards this end, UNEP has focused on enhanced resource efficiency and on encouraging the use of life-cycle analysis to inform policies that promote SCP.

Some of the activities by UNEP have focused on the provision of technical assistance. For example, over the past 15 years, UNEP in cooperation with the United Nations Industrial Development Organisation (UNIDO) has provided assistance to establish national capacities and demonstrate the potential of preventative environmental strategies in developing countries. The joint UNIDO-UNEP Programme on Resource Efficiency and Cleaner Production (RECP) aims to support governments by increasing the application of preventative environmental strategies to processes, products and services to increase efficiency, as well as to reduce risks to humans and the environment. The programme has played a key role in raising SCP awareness in the public and private sectors as well as in business associations and other intermediaries that work with companies in developing countries and economies in transition. This programme has established National Cleaner Production Centres and programmes in over 47 countries, with the aim of raising awareness, providing professional training and policy advice, supporting technology transfer and disseminating information on good practice.

UNEP, in collaboration with UNDESA, have also actively supported governments in developing policies and building capacity for the transition to SCP within the framework of the Marrakech Process (see Case Study 3), which was initiated as a response to the 2002 WSSD as a global, informal multi-stakeholder process.

Other activities have focused on the promotion of SCP in specific economic sectors or themes. A multitude of United Nations agencies, funds and programmes are engaged on SCP issues, for the most part in multi-stakeholder partnerships. Sectors and themes include education, lifestyles, food, agriculture, buildings and cities, and tourism.

Education is a central theme in global efforts to promote a paradigm shift on SCP patterns. The United Nations Decade of Education for Sustainable Development (UNDESD) 2005-2014 aims to "integrate the values inherent in sustainable development into all aspects of learning to encourage changes in behavior that allow for a more sustainable and just society for all" (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2006, p. 4). To this end, UNESCO is promoting a global partnership for the UNDESD. Locally, the objective is to incorporate education for sustainable development into curricula. Nationally, government departments are to prepare national concerted UNDESD response plans. Regionally, consultations should draw up implementation strategies. UNESCO supports stakeholders with tools and guidelines, for example, on national UNDESD launches and activities.

Education also has the potential to empower consumers. By making them aware of their rights and their collective market power, it can contribute substantially to furthering SCP. Ideally, consumer behaviour should then promote eco-efficient business practices, more sustainably produced goods and services and more transparent information on products.

In the area of **sustainable lifestyles**, UNESCO, in collaboration with UNEP, has been active in raising awareness and providing educational resources related to sustainable consumption. One of its most effective tools has been the UNEP-UNESCO YouthXchange (YXC) Initiative. Since 2001 the initiative has promoted sustainable lifestyles among people aged 15-24. YXC works with educators, NGOs, trainers and youth leaders around the world through national partners in more than 45 countries. At the national and local levels, they conduct YXC training and capacity-building activities. These are supported by a training kit on responsible consumption providing information, ideas, tips and good practices on topics such as lifestyles, mobility, tourism, water usage, waste reduction, energy and resource efficiency, and smart and responsible

shopping. Thanks to partnerships with local and national organizations, the kit has been translated into more than 20 languages and reached over 400,000 people worldwide (UNESCO, 2008).

Regarding **food and agriculture**, the FAO-UNEP programme on sustainable food systems, to be launched in 2012, aims to improve resource efficiency and reduce pollution from food systems along their value chains, throughout production and consumption stages, while improving food security. The programme will involve all concerned stakeholders, including farmers, agro-industry, retailers and consumers. The FAO-UNEP-led Agri-food Task Force on SCP supports the efforts, comprising 14 national governments, United Nations Conference on Trade and Development, UNDESA, eight CSOs and three international business organizations that together represent 325 firms. The task force works to create knowledge platforms and support public-private and business-to-business partnerships for joint activities and information transfer within supply chains.

Buildings and cities are particularly important infrastructures to incorporate SCP patterns. As urbanization increases, buildings and cities carry a large potential to develop highly resource-efficient areas. The UNEP Sustainable Buildings and Climate Initiative addresses this area by bringing together stakeholders from all segments of the building sector to realize the significant energy and resource saving opportunities that the sector offers. Another effort in this field is UN-Habitat and UNEP's cooperation to mainstream environmental considerations into local, national and global urban policymaking, as well as to incorporate urban perspectives into environmental policymaking. Their aim is to enable cities to better assess and prioritize local environmental concerns and to have a voice in environmental debates. Current joint activities focus on establishing inventories of urban GHG emissions, the assessment of urban vulnerabilities to climate change impacts and the development of innovative adaptation mechanisms and mitigation efforts at the city level, with a focus on the buildings and transport sectors (UNEP Governing Council, 2011).

Green City Singapore

Tourism is another economic sector with great potential for the promotion of SCP. In 2010, UNEP launched the Global Partnership for Sustainable Tourism, building on the Marrakech International Task Force for Sustainable Tourism Development. Aiming for a broad impact, it has 80 members, including 19 national governments, 8 United Nations agencies and programmes, 32 non-profit organizations and 9 business groups. Its mission is to transform tourism, making it more sustainable by bringing together tourism stakeholders in efforts to lower their sector's GHG emissions; promote and disseminate sustainable tourism good practices; encourage tourism as a mechanism for poverty alleviation; inform on policy frameworks; identify mechanisms for sustainable financing and investment in tourism; and assist the sector in developing more sustainable supply chains (UNEP, 2011e).

The increasing GHG emissions in the tourism sector are among the issues targeted by the United Nations World Tourism Organization (UNWTO). Specifically, the body supports the integration of climate change adaptation criteria into national tourism planning processes. It aims to achieve this through awareness-raising, high-level policy forums and policy paper publications. It also conducts fundraising support for climate change adaptation and mitigation projects in the tourism sector.

Beyond specific areas and sectors, broader **job creation and poverty alleviation** are two themes central to SCP. The Green Jobs Initiative is a joint initiative by the International Labour Organization (ILO), the International Employers Organization, the International Trade Union Confederation (ITUC), and UNEP. The initiative was launched to assess, analyze and promote the creation of such jobs (ILO, 2011a). Green jobs are defined as decent jobs that reduce consumption of energy and raw materials, limit GHG emissions, minimize waste and pollution, and protect and restore ecosystems (ILO, 2011b). In 2008 the ILO and UNEP co-authored a first stocktaking of green job creation in a range of economic sectors. In early 2012 a follow-up report is envisaged, also to inform the Rio+20 process. In terms of country support, the ILO has assessed the skills needed for green jobs in 21 countries, including Egypt, Brazil, India and South Africa. Moreover, ILO and UNEP jointly provide green economy advisory services to interested countries.

Shifting towards SPC patterns provides opportunities for poverty alleviation. These opportunities and linkages are addressed in the joint UNDP-UNEP Poverty and Environment Initiative. The initiative supports countries in integrating poverty-

CASE STUDY 3

The Marrakech Process on SCP and its Task Forces

The Marrakech Process was a global, informal multi-stakeholder process to promote SCP. It was named after the host city of its first international meeting. The Marrakech Process is a response to the 2002 WSSD, where governments recognized that SCP is an overarching objective of, and an essential requirement for, sustainable development. Specifically, Chapter III of the JPOI calls for the development of a 10YFP "to accelerate the shift towards sustainable consumption and production, promoting social and economic development within the carrying capacity of ecosystems, by de-linking economic growth from environmental degradation" (UNDESA, 2004b).

The Marrakech Process main objectives:

- **To promote the development and implementation of policies, programmes and projects on SCP**, providing support for governments, the private sector and other actors in implementing SCP policies and activities at the national or regional levels
- **To provide inputs for the elaboration of the 10YFP on SCP**, meant to provide a coordinated and cost-effective framework for international cooperation and capacity-building to support the transition to SCP

To achieve these objectives, the Marrakech Process developed a series of mechanisms, the Marrakech Task Forces being among the most effective. The Task Forces have focused on SCP through voluntary partnerships relating to specific sectors or themes. Each Task Force has involved experts from both developed and developing countries to carry out capacity-building activities, implement projects and promote North-South cooperation. Other mechanisms included international and regional review meetings, national roundtables, a multi-stakeholder Advisory Committee, and dialogues with major groups and, to some extent also with development cooperation and United Nations agencies.

Key achievements of each of the seven Marrakech Task Forces include among others:

- **Task Force on Sustainable Public Procurement:** A practical methodology for designing and implementing policies on sustainable public procurement, involving Ministries of Environment and Finance, applied through regional and national training workshops and the implementation of 11 pilot projects.
- **Task Force on Sustainable Tourism:** Development of policy recommendations, manuals and training kits on sustainable tourism development, and a Green Passport campaign for awareness-raising among tourists.
- **Task Force on Cooperation with Africa:** Development of an African Ecolabelling Mechanism and 8 national SCP strategies.
- **Task Force on Sustainable Lifestyles:** Implementation of nine projects on sustainable lifestyles reaching 43 countries, including demonstration and capacity-building projects, research, toolkits and publications; as well as a Global Survey on Sustainable Lifestyles conducted among 8,000 young adults from 20 countries.
- **Task Force on Education for Sustainable Consumption:** Recommendations and Guidelines on Education for Sustainable Consumption (*Here and Now!*), guiding policymakers and educators on how best education for sustainable consumption can be integrated into national formal education systems and curricula.
- **Task Force on Sustainable Buildings and Construction:** A baseline study on buildings and climate change mitigation, examining energy efficiency in buildings and construction and identifying related policies and tools.
- **Task Force on Sustainable Products:** Contribution to the establishment of a formal agreement for international action to raise the efficiency of energy-using products – International Energy Agency Implementing Agreement for a Cooperating Programme on Efficient Electrical End- Use Equipment ("4E").

The work of the Task Forces has yielded tangible outputs, however, more cooperation is needed to replicate and scale up good practices as well as for the creation of new Task Forces or initiatives. Potential foci of such new initiatives could include crucial areas, such as water and sanitation, energy efficiency, transport, urban development, and food and agriculture.

Sources: UNEP (2011a); UNEP (2010b); Marrakech Task Forces (2009); UNEP and Centre on Sustainable Consumption and Production (2006).

Table 2: United Nations multi-stakeholder initiatives and partnerships

Background	General focus and purpose	Notable mechanisms for the promotion of SCP
International Resource Panel (UNEP) (UNEP, 2011a)		
The International Resource Panel was launched in 2007 to support a holistic and science-based approach to resource management decisions.	The two objectives of the International Resource Panel are to "provide independent, coherent and authoritative scientific assessments of policy relevance on the sustainable use of natural resources and their environmental impacts over the full life cycle" and "contribute to a better understanding of how to decouple economic growth from environmental degradation" (UNEP, 2011a). The scientific panel consists of over 25 experts, who are tasked with the production of the assessments. It is supported by a steering committee of over 20 national governments, international and intergovernmental organizations (such as the European Commission and the OECD) and CSOs providing strategic guidance on policy relevance.	The assessments strengthen the scientific basis for policymaking on resource use, resource scarcity and environmental degradation among the international community. It fills a previous gap in the assessment landscape by providing assessments on resource use with a global scope that can be used at the international, regional or sectoral levels.
Life Cycle Initiative (UNEP, 2011b)		
UNEP and the Society for Environmental Toxicology and Chemistry launched the international Life Cycle Initiative. It responds to the call by governments for a Life Cycle economy in the Malmo Declaration (2000), agreed at the Special Session of the UNEP Governing Council. It aims to help put life-cycle thinking into practice.	The Life Cycle Initiative gives users access to a network of over 2,000 members from emerging, developing and industrialized economies, with experts from government, industry, academia and the service sectors who represent the leaders in developing and applying life-cycle assessments (LCAs) and life-cycle management worldwide. This enables them to gather examples of best practices.	Creates a global, multi-stakeholder and expert network to establish and build capacity in best practice in life-cycle analysis and assessment, including recognized methodologies such as carbon and water footprints.
The Marrakech Process (UNEP, 2010e)		
The Marrakech Process, established in 2003, was a global effort to support the implementation of SCP in all regions and to provide inputs for the 10YFP on SCP that countries were encouraged to develop by the 2002 WSSD Johannesburg Plan of Implementation.	The two goals of the Marrakech Process are to support the implementation of SCP in all regions and to provide inputs for a proposal on a 10YFP considered by the CSD during its 2010-2011 implementation cycle. Regional meetings are held to identify SCP priorities, national roundtables and programmes support the implementation of policies and programmes and international review meetings are held to report on progress, coordinate and share information. In addition, seven Marrakech Task Forces act as implementation mechanisms, building North-South cooperation and implementing concrete projects at national, regional and global levels. Each of the seven Task Forces focuses on a specific theme: Sustainable Tourism, Sustainable Buildings and Construction, Sustainable Products, Sustainable Public Procurement, Sustainable Lifestyles, Education for Sustainable Consumption and Cooperation with Africa (See Case Study 3).	UNEP and UNDESA formed the Secretariat of this global process, with active participation from national governments, development agencies, business and industry, civil society and other stakeholders. The Marrakech Process developed and piloted SCP policies and tools, shares knowledge and builds capacity to support the shifts toward SCP. The process developed important mechanisms for implementation, such as the regional consultation processes and implementation meetings and the Task Forces with the participation of different countries and stakeholders.

Table 2 *Continued*

Background	General focus and purpose	Notable mechanisms for the promotion of SCP
The SEED Initiative (SEED, 2011)		
The SEED Initiative was initiated by the German Ministry for the Environment in 2001 and formally founded by UNEP, UNDP and the IUCN at the WSSD in 2002. It supports small-scale and locally driven entrepreneurship that integrates social and environmental benefits into their business models.	The SEED initiative bases its programme on four interlinked pillars. First, it presents the SEED awards to the most promising and innovate start-ups. Second, it supports the winners of these awards by providing networks and business advice. Third, it identifies best practices and develops tool kits for the entrepreneurs. Finally, based on this collection of best practices, it makes policy recommendations. In 2010 a two-and-a-half-year-long first country pilot project was initiated to support innovative social and environmental entrepreneurs in South Africa. Its aim is to encourage more country and regional schemes along the lines of the global SEED Initiative.	The SEED Initiative draws attention to the business case for SCP among local stakeholders and builds policy advice from identification of best practices in social entrepreneurship and its own experiences with pilot projects at the local level in support of the MDGs.
UNEP Sustainable Buildings and Climate Initiative (UNEP, 2009d)		
The UNEP Sustainable Buildings and Climate Initiative is a sectoral initiative designed to promote sustainable building practices worldwide.	The Sustainable Buildings and Climate Initiative works as a joint effort with key stakeholders in the building sector. These include industry, business, governments, local authorities, research institutions, academia, experts and NGOs. It aims to provide a common platform for stakeholders, establishing baselines (initially focused on energy efficiency and CO2 emissions, based on a life-cycle analysis), developing tools and strategies and finally promoting the use of such tools and strategies among key stakeholders through pilot projects.	The UNEP Sustainable Buildings and Climate Initiative promotes dialogue and policy advice via a multi-stakeholder process, and also convenes experts to develop guidance on new sustainability measurement tools and strategies, influencing business practices and contributing to UNFCCC negotiations. It provides a common language for performance assessment of energy efficient and low-carbon buildings as a basis for global reporting of building-related GHG emissions.
UNIDO-UNEP Resource Efficient and Cleaner Production programme (RECP) (UNEP, 2011d)		
The UNIDO-UNEP RECP programme recognizes and supports governments and industry in implementing resource-efficient and cleaner production policies and practices by accelerating the application of preventive environmental strategies to processes, products and services to increase efficiency and reduce risks to humans and the environment.	The RECP applies integrated and preventive strategies to processes, products and services in order to increase production efficiency, minimize impacts on the environment and support human development. RECP programmes are implemented through a network of National Cleaner Production Centres, which provide research and technical assistance on resource efficiency and cleaner production across a variety of sectors within a given country. National Cleaner Production Centres have been established in 47 developing countries and economies in transition.	Information sharing, technical assistance and capacity-building via a worldwide network supporting National Cleaner Production Centres promotes the implementation of resource-efficient, cleaner production across a wide range of industrial processes.

Background	General focus and purpose	Notable mechanisms for the promotion of SCP
UNWTO-UNEP Hotel Energy Solutions (Hotel Energy Solutions, 2011)		
Hotel Energy Solutions is an initiative that has been ongoing since 2008, co-funded by the European Commission. The initiative brings together key organizations in the fields of tourism and energy technologies.	Hotel Energy Solutions aims to facilitate the use of renewable energy technologies and energy-efficient systems for small and medium-sized hotels. This is expected to lower hotels' operational costs, while increasing competitiveness and sustainability and mitigating the industry's impact on climate change. The Hotel Energy Solutions e-toolkit has been tested in Bulgaria, France, Germany and Spain.	The project delivers technical support and training to help small and medium-sized hotels across the 27 European Union countries to increase their use of energy efficiency and renewable energy.
UNWTO-UNIDO Collaborative Actions for Sustainable Tourism (COAST) project (COAST, 2011)		
The Collaborative Actions for Sustainable Tourism project supports nine countries in Sub-Saharan Africa (Cameroon, Gambia, Ghana, Nigeria, Senegal, Kenya, Tanzania, Mozambique and Seychelles) to promote sustainable coastal tourism.	The Collaborative Actions for Sustainable Tourism project's main objective is to demonstrate best practices and strategies for sustainable tourism development so as to reduce the degradation of marine and coastal environments with transboundary significance.	The project encompasses technical assistance, research on mechanisms for sustainable tourism governance and management in coastal areas and capacity-building via a series of training seminars to build the capacities of project stakeholders in the participating countries.

environment links into development planning on the national level. In some countries UNEP works through national Poverty and Environment Initiative projects to mainstream SCP in development policies and planning. In Mali, for example, the initiative's activities include assisting the government in its efforts to green its Poverty Reduction Strategy Paper through the integration of SCP.

The programmes and initiatives run by intergovernmental organizations have created a wealth of knowledge, expertise and tools to promote SCP. As these continue to evolve, they provide lessons learned and best practices to countries and businesses on a range of policies and tools for the promotion of sustainability (UNEP, 2011e).

The last decades have seen a wide range of international efforts that have explicitly or implicitly progressed SCP. Many of the policies and activities have been mentioned above. Table 2 offers a concise selection of some representative multi-stakeholder initiatives and partnerships that have promoted SCP at the global level in the past decades.

2.3 SCP initiatives for and by business

Businesses are crucial actors for the shift towards SCP patterns and their involvement is a *sine qua non* condition for the required changes towards SCP on a global scale. The processes of economic globalization of markets over the last two decades have been accompanied by the largest and most rapid international transfers of finance, technology, goods and services and information in human history. Today, the material output of production processes and subsequent waste generation is greater than ever, putting a substantial stress on environmental and social systems and broader sustainability. These developments have been driven by a combination of factors, including increases in populations; rapidly expanding middle classes, especially in the emerging economies; an increase in global transportation services; and increased availability and affordability of information and communication technologies (Hohnen, 2011).

Rising access to information has facilitated public scrutiny of social and environmental impacts of businesses – even of those in faraway locations. The reduction of potential reputational risk for businesses and, more positively, taking advantage of the business opportunities from green or social differentiation in the marketplace, has led many companies to promote and engage in efforts contributing to SCP. In some cases, these measures have been denounced as 'greenwashing' – mere branding strategies, without any real change taking place at the level of consumption and production. However, this reality should not distract from the fact that many businesses have made genuine efforts beyond compliance with local laws and regulations to promote sustainability.

This section highlights that businesses have used a wide variety of strategies and tools to promote SCP. Given the scale and scope of global activity in this area, the chapter focuses on a sample of these international efforts, chosen in order to represent the broad spectrum of actors and strategies involved. Where possible, it also highlights examples that are timely, high-impact, innovative, effective and have the potential for replication. The examples include: standards, cleaner technologies and manufacturing processes, tools and methodologies for performance review and reporting, sharing of expertise and experience, and establishing multi-stakeholder partnerships to address issues that single actors or groups cannot address on their own. Partnerships, in particular, have played an essential role in effectively promoting SCP. Although non-exhaustive, the listed examples are representative of some of the most interesting applications of SCP by businesses at the global level.

The evolution of business efforts to promote SCP at the global level

At the global level, business innovations in SCP have been closely linked with the broader sustainable development governance process. International agreements have repeatedly stressed the importance of business sector cooperation in promoting SCP, and international business has been engaged with governments at an international level.

Agenda 21, the programme of action agreed by the 1992 UNCED, established 'business and industry' as one of the nine Major Groups – the social partners needed to support common efforts for sustainable development. It explicitly recognized the importance of SCP for business and industry

(UNDESA, 2009a). In order to address these requirements and strengthen the role of business, two programmes – one promoting cleaner production and one promoting responsible entrepreneurship – were proposed by Agenda 21. Simultaneously, the document also recognized that business plays a crucial role in the social and economic development of a country (UNDESA, 2009a). The origins of the World Business Council for Sustainable Development (WBCSD), one of the most influential business coalitions on sustainability today, dates back to the 1992 Rio Summit.

Ten years later, the 2002 United Nations WSSD provided fresh international momentum and additional definition, where the role of business was again widely recognized. Increasingly, businesses were seen as part of the solution rather than just 'the problem.' Noting a collective responsibility, the Johannesburg Declaration stated that "in pursuit of its legitimate activities the private sector … has a duty to contribute to the evolution of equitable and sustainable communities and societies" (UNDESA, 2004a).

The WSSD also saw the launch of Business Action for Sustainable Development, an *ad hoc* business platform, by the International Chamber of Commerce (ICC) and WBCSD. The Business Action for Sustainable Development's pledge for action stated: "Sustainability is the opportunity which we embrace; responsibility is the standard by which we should expect to be judged; accountability is the obligation which we assume; partnership is the pathway which we pursue" (Business Action for Sustainable Development, 2002).

Partnerships were one of the most tangible outcomes of the WSSD. As Type II agreements – unlike the Type I intergovernmental agreements – they were conceived as non-negotiated, concrete contributions by stakeholders to sustainable development (United Nations, 2006). Out of around 350 international partnerships that have so far been formed under the framework, more than 120 are filed under the category 'changing unsustainable patterns of consumption and production' and overall the partnership-organization type 'business and industry' is counted more than 850 times (UNDESA, 2011).

Parallel to these international processes, businesses in the past few decades have experimented with and helped to develop a number of tools that are now integral to the promotion of SCP. Environmental management systems (EMSs) have been one of the most important ways for companies to operationalize the concept of SCP, offering opportunities to improve environmental performance, often at the same time as yielding cost-savings. Since the early 1990s, the

Biodegradable rice cake bundles

International Organization for Standardization (ISO) has been instrumental in establishing standards for EMSs and tools to guide companies around the world on the conduct of LCAs (ISO, 2009). Business-centre LCA-partnerships, such as the Life Cycle Initiative, launched by UNEP and the Society of Environmental Toxicology and Chemistry in 2002, have also been active on a global stage, helping companies put life-cycle thinking into practice with concrete tools, data and indicators (UNEP, 2011e).

Once implemented, EMSs and LCAs give companies the information they need to develop and adopt cleaner and more resource-efficient manufacturing processes that reduce the overall environmental footprint of goods and services. Eco-efficiency measures generally lead to cost savings for the businesses that implement them. More sustainable production can also lead businesses to profit if consumers perceive it as a value-adding characteristic.

Business activity is not just limited to production. Many businesses support the environmentally and socially sound end-use and disposal of their products by altering their properties or encouraging consumers to behave more sustainably. Examples are reduced, biodegradable and sustainably sourced packaging.

Multinational companies are starting to lead the way in addressing SCP across the entire value chain. The Unilever Sustainable Sourcing Initiative, for example, commits to sourcing 10 per cent of its agricultural raw materials sustainably. By 2012, the company expects to source 30 per cent; by 2015, 50 per cent; and by 2020, 100 per cent (Unilever, 2011). The Unilever programme sets out targets for sourcing from certified sustainable sources in various categories of food and consumables: palm oil, paper, soy, tea, fruits and vegetables, cocoa, sugar, oils, dairy, ice cream and eggs. The programme goes further in articulating two major challenges that the company is likely to face in scaling up its Sustainable Sourcing Initiative: the sourcing of low volume items, where Unilever

cannot influence change across supplier markets, and the sustainable sourcing of non-agricultural, mainly chemical, raw materials. To address these issues, especially the former, Unilever has committed to work in partnership with other businesses, suppliers, NGOs, academics and local authorities (Unilever, 2011).

In addition to sustainably sourced production, some businesses also promote SCP across the value chain by focusing on the promotion of sustainable consumption. The ISEAL Alliance is an illustrative example. Being a non-profit company, it acts as the umbrella organization of organic, fair trade and other sustainable labelling bodies (including Marine Stewardship Council [MSC], Forest Stewardship Council [FSC], Fairtrade Labelling Organizations International [FLO] and more). The labels promote sustainable consumption by informing consumers of the positive impacts of the labelled products, and thereby of the avoided negative impacts of alternatives.

In preparation for the next major conference on sustainable development – the Rio+20 Summit in 2012 – the business sector is actively preparing its participation. BASD, created at the WSSD, will again provide a platform for business. The UNGC and sector-based business associations will also join the initiative.

How businesses, business coalitions and partnerships have achieved influence in the promotion of SCP

Many variables affect the extent to which different businesses, associations and practices have managed to effectively promote SCP. Although not exhaustive, this section identifies some of the business-focused strategies that have played a key role in shifting consumption and production patterns towards more sustainable alternatives.

As with intergovernmental action, sound information has been a foundation of the promotion of SCP among global businesses. Some business associations set up clearing houses of information – disseminating tools, methodologies, hosting SCP award schemes and disseminating examples of good practice. For example, the Sustainable Business Institute (SBI) awards the 'Seal of Sustainability,' which is presented by members of the United States Congress (SBI, 2009). Both the WBCSD and BSR track and publish best practices and give guidance on firm-level.

WBCSD has set out its *Vision 2050* on how to meet the dual goals of sustainability: high human development and low ecological impact. Complementing *Vision 2050*, which mostly focused on sustainable production, WBCSD recently released a follow-up report, *A Vision for Sustainable Consumption* (WBCSD, 2011a). The report outlines the council's perspective on what sustainable consumption could entail in 2050, and how it could be mainstreamed by businesses. Recognizing the potential of collaboration along value chains for sustainability, the WBCSD is also planning to launch a *Sustainable Value Chain Manual*. This increased emphasis on sustainable consumption is representative of businesses seeing opportunities in both the production and consumption sides of SCP.

The WBCSD has also set up the Eco-Patent Commons initiative, to which companies can submit patents they hold that have environmental benefits. The patents are made freely available to other companies, allowing the dissemination of innovation in sustainable production methods (WBCSD, 2009). Other groups perform more basic information services, such as the communications platform GreenBiz, which offers news and information on best practice. Others act as media sources, as for example the Ethical Corporation, which has a collection of analytical articles on responsible business. **Business organizations have developed effective ways to capitalize on group data collection and learning, to publish and communicate the best practice of their constituents and to offer tailor-made advisory services to individual organizations**.

The establishment of networks and partnerships has also been vital to the global coordination of sustainability-related activities by the private sector. It has enabled debate, discussion and communication with stakeholders and the sharing of experience and best practice. The World Economic Forum (WEF), for example, holds regional summits to engage leaders from governments, business, academia and civil society to address global trade and market dynamics and their impacts on sustainable economic growth. At the present time, the WEF has chosen to focus on five major development themes – economic growth, environment, financial systems, health and social development – and addresses SCP issues in each of them. The WEF also features high-level panels on sustainable lifestyles at its annual forum in Davos, Switzerland and in several of its regional events in Asia, Africa and South America (WEF, 2011). Similarly, the International Business Leaders Forum (IBLF) also provides a platform for businesses to identify and discuss emerging issues before they become challenges in terms of compliance and operations (IBLF, 2011). **Business networks are a powerful way for businesses to engage with each other about sustainability and learn from peers**.

Businesses have also undertaken efforts to actively shape the regulatory environment in which they are embedded. Organizations and initiatives

communicate with policymakers and other stakeholders, in the capacity of lobbyists for certain business and industry interests. Where business associations refuse to recognize their environmental and social responsibilities, this means of influence often brings about perverse outcomes countering efforts to achieve sustainability; but where business groups are actively promoting SCP, it can also do much good. Different stakeholders hold diverse, sometimes critical, views on the advocacy activities of business networks and the positions they take on environmental and social issues. Sector associations position themselves and comment officially on laws and policies being developed. For example the World Steel Association and the International Fertiliser Association (IFA) publish position papers on emerging issues and legislation in the pipeline. Some proactive businesses have contributed to the development of more progressive and transparent lobbying practices. Some business groups focus on improved dialogues with regulators and a joint search for solutions based on accepted principles, such as the 'polluter pays' principle. The International Chamber of Commerce, its affiliates, industry sector associations and clean technology business groups, for example, maintain a growing presence at the COPs of all major environmental agreements. Together with a growing number of other stakeholder groups, business participates in standardization processes, including for LCAs, of the ISO, which also closely follows the evolving United Nations agenda. **Where they recognize their environmental and social responsibilities, businesses networks can be powerful advocates for practical and cost-effective laws, policies and voluntary initiatives to promote SCP.**

On the operations side, businesses increasingly take on SCP in a holistic supply chain perspective. This trend is driven by the increasing perception of a need for SCP by an increasing number of businesses and is, for instance, supported by the UNGC, which is developing guidance on how its members can integrate its principles into their supply chain management practices. Similarly, the World Environment Center has established a series of Greening the Supply Chain Initiatives, in which it encourages producers to collaborate with suppliers in order to adopt more sustainable practices across the life cycle of products or services. UNEP is working in unison with these efforts, having co-published a report with independent think-tank and strategy consultancy SustainAbility, addressing partnerships and capacity-building of small suppliers (SustainAbility, UNEP and the Global Compact, 2008). Currently, UNEP is working with governments and businesses to develop policies, voluntary measures and partnerships to establish more sustainable international supply chains, such as rice in Thailand and lobsters in Brazil. **An emerging trend is the focus on the sustainability performance of global supply chains and on ways in which SCP aspects can be integrated innovatively across supply chain entities based in different countries.**

Sustainability efforts by businesses that affect their supply chains or numerous other areas are also being communicated to different stakeholders. In the 1990s many business associations began to establish environment and corporate social responsibility programmes to help their members respond proactively to the looming challenge of sustainable development. They promoted the adoption of cleaner production principles and environmental management systems. Under the Global Reporting Initiative (GRI), in 2010, over 1,800 organizations from around the world reported on their sustainability performance. Many of these were among the leaders in their respective sectors. This reporting activity is a revealing indicator for the fact that ever more businesses see addressing environmental and social risks as in their interest. This rise can also be interpreted as recognition that commitment to promoting SCP can boost commercial and financial competitiveness. In addition, the very act of monitoring and reporting equips businesses with the information they need to identify effective points of intervention for improvement of environmental and social performance. The number of businesses reporting, as well as the quality and sophistication of the data being reported, has improved substantially over the last ten years. The GRI Guidelines include indicators explicitly on aspects of cleaner production – such as resource efficiency and emissions levels – and sustainable consumption – for instance product labelling and consumer health. GRI has published over ten sector supplements to address specific industries and to enable businesses to report on sector-specific risks and opportunities (see Case Study 4). **Reporting on commitments to sustainability is becoming increasingly common and important to business interests.**

Several industry organizations have also begun to report on the collective performance of their respective sectors. Another trend is the emergence of issue-based reporting and the strategic use of reported information along with annual financial reporting. The Carbon Disclosure Project (CDP) holds the largest database of primary corporate climate change information, and provides climate performance information to 551 institutional investors in order to align their lending and investment decisions with climate risks and opportunities (see Case Study 5). Stock market indexes also play a role for integrating sustainability into finance. Sustainable Asset Management and Dow Jones Indexes have created the Dow Jones Sustainability World Indexes (DJSI World) that track the performance of the global sustainability leaders (SAM & Dow Jones Indexes, 2011).[2] The growing interest in the link between sustainability and financial reporting and the development of new integrated reporting reflect the increasing interest and efforts in mainstreaming of SCP into core business strategies. **Reporting on sustainability performance is coming of age and is increasingly being integrated with financial reporting**.

Part of the backbone behind reporting has been the rise of robust, internationally recognized standards. They serve to benchmark environmental and social performance and to communicate the characteristics of sustainable goods and services. Stringent environmental standards can also help businesses protect themselves against rivals that 'greenwash' – claiming sustainability credentials without justification. Sustainability standards – including management, product, process and performance standards – are being widely adopted by businesses in virtually all sectors. Firms play an important role in the development of such standards, which, for the most part, takes place through multi-stakeholder processes. The ISO is the world's most significant body developing management and performance standards that promote SCP. The ISO 14000 series of standards address several aspects of environmental management and include a specific standard on life-cycle management (see Case Study 6). **Standards are a vital tool for enabling businesses to promote SCP, as they provide practical frameworks, differentiation in the marketplace and third-party guarantees**.

In the broader domain of private standards initiatives, the 1990s saw the rise of firm-level, sector-level and cross-sectoral voluntary industry initiatives on SCP. The objective of these initiatives was to help businesses surpass mere legal compliance and continuously improve

environmental performance through implementing cleaner production, LCAs and EMSs to reach performance levels that are 'beyond compliance.' These efforts are supported, for instance, through the facilitation and capacity-building undertaken by the ISEAL Alliance. Maintained by a number of international donors, the ISEAL Alliance explores ways in which standards can be developed through multi-stakeholder processes and works to facilitate harmonization across diverse and diverging standards to advance their effectiveness and efficiency in promoting sustainable development. Its members include sustainability standard setting and accreditation organizations. ISEAL Alliance members are required to adopt the ISEAL Codes of Best Practice on Setting Environmental and Social Standards, Assessing Impacts of Environmental and Social Standards and Assuring Compliance with Environmental and Social Standards. Many ISEAL members are becoming increasingly significant in the mainstreaming of SCP, as the market share of green and fair trade goods increases. Given the increasing concerns about accountability and transparency over how businesses address life-cycle issues, the international business think-thank AccountAbility has developed the A1000 AccountAbility Principles to provide a standardized methodology to help businesses become more accountable, responsible and sustainable (AccountAbility, 2011). Since 2000 business initiatives have also been actively promoting 'design for the environment' principles – arguing that the best way to ensure environmental sustainability is to estimate and minimize environmental impacts at the point of product design – and sustainable lifestyles. **Voluntary initiatives can be an opportunity for forward-thinking businesses to lead the way, and standards have been established to improve their accountability.**

Whether in environmental-standard setting or on other sustainability-related challenges, inter-business cooperation is on the rise. Industry associations have been increasingly active in providing their members with tools and guidance

2. The top 10 per cent of the 2,500 largest companies in the Dow Jones Global Indexes are selected for the DJSI World.

CASE STUDY 4

Sustainability reporting for informing, benchmarking and improving products and processes

The Global Reporting Initiative (GRI) is a multi-stakeholder platform and network-based organization that launched the first-ever sustainability reporting framework – its *Sustainability Reporting Guidelines* in 2000. The GRI's core goal is to mainstream disclosure on environmental, social and governance performance across all organizations and sectors. In 2010 over 1,800 reports following the GRI framework were issued worldwide. The guidelines facilitate comparability for companies and reduce the costs of sustainability reporting.

The GRI's main product is its *Sustainability Reporting Guidelines*, which set out the reporting principles and generic performance indicators that organizations can use to measure and report their economic, environmental and social performance. By reporting on the sustainability of their operations, businesses create the information needed to improve their sustainability, as well as raise awareness and encourage other businesses to do the same. The GRI Guidelines are developed through consensus-seeking, multi-stakeholder processes. Participants stem from global business, civil society, labour, academic and professional institutions.

To complement the third version *(G3) Guidelines*, which are applicable to all organizations, the GRI also engages in more specific activities:

- Sector Supplements contain industry-specific performance indicators and have so far been developed for following sectors: electricity, mining and metals, food processing, financial services, automotive, logistics, telecommunications, apparel and footwear, and even public agency and NGO sectors. Efforts are currently underway to develop Sector Supplements for the airport, construction and real estate, event organization, media, and oil and gas sectors.
- National Annexes contain country-level information of relevance to 'triple-bottom-line' reporting (covering environmental, social and economic sustainability). The first pilot project to develop a National Annex was launched in 2010 for Brazil. The experiences from this project are to guide the development of other National Annexes around the world.

The GRI also recognizes the need for integrated reporting, which presents an organization's financial performance together with its environmental, social and governance (ESG) performance. It is recognized today that, for such holistic reporting to be viable, it must be underpinned by standardized financial and ESG reporting frameworks. ESG reporting frameworks, in particular the GRI's G3, together with financial reporting standards – such as the International Financial Reporting Standards or the United States Generally Accepted Accounting Principles – can form the base for new, integrated reporting frameworks.

With the aim of creating such an integrated reporting framework that is, moreover, globally accepted, the GRI and the Prince's Accounting for Sustainability Project announced the formation of the International Integrated Reporting Committee in August 2010. The objective of the International Integrated Reporting Committee is an integrated framework that brings together financial, environmental, social and governance information in a clear, concise, consistent and comparable format. The GRI intends the next generation of its guidelines, the G4, to boost the robustness of the integrated reporting framework, enabling better analysis and assurance of integrated reports.

Source: GRI (2010)

to manage environmental performance, to improve social responsibility and to promote good practices. Examples are the World Steel Association and the International Fertilizer Association (IFA), which both promote sector-specific sustainability principles and provide their members with tools to comply with them. The International Federation of Organic Agriculture Movements (IFOAM) goes even further by facilitating the development of standards and compliance with them in markets worldwide, and giving its backing to decentralized compliance processes. These examples reflect an evolution in

CASE STUDY 5

Sustainable business decisions based on data: Measuring carbon for continuous improvement

The Carbon Disclosure Project (CDP) holds the largest database of primary corporate climate change information in the world. The database contains data from the thousands of organizations that measure and disclose their GHG emissions and climate change strategies through the CDP. Their database and reporting methodology is used by over 3,000 organizations in some 60 countries around the world. The goal of the CDP is to collate and publish this information and to lobby for its use in financial and policy decision making.

The Carbon Disclosure Project operates five major programmes of relevance to SCP:

- For 511 institutional investors holding US$71 trillion in assets under management, the CDP provides information from reporting organizations so that they can align their lending and investment decisions based on climate risks and opportunities.
- In public procurement, the CDP enables national and local governments to ascertain the impact of climate change in their supply chains.
- On water disclosure, the CDP provides water-related data from a subset of the world's largest water-intensive corporations to inform the global market place on investment risk and commercial opportunities.
- For supply chains, the CDP works with global corporations to understand the contributions of supply chains to GHG emissions and climate change, harnessing their collective purchasing power to encourage suppliers to measure and disclose climate change information.
- For cities, the CDP provides standardized reporting of emissions data, analysis of climate risks, and opportunities and adaptation plans for cities.

By providing organizations with a framework and a platform for carbon and climate reporting as well as a dedicated service, the CDP helps stakeholders use the reported information in a coherent and strategic manner.

Source: CDP (2011)

the role played by industry associations from their traditional functions – including representation, lobbying and information dissemination – to a greater focus on capacity-building and harmonization. Thereby, the associations create a level playing field for their expanding memberships, often based around the world, and in developing economies in particular. Business groups that focus on the environment, such as the WBCSD and Global Environment Management Initiative, provide innovative tools for companies to address emerging SCP issues such as carbon and water footprinting. **Businesses have recognized that companies operating within specific industrial sectors need to work together to find solutions to sector-specific environmental and socio-economic challenges**.

Business associations have also worked on enabling members to pool efforts on sustainable supply chain management. For example, the Electronic Industry Citizenship Coalition (EICC) works to promote the adoption of SCP and corporate responsibility across member companies and their suppliers. The EICC, consisting of global information technology businesses, has developed dedicated tools to audit supplier compliance across the five aspects of the EICC Code of Conduct: labour, health and safety, environment, management systems and ethics (EICC, 2009). Similarly, the Pharmaceutical Supply Chain Initiative (PSCI), consisting of global pharmaceutical businesses, works to promote SCP across pharmaceutical supply chains. Having established the Pharmaceutical

CASE STUDY 6

Environmental and social standards driving SCP

The International Organization for Standardization (ISO) is the world's largest developer and publisher of management systems and guidance standards that span a diverse array of industrial activities, processes and sectors. The ISO is a network of the national standards institutes from 162 countries, some of which are public sector entities, while others are established by industry associations. As such, the ISO works to operate as a link between the public and private sectors.

The most widely used ISO standard in the context of SCP is the ISO 14000 suite on environmental management. These standards enable an organization of any size and sector to: identify and manage the environmental impacts of its activities, establish environmental performance objectives and targets, adopt a life-cycle perspective in managing environmental impacts, implement an environmental management programme to achieve the set objectives and targets and continuously improve on managing environmental impacts.

ISO 14001 sets out the requirements and processes for an environment management system, while ISO 14004 contains general environment management system guidelines. Other standards in the ISO 14000 series link these standards by addressing performance evaluation, life-cycle analysis, communication, auditing and labelling. ISO 14010 outlined principles of environmental auditing, ISO 14011 provided guidance on auditing an environmental management system and ISO 14012 provided guidance on qualification criteria for environmental auditors and lead auditors. These three standards are now superseded by the ISO 19011 series. Other standards in the ISO 14000 series include 14013/5, which provides audit review and assessment material; the series of ISO 14020 standards addressing labelling issues; the ISO 14030 series providing guidance on performance targets and monitoring within an environmental management system; and the ISO 14040 series, which covers life-cycle assessment (ISO, 2011a).

With regards to addressing the reduction and removal of GHGs, ISO 14064 (parts 1, 2 and 3) deals with the quantification, monitoring and reporting of GHG emissions and removals. It includes requirements for the design, development, management, reporting and verification of an organization's GHG inventory. The sister standards to ISO 14064 are ISO 14065, which refers to requirements for GHG validation and verification bodies for use in accreditation, and ISO 14066, which deals with competence requirements for GHG validation and verification teams (ISO, 2011a).

In June 2011 the ISO also launched ISO 50001, which sets out requirements for energy management systems and is designed to provide a recognized framework for integrating energy performance into management practices. The standard also aims to help organizations promote energy efficiency across their supply chain and integrate energy management into complementary management systems, such as environment and health and safety (ISO, 2011c).

Another ISO standard of particular relevance to SCP is ISO 26000, which provides guidance on social responsibility. Launched in late 2010, it was developed by the ISO through one of the largest multi-stakeholder processes in its history – over 800 stakeholders from over 70 countries were registered as members of the ISO 26000 working group. ISO 26000 is designed to help organizations to go beyond legal compliance and contribute to sustainable development. ISO 26000 also aims to promote a common understanding of the term 'social responsibility' and to complement other instruments and initiatives that address the same issues. An important distinction of ISO 26000 is that it is not a management system standard and, as such, is not intended for certification. The ISO also suggests that it is not intended for regulatory or contractual use and that "any offer to certify, or claims to be certified, to ISO 26000 would be a misrepresentation of the intent and purpose and a misuse of this international standard." ISO 26000 covers seven core subjects: organizational governance, human rights, labour practices, environment, fair operating practices, consumer issues, community involvement and development (ISO, 2011b).

Table 3: Business organizations, initiatives and sectoral associations promoting SCP

Background	General activities	Notable mechanisms to promote SCP
Organizations		
International Chamber of Commerce (ICC) (ICC, 2011)		
The ICC is a global business organization whose activities cover a broad spectrum of issues, from arbitration and dispute resolution to making the case for the liberalization of trade and investment within the multilateral trading system, business self-regulation, fighting corruption and combating commercial crime. The ICC promotes business enterprise and investment as the most effective way of raising living standards and creating wealth. The ICC groups over 1,000 companies in more than 130 countries worldwide.	The ICC publishes a wide range of reports, policy briefs, as well as codes and model contracts on a range of issues, including responsible supply chain management, environmental management and corporate social responsibility, sustainable agriculture, biofuels and carbon capture storage. The ICC maintains close links with the UNGC and the ISO. The ICC also represents business interests at global trade, environmental and development negotiations.	The ICC has been active to facilitate compliance and performance 'beyond compliance' across a number of sectors by promoting self-regulation in environmental improvement, sustainable production and responsible business practices.
World Economic Forum (WEF) (WEF, 2011)		
The WEF is an independent organization that engages business, political, academic and other leaders of society to shape global, regional and industry agendas aimed at building sustained economic growth, mitigating global risks, promoting health for all, improving social welfare and fostering environmental sustainability. It has 1,000 member companies, most with a turnover of over US$5 billion.	The WEF annual meeting is held in Davos, Switzerland, and brings together a wide group of globally significant development and policy leaders. The objective of this global summit, complemented by regional forums, is to debate topical and pressing global issues, often related to sustainable development. The WEF regional and national meetings debate and highlight issues of importance on those levels. The Forum also maintains research and advocacy activities that address different aspects of SCP, including the 'urban consumer' and 'carbon neutral skies.' Having recognized that sustainable consumption is a necessary condition for economic growth and development, it has designed a roadmap for sustainable consumption, in which it identifies such consumption as "more than corporate social responsibility; it is about necessary fundamental changes in the way business is done and the way the world consumes, requiring rethinking of business models, supply chains and how society values goods and services" (WEF, 2010, p. 5).	The WEF holds a forum for high-level debate and consensus building among governments, civil society and the private sector on diverse aspects of SCP. The forum also aims to obtain buy-in for SCP and sustainable development from a wider body of stakeholders who are not the traditional participants in the global sustainability debate.

Background	General activities	Notable mechanisms to promote SCP
The International Organization for Standardization (ISO) (ISO, 2011a; ISO, 2011b)		
The ISO is the world's largest developer and publisher of international standards. It is a network of the national standards institutes of 162 countries (one member per country) with a central secretariat that coordinates the network. Some of its member standards organizations are part of the governmental structure of their countries, or are mandated by their government. Other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations.	The ISO is the world's most significant body developing internationally recognized standards. The standards are developed by technical committees, made up of experts from the sectors that have requested the standards, and who will ultimately use them. Committees may also feature representatives of government agencies, testing laboratories, consumer associations, NGOs and academia.	The organization has published several standards of critical relevance to SCP (see Case Study 5). The ISO 14000 series of standards addresses environmental management, environmental labelling and life-cycle assessment. ISO 26000 Social Responsibility provides guidance on several dimensions of SCP: organizational governance, human rights, labour practices, environment, fair operating practices, consumer issues, community involvement and development.
The World Business Council for Sustainable Development (WBCSD) (WBCSD, 2011b)		
The WBCSD is a CEO-led global association dealing exclusively with business and sustainable development. The council provides a platform for companies to explore sustainable development, share knowledge, experiences and best practices, and to advocate business positions on these issues in a variety of forums, working with governments, non-governmental and intergovernmental organizations. The council also benefits from a global network of around 60 national and regional business councils and regional partners. The WBCSD is made up of about 200 companies from more than 30 countries and 20 major industrial sectors.	While the WBCSD organizes some of its work in specific focus areas chosen by members, it also works on the wider role of business in sustainable development, including a focus on SCP. Particularly relevant to SCP are its *Vision for Sustainable Consumption* (2011), *Vision 2050* (2010) and *Sustainable Consumption Facts & Trends* (2008) reports. While *Vision 2050* is mostly concerned with sustainable production, the *Vision for Sustainable Consumption* presents what sustainable consumption could look like in 2050 and how business could help mainstream it. The 2008 report assesses developments and trends in worldwide consumption patterns. Many of the wider work by the WBCSD on the role of business in sustainable development is also highly relevant to SCP. For example, in the case of energy and climate, the 2010 report *Enabling Frameworks for Technology Diffusion*, puts forward six key elements to enhance investments and sales in low-carbon technologies. The programme on *Linking Pay to Sustainability* looks at how companies are linking performance-related pay to progress against sustainability goals. The *How to Value Ecosystems* programme supports business in addressing biodiversity loss and ecosystem degradation. WBCSD has also published tools including the WBCSD-WRI protocol on the quantification and monitoring of GHGs.	The WBCSD provides a platform for businesses to learn about SCP and improve environmental and social performance across the life cycle while sharing experience and expertise about it.

Table 3 *Continued*

Background	General activities	Notable mechanisms to promote SCP
Business for Social Responsibility (BSR) (BSR, 2011)		
BSR works with its global network of more than 250 member companies to develop sustainable business strategies and solutions through consulting, research and cross-sector collaboration. BSR uses its expertise in environment, human rights, economic development, and governance and accountability with the objective to guide global companies towards creating a just and sustainable world.	BSR provides member companies with a wide range of issue- and sector-specific consultancy and research services on environmental management and social responsibility. Its impact potential is broad, as BSR member companies cover over 10 sectors, from consumer goods to financial services. BSR highlights SCP in its programmes to induce sustainable consumer behaviour through actionable information and a framework to increase consumer awareness of sustainable living. Another framework aims to promote closed-loop business models to extend the productive life of materials and reduce energy consumption and waste production. BSR also organizes an annual summit and a series of regional meetings for its members.	The organization focuses on providing members with advice, analysis and solutions to improve SCP, including environmental management, social responsibility, consumer protection, sustainable living and good governance. It also enables its members to benefit from the insights, expertise and relationships that the BSR secretariat has developed over the years.
AccountAbility (AccountAbility, 2011)		
AccountAbility helps corporations, non-profits and governments embed ethical, environmental, social and governance accountability into their organizational management. At the core of this lies assurance through systematic and principled stakeholder engagement.	AccountAbility focuses on two major areas of influence: assurance standards and research and consultancy. In terms of standards, the AccountAbility AA1000AS provides a methodology for assurance practitioners to evaluate the nature and extent to which an organization adheres to the principles of inclusivity, materiality and responsiveness in its environmental and social management plans and reporting strategy.	AccountAbility focuses on several aspects that are integral to SCP: responsible competitiveness, stakeholder engagement, collaborative governance and standards and management systems that embed LCAs and EMSs into the daily operations of businesses. The elements of its AA1000AS standard are intrinsic to SCP. The group's research and consultancy work of relevance to SCP includes the Responsible Competitiveness programme, which advises on how to reshape markets to reward social and environmental innovation. It also conducts SCP-relevant research on supply chains in the consumer goods industry.
International Business Leaders Forum (IBLF) (IBLF, 2011)		
The IBLF is an independent organization working with leading global companies on responsible business solutions to sustainable development challenges. It is supported by a network of over 100 multinational companies.	The IBLF provides a platform for companies to exchange experiences, produce topical research and develop cross-sector partnerships on diverse aspects of SCP across the life cycle. It supports capacity-building and training in partnership building in developing countries. The IBLF is a founding member (along with PricewaterhouseCoopers and Accenture Development Partnerships) of the Business Innovation Facility, a three-year programme established in 2010 to promote inclusive business models, broker new value chain linkages for SMEs, provide technical assistance and deliver successful partnerships in Bangladesh, India, Nigeria, Malawi, and Zambia. The IBLF aims to work on emerging issues and includes a strong focus on international supply chains. The IBLF also organizes regular summits and provides advisory services to its members.	The forum offers a strategic and neutral platform for businesses to discuss their SCP challenges and to explore solutions collectively.

Background	General activities	Notable mechanisms to promote SCP
Sustainable Business Institute (SBI) (SBI, 2009)		
SBI works to encourage business leaders to adopt and communicate sustainable business practices.	SBI initiatives include a CEO forum, sustainable business user groups and a youth leadership and mentoring programme. The SBI also operates the Seal of Sustainability certification scheme for corporate environmental and social performance. The certification is awarded to companies that fulfil a number of criteria, such as those that set a new best practice standard or baseline within a business sector. The SBI Youth Leadership and Mentoring programme has mentored over 800 students and organized a large number of internships in green industry sectors.	The Institute adopts a triple focus on stakeholder initiatives, advocacy and certification. SBI operates a Sustainable Business User Group, which is hosted by a variety of business leaders and aims to facilitate bi-monthly learning, teaching, supporting and networking opportunities among stakeholders interested in implementing SCP practices that have the potential to increase return on investment.
World Environment Center (WEC) (WEC, 2011)		
WEC is a global non-profit organization that aims to advance sustainable development through the business practices of member companies and in partnership with governments, multilateral organizations, NGOs, universities and other stakeholders.	The organization hosts membership roundtables in which business, government and civil society explore new ideas for identifying and implementing sustainable practices. WEC, for example, has various Greening the Supply Chain Initiatives, in which it brings together producers and their suppliers to discuss and implement environmental and social improvement programmes across supply chains.	WEC takes a supply chain approach to improve environmental and social performance, working with both producers and their suppliers.
Initiatives		
Global Reporting Initiative (GRI) (GRI, 2010)		
Launched jointly by UNEP and Ceres (a United States-based national coalition of investors, environmental organizations and public interest groups working with companies to address sustainability and SCP challenges) in the late 1990s, the GRI is a network-based organization that pioneered the world's most widely used sustainability reporting framework. The core goals of the GRI include the mainstreaming of disclosure on environmental, social and governance performance, across both the private and public sectors.	The GRI Reporting Framework sets out principles and performance indicators that organizations can employ to measure and report their economic, environmental and social performance. The cornerstone of the GRI Reporting Framework is the *Sustainability Reporting Guidelines*. Their third version, the G3 Guidelines, was published in 2006 and is openly available. The development of the fourth version (G4) was started in 2011, will be published in 2013 and aims to take integrated reporting further. The overall Reporting Framework is complemented by GRI Sector Supplements (indicators especially tailored to particular industry sectors), technical protocols and National Annexes (specific country-level information). All GRI outputs are developed through consensus-seeking, multi-stakeholder processes. Participants stem from global business, civil society, labour, academic and professional institutions.	The GRI offers a standardized approach to sustainability reporting. Its guidelines provide stakeholders with a framework to benchmark the sustainability performance of organizations between annual reports and among different organizations. The GRI also offers capacity-building services on sustainability reporting, including a dedicated programme for SMEs. In 2010, the GRI Reporting Framework was used by over 1,800 organizations from the public and private sectors from around the globe. This represents a 22 per cent increase compared to 2009.

Table 3 *Continued*

Background	General activities	Notable mechanisms to promote SCP
The United Nations Environment Programme Finance Initiative (UNEP FI) (UNEP FI, 2011)		
UNEP FI is a partnership between UNEP and the global financial sector, launched in the early 1990s. The Initiative works closely with nearly 200 financial institutions, mainly banks and insurance companies, who are signatories to the UNEP FI Statements, as well as a range of partner organizations, to develop and promote linkages between sustainability and financial performance. Through peer-to-peer networks and research and training, the UNEP FI carries out its mission to identify, promote and realize the adoption of best environmental and sustainability practices at all levels of financial institutions' operations.	UNEP FI work streams look at how environment, social and governance risks can be incorporated into financial and investment decisions, including issues such as climate change, insurance, investment, property and sustainability reporting, biodiversity and ecosystem services, finance and conflict, human rights, finance and water, and finance and financial stability and systemic risk. UNEP FI has also established a network of Regional Task Forces to coordinate its activities around the world and to provide an opportunity for local signatories and other financial institutions to interact and share best practices. The Task Forces have become a major source of innovation, namely in the field of the Finance Initiative's risk training services.	UNEP FI aims to establish and demonstrate the link between sustainable development and the financial industry. It has produced guidance material and tools to help its members embed environmental and social risks across the life cycle in investment and lending decisions. The Initiative's task forces cover Africa and the Middle East, the Asia-Pacific region, Europe, Latin America and the Caribbean, and North America.
Principles for Responsible Investment Initiative (PRI) (PRI, 2011)		
The United Nations-backed PRI Initiative is a network of international investors committed to incorporating ESG issues into investment analysis, ownership policies and disclosure. They have also committed to reporting on implementation progress and to promote the principles within the industry. The establishment of the PRI was coordinated by the UNEP FI and the UNGC.	The principles were devised by the investment community and reflect the view that ESG issues can affect the performance of investment portfolios and must therefore be given appropriate consideration by investors if they are to fulfil their fiduciary (or equivalent) duties. The principles provide a voluntary framework by which all investors can incorporate ESG issues into their decision making and ownership practices, and thereby better align their objectives with those of society at large. The PRI Initiative was created after the launch of the Principles themselves to help investors implement them. Its work stream includes an academic network, an engagement clearing house, a research portal, and reporting and assessment tools. It has sub-groups focussing on promoting the principles in emerging markets and developing countries at large, property, private equity and inclusive finance markets. Further, a public policy network brings public policy and investment representatives together to discuss and share best practices around responsible investment. Among the issues taken into consideration for responsible investment decisions, companies that have implemented LCAs often have advantages to receive these investments.	The most important influence of the PRI is that it provides a neutral platform for investors to work collectively on internalizing ESG risks, thereby providing the springboard for SCP. Over 850 investment institutions have become signatories of the PRI and they collectively represent assets worth approximately US$25 trillion. The PRI works to change investors and societies' perceptions of long-term risks and thus facilitate widespread SCP practices.

Background	General activities	Notable mechanisms to promote SCP
United Nations Global Compact (UNGC) (United Nations, 2011b)		
Launched by the United Nations Secretary-General in 2000, the UNGC is a voluntary strategic policy initiative for businesses committed to sustainable development. Signatory companies are required to commit to aligning their operations and strategies with 10 principles on human rights, decent work and against corruption. Its three principles on the environment cover the precautionary approach, greater environmental responsibility and environmentally friendly technologies. The UNGC also operates a range of formal links with non-business sectors including academia, cities, CSOs, public sector organizations and United Nations agencies, such as UNEP, which acts as guardian of the environmental principles of the UNGC.	Signatory companies are required to issue an annual Communication on Progress – a public disclosure statement on progress made in implementing the 10 principles and in supporting broader United Nations development goals. The UNGC has developed a range of tools to facilitate this disclosure requirement and encourages the use of the GRI Reporting Guidelines. The UNGC also publishes a range of reports on environmental, social and development issues faced by member companies, as well as managing Local Networks. The latter are clusters of participants in individual countries who come together to advance the UNGC and its principles. It is currently developing guidance on how its members can take a more proactive approach to integrate the UNGC principles into supply chain management practices – an integral aspect of SCP.	The Global Compact works to mainstream its 10 principles in business activities and to catalyse actions in support of broader United Nations goals, including the MDGs. It has over 8,700 corporate participants and other stakeholders from over 130 countries. The UNGC has collaborated with UNEP and others to host policy dialogues and develop management guides on issues such as environmental performance management, climate strategies, water accounting, and responsible marketing and communications.
COM+ Sustainable Development Communications Alliance (COM+, 2011)		
COM+ is a global alliance of organizations devoted to increasing public awareness on the importance of environmental protection and social cohesion. It works through partnerships to achieve global outreach.	COM+ builds on its partner organizations to implement umbrella actions or address issues that are specific to an individual organization or sector. It provides a platform for organizations with different approaches and business cultures to work together to address diverse aspects of SCP including waste water treatment, energy efficiency, clean technology, low carbon solutions and pollution prevention.	COM+ emphasizes the importance of communication to advance SCP. Its flagship programmes include the Com+ Climate Change Initiative and the Com+ Developing Country Media Training programme, which aim to generate public support and train journalists on reducing GHG emissions through multimedia channels, dialogues and media training.

Table 3 *Continued*

Background	General activities	Notable mechanisms to promote SCP
Investor Network on Climate Risk (INCR) (INCR, 2011)		
INCR supports 100 institutional investors with assets totalling US$10 trillion by identifying the financial opportunities and risks in climate change and by tackling the policy and governance issues that impede investor progress toward more sustainable capital markets. INCR is coordinated by Ceres, a coalition of investors and environmental groups that aims to integrate sustainability into day-to-day business practices.	INCR provides investors with a range of tools and tracking reports on the embedding of climate, water and natural resource risks into investment decisions. INCR also provides expert advisory services and facilitates investor-company dialogues on a sector- and issue-specific basis. INCR also works with federal and state policymakers to strengthen regional and national legislation to reduce carbon and other emissions, protect water sheds, and increase financing for low-carbon energy technologies.	With its unique capacity to foster constructive engagement between investors, companies, environmentalists and policymakers, INCR has promoted SCP through successfully petitioning the United States Securities & Exchange Commission and the Canadian securities regulators to issue formal guidance on climate change-related disclosure that companies must provide to investors in their financial filings. It has led investor efforts with major oil and gas companies to strengthen risk oversight measures for deepwater oil drilling, natural gas 'fracking' and oil sands production. INCR has also helped Fortune 500 companies to improve their climate policies, practices and disclosure.
Sectoral Associations		
World Steel Association (WSA) (WSA, 2011; WSA, 2010)		
The WSA is one of the largest industry associations representing approximately 170 steel producers (including 19 of the world's 20 largest steel companies), national and regional steel industry associations, and steel research institutes. WSA members produce around 85 per cent of the world's steel.	The WSA acts as the focal point for the steel industry, providing global leadership on all major strategic issues affecting the industry. It has a particular focus on all three areas of sustainability – economic, environmental and social. The WSA maintains an ongoing focus on life-cycle assessment, with members and stakeholders having access to an online LCA methodology and best practice case studies. These studies give information on how life-cycle performance can be improved in the manufacture and use of steel. It also acts as a focal point for the industry's commitment to reduce carbon emissions, with member companies having agreed on a common framework to reduce the carbon footprint associated with the manufacture and use of steel. The WSA also publishes annual sustainability indicators of the industry's sustainability performance.	Through its representatives and global membership, the WSA has the potential for substantial impact through its activities encouraging sustainability. Its LCA approach to assessing the carbon footprint of steel reflects an SCP approach to reducing GHG emissions.
The International Fertilizer Association (IFA) (IFA, 2011)		
The IFA has some 525 members in about 85 countries. Around half of the membership is based in developing countries. IFA member companies represent all activities related to the production, trade, transport and distribution of every type of fertilizer, their raw materials and intermediates. Membership of the IFA also includes organizations involved in construction, engineering, consulting, agronomic research and training.	The IFA has developed a Fertilizer Best Management Practice framework that promotes the more efficient use of plant nutrients in order to minimize possible damage to the environment. In addition, the IFA has developed 12 principles covering safety, health and the environment – intrinsic elements of sustainable agriculture.	The IFA Fertilizer Best Management Practices online portal contains guidelines and good practice on the whole spectrum of sustainable agriculture – integrated farming, crop management, fertility management, plan nutrient management and fertilizer management.

Background	General activities	Notable mechanisms to promote SCP
International Federation of Organic Agriculture Movements (IFOAM) (IFOAM, 2011)		
IFOAM is the worldwide umbrella organization of organic agriculture producers, their stakeholders and their entire value chain. It unites more than 750 member organizations from 116 countries.	Having authored the *Principles of Organic Agriculture*, IFOAM participates in international agricultural and environmental negotiations with the United Nations and multilateral institutions. IFOAM also provides a market guarantee for the integrity of organic claims covering the part of the supply chain up to the 'farm gate.' The Organic Guarantee System provides a common system of standards, verification and market identity. IFOAM also publishes regular reports on the worldwide state of organic agriculture.	IFOAM provides members with management methodologies, certification, assurance, and research and advocacy services. IFOAM also maintains a focus on the grassroots level though the Intercontinental Network of Organic Farmers Organisations, which it leads and facilitates.
ISEAL Alliance (ISEAL, 2011)		
The ISEAL Alliance is a global association for social and environmental standards founded in 2000 by the certification organizations Forest Stewardship Council, IFOAM, Fairtrade Labelling Organizations International and MSC and is registered in the United Kingdom as a not-for-profit company. It now has 11 full and 8 associate members. Working with established and emerging voluntary standard systems, ISEAL develops guidance and helps strengthen the effectiveness and impact of these standards. ISEAL members are described as leaders in their fields, committed to creating solid and credible standard systems that give business, governments and consumers the ability to choose goods and services that have been ethically sourced, help the environment and guarantee producers a decent living.	ISEAL facilitates regular meetings of social and environmental standard groups to learn about each other's programmes and to find ways to collaborate. On a more advanced level, it coordinates the peer review of members and represents their common interests in governmental and inter-governmental forums. It also works with companies, non-profits and governments to support their referencing and use of voluntary standards. It has developed a Code of Good Practice for Setting Social and Environmental Standards, which was launched in 2004. This has become the global reference for good social and environmental standard-setting processes. Standard-setting organizations can use it to help to ensure that when they create or apply their standard, it will result in measurable progress towards their social and environmental objectives, without creating unnecessary hurdles to international trade (it builds on the WTO disciplines of openness, transparency and participation). In addition, a Code of Good Practice can serve as a minimum bar against which to evaluate the credibility of voluntary standards systems. ISEAL has developed other good operating practices, such as the Code of Good Practice for Assessing the Impacts of Standards Systems (Impacts Code) that was launched in 2010. This creates a way for standards systems to measure and demonstrate their contributions to social and environmental impacts using consistent methodologies. Another code in the making is the Verification Code of Good Practice that will define good operating practices in terms of accreditation, certification and auditing to social and environmental standards. A key focus of the Code will be the balance between ensuring that certification to social and environmental standards is both rigorous, in terms of meeting the needs of consumers, and accessible, in terms of making sure that small-scale enterprises can afford to enter into certification programmes and see them as market enablers.	With the worldwide proliferation of voluntary sustainability standards, ISEAL provides tools to ensure their credibility and effectiveness. It is backed by the foremost sustainability standard bodies, and therefore has both authority and a considerable market impact. As the number of products covered by standards of ISEAL members increases, so does the sustainability of production and consumption around the world.

Industry Principles for Responsible Supply Chain Management, the PSCI has also developed a PSCI Self-Assessment Questionnaire for Pharmaceutical Industry Suppliers for use by its members in promoting SCP across their supply chains (PSCI, 2011). By increasing information about supplier sustainability performance, such initiatives allow companies to choose suppliers with better sustainability credentials and raise awareness of sustainability among suppliers. **Cooperation may have considerable potential to improve the sustainability of supply chains when they are shared by a number of businesses.**

The financial services sector is increasingly paying attention to environmental and social risks. This is an important driver of SCP and provides businesses with a strong incentive to embed sustainability considerations into their own operations, including supply chains. There are a series of groups that provide the capacity-building needed by managers of financial institutions to improve their understanding of sustainability issues. This includes general sensitizing but also technical aspects associated with production and consumption on a sectoral and value chain basis. An example of such a service is the Investor Network on Climate Risk, which provides institutional investors with information on the risks that neglecting sustainability entails. This allows investors to integrate climate risks into investment and lending decisions (Investor Network on Client Risk, 2011). Similarly, over 70 financial institutions worldwide have adopted the Equator Principles that are based on the International Finance Corporation's performance standards on social and environmental sustainability and on the World Bank Group's Environmental, Health and Safety Guidelines. The principles serve as a common framework for providers of capital to integrate social and environmental policies, procedures and standards into their project financing activities. Equator Principles Financial Institutions also commit to not give loans to projects where the borrower will not, or is unable to, comply with their respective social and environmental policies and procedures under the principles (Equator Principles Association, 2011). **The financial services industry, as a main supplier of capital to businesses, has been working to integrate environmental and social risks into lending and investment decisions.**

The numerous business projects, initiatives, networks and other activities outlined above are largely based on bottom-up approaches. While positive impacts can surely be observed, this approach alone will not lead to the scaling up of efforts as fast as they are needed. To support business in moving forward, policy-makers should consider complementing business innovation with formal incentives. These can take the form of regulatory or market-based instruments that shape the economic and legislative framework within in which businesses conduct their activity. This framework can both create opportunities and constrain practices that constitute unfair forms of competition and/or negatively impact other stakeholders. **This framework can be crucial to incentivize increased business innovation and can be crucial for the replication and scaling-up of successful business initiatives.**

Table 3 offers a concise selection of some representative organizations, partnerships and initiatives that businesses have used to promote SCP in the last few decades, chosen to illustrate the broad range of actors in this area, as well as to highlight examples that are timely, high-impact, innovative, effective and have the potential for replication. It also includes examples of organizations that have principally focused on influencing the business agenda. Readers are invited to browse the table for examples of effective strategies for the promotion of SCP.

2.4 Civil society initiatives for SCP

Next to governments and businesses, CSOs form the third group that is key to the promotion of SCP. While government and business actors are relatively easy to define and identify, CSOs are a much more diverse category of actors. Based on definitions by leading research centres, the World Bank defines civil society as encompassing:

> the wide array of non-governmental and not-for-profit organizations that have a presence in public life, expressing the interests and values of their members or others, based on ethical, cultural, political, scientific, religious or philanthropic considerations. Civil Society Organizations (CSOs) therefore refer to a wide array of organizations: community groups, non-

governmental organizations (NGOs), labor unions, indigenous groups, charitable organizations, faith-based organizations, professional associations, and foundations (World Bank, 2010b).

With highly diverse memberships, backgrounds and structures, CSOs have the capacity to influence SCP through a wide range of strategies and activities. The last decades have seen an impressive rise in the size, scope and capacity of CSOs on all continents. Social and economic globalization processes, expanding democratic governance, modern travel, and information and communications technologies, have facilitated this growth. The Yearbook of International Organizations counts close to 65,000 CSOs in 300 countries and territories around the world, compared to around 6,000 in 1990 (Union of International Associations, 2011).

This section highlights the wide variety of strategies and tools that CSOs have used to promote SCP. Given the scale and scope of global activity in this area, it focuses on a sample of these international efforts, chosen in order to represent the broad spectrum of actors and strategies involved. Activities include: research, advocacy and lobbying; capacity-building events and information-sharing events; training; financing and the implementation of projects; developing and supporting sustainability labelling and other standards; awareness-raising; building networks and dialogues; and providing independent third-party evaluations of government and business activities. These activities are often undertaken in partnerships between different organizations, frequently bringing together civil-society and business. Innovative partnerships have catalysed many activities and shown to be vital to advance SCP. The examples have been chosen in order to illustrate the broad range of actors involved, as well as to highlight interventions that are particularly timely, high-impact, innovative, effective and potentially replicable. Although non-exhaustive, they draw attention to some of the most valuable ways that civil society at the global level is promoting SCP.

The evolution of civil society efforts to promote SCP at the global level

Civil society has a long history of influence in international processes surrounding sustainable development. As far back as the 1972 United Nations Conference on the Human Environment in Stockholm, widely perceived as the turning point in the history of global environmental policymaking, NGOs were present through a large forum running in parallel to the governmental sessions. Following the conference, UNEP reached out to the NGO community by developing dedicated structures to promote their involvement in its activities and broader sustainable development processes (UNEP, 2009b).

Civil society was then recognized at the 1992 Rio UNCED in Agenda 21, the action plan for sustainable development drawn up and endorsed at this summit. It identified civil society as the social partner needed to achieve sustainable development, stipulating that "the commitment and genuine involvement of all social groups" will be "[c]ritical to the effective implementation of the objectives, policies and mechanisms agreed to by Governments in all programme areas of Agenda 21" and that "[o]ne of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making" (UNDESA, 2009c). To this end, it established nine major groups representing important sub-sections of civil society, with two exceptions: 1) business and industry and 2) local authorities. In addition to the generic group of NGOs, a series of specific civil society groups were recognized: farmers, women, the scientific and technological community, children and youth, indigenous peoples and their communities, and workers and trade unions. The explicit participation of different parts of civil society at Rio and the institutionalization of civil society in the outcome documents of the conference marked it as a new high point for civil society involvement in sustainable development governance.

Some of the key outcomes of the WSSD were the many global Type II partnerships that were established between different stakeholders. Many of the partnerships explicitly address SCP. In the official register of Johannesburg partnerships, out of the around 350 total partnerships formed to date, 121 are filed under 'Changing unsustainable patterns of consumption and production.' A large number, 40 per cent, of these are either led by CSOs or involve them in another capacity (UNDESA, 2011).

Another result of the WSSD was the 2003 launch of the Marrakech Process, to promote the implementation of SCP policies and activities and to support the elaboration of a 10YFP on SCP, as called for by the JPOI. Civil society has been involved in the Marrakech Process, contributing to the implementation of SCP activities, providing inputs for the elaboration of the 10YFP, and enriching the intergovernmental debate (UNEP and UN, 2011). CSOs, in the form of the United Nations-recognized major groups, participate in multiple ways. At the 2007 International Expert Meeting of the Marrakech Process, in Stockholm, an NGO forum was created as a new engagement mechanism. Its purpose was to serve as a platform for civil society (environmental NGOs, consumers, trade unions and other groups who participate actively in partnerships, initiatives and advocacy efforts around SCP and to engage more actively the CSOs in the Marrakech Process). NGOs themselves expressed appreciation for the NGO forum and committed to their continued involvement (International Coalition for Sustainable Production and Consumption [ICSPAC], 2007).

CASE STUDY 7

Fairtrade labelling

FLO is the world's leading group of CSOs on fair trade labelling. Its label is now available for around 15 product groups, from agricultural commodities such as coffee, cocoa and bananas, to gold and sports balls. A minimum price is set for each product group and FLO adjusts prices to reflect changing production costs. FLO has also established guidelines on fair trade labelling for composite products (FLO, 2011b).

The basic idea behind the label is that it promotes sustainable consumption by helping consumers identify goods that have been produced under socially fairer and more environmentally friendly conditions. In turn, increased awareness among consumers increases the demand for certified products, thereby influencing more producers to get certified. The label also promotes sustainable production by guaranteeing price for each product, which is based on social sustainability and gives producers the means to improve their living and working conditions. The standards also include requirements on good environmental practice, for instance, minimized and safe use of agrochemicals, proper and safe management of waste, maintenance of soil fertility and water resources, and a ban on using genetically modified organisms. Although FLO does not require commodities to be produced organically, this is promoted and rewarded by higher minimum prices. The standard is also designed to recognize and reward continuous improvement in sustainability performance (FLO, 2011c).

The strength of FLO lies in its strict standards and the widespread recognition of its Fairtrade brand. As of July 2011, FLO was made up of 24 members, including 19 labelling initiatives, three producer networks and two associate members. It commands increasing market power, with product groups in some nations accounting for between 20 and 50 per cent of the market share (FLO, 2011a). Overall, the most recent figures show an increase in FLO-certified product sales of 15 per cent between 2008 and 2009, despite the financial crisis, amounting to €3.4 billion worldwide (Fairtrade Foundation, 2010).

Among international organizations, there has also been increasing engagement and cooperation with CSOs. The number of organizations accredited by the Economic and Social Council has increased significantly, accreditation being the prerequisite for participation in many United Nations processes. Currently, 3,400 NGOs hold consultative status with the Economic and Social Council (United Nations, 2011a). By comparison, at the 1992 UNCED these were less than 1,000 (UNEP, 2009b). UNEP has supported the trend of growing involvement by CSOs in general United Nations activities by organizing an annual Global Civil Society Forum since 2000, in conjunction with the yearly Governing Council/Global Ministerial Environment Forum.

In parallel to the evolution of the involvement of CSOs in international processes, many CSOs have also evolved considerably at an internal level over the past decades. Many began as groups focused on a single issue and have ultimately come to embrace a range of interconnected sustainability issues, ultimately acknowledging the need for intervention across the life cycle of goods and services. An example is the World Wide Fund for Nature (WWF), which was founded in 1961 as one of the very first global conservation groups and has since expanded its focus to cover broader human impacts on the environment by the late 1970s. In 1980 it already employed a form of the sustainable development concept and today engages in a range of activities, including the funding and management

CASE STUDY 8

Sustainable forestry

The Forest Stewardship Council (FSC) is an international standard-setting body offering certification for sustainable forest products. It uses a widely recognized logo to provide reliable information to consumers and to help producers benefit from managing forest resources sustainably.

One feature that illustrates best practice in standard setting is the FSC's discrimination between different parts of the forest supply chain. As timber starts off as a commodity and is then manufactured, the FSC has forest management certification for forest managers, chain of custody (CoC) certification for companies that manufacture, trade or process forest products, and FSC Controlled Wood criteria to help companies ensure that mixing non-FSC certified wood with FSC sources will not introduce material that has been produced in highly damaging ways. These regulations guarantee the preservation of sites of special cultural, ecological, economic or religious significance. Within its forest management standard, the FSC has developed a model for participatory forest management that takes into account the challenges faced by forest workers and small and community producers as well as recognizing and respecting indigenous peoples' rights. It allows groups of forest owners to join together under a single FSC certificate and share costs. Similarly, the CoC standard takes into account the different needs and resources of small and large companies.

The FSC is also notable for its robust governance structure. In addition to separating out the roles of standard setting, the issuance of certificates and the verification of compliance into separate, independent bodies, it ensures credibility and balanced participation in its General Assembly of FSC members. The General Assembly includes three chambers – social, environmental and economic – each of which is further divided into sub-chambers, North and South. This organizational structure promotes comprehensive multi-stakeholder participation, with bodies such as non-profits, NGOs, indigenous peoples' associations, unions and academia in the social chamber, environmentally focused non-profits, academia and technical institutions in the environmental chamber, employees, certification bodies, industry, trade associations (whether profit or non-profit), wholesalers, retailers, traders, consumer associations, and consulting and forestry companies in the economic chamber. Regardless of the number of members in any one chamber, the tripartite structure ensures that each one has balanced voting power. These arrangements help explain both the credibility of the FSC label and its penetration globally, with the large network of partners extending its outreach and spreading its name in a cost-effective manner.

FSC has national initiatives in more than 50 countries around the world. In their countries they work with relevant stakeholders like NGOs to support the development of national standards, and in particular to increase the capacity of smallholders to secure certification. As of March 2011, 1,030 forest managing operations were certified by FSC, covering a total forest area of 141.14 million hectares in 81 countries.

Source: FSC (2011a)

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of conservation projects around the globe, lobbying policymakers, conducting research, and education and awareness-raising (WWF, 2011). Particularly relevant to SCP is the WWF's engagement with businesses, which includes company partnerships to improve the sustainability of supply chains, and supporting FSC and MSC certification for sustainable forest and seafood products, respectively.

Greenpeace, founded in 1971, is another example of an organization that has undergone a large transformation over time. From a single-issue group to conserve wild species, it has evolved into a fully-fledged global CSO with a presence in dozens of countries and supported by millions of members. Through targeted, media-savvy campaigns, it raises awareness and mobilizes consumers to exert pressure on global companies to change their practices. Recently for example, it organized a campaign to encourage consumers to put pressure on a major toy manufacturer to renounce using paper stemming from virgin rainforests in its packaging (Greenpeace, undated). Its activities have also engaged directly with producers; for example, one campaign is reported to have convinced large cattle ranchers in Brazil to support a moratorium on destroying forests for cattle ranching (Greenpeace, 2009b).

How global CSOs have achieved influence in the promotion of SCP

Many variables affect the extent to which different CSOs have managed to effectively promote SCP. Although not exhaustive, this section identifies some of ways in which CSOs have played a key role in shifting consumption and production patterns towards more sustainable alternatives. These are clustered around the core functions of advocacy, influencing business practices, capacity-building and standard-setting.

Regardless of which of these activities they are engaged in, it is clear that CSOs at a global level are much more powerful when acting together than alone. FLO, for example, provides a central point for the harmonization of numerous different labelling initiatives in many countries, while supporting disadvantaged producers around the world (see Case Study 7). In this context, coordination offers benefits by increasing the impact that labels can have on consumption decisions and production processes, by enhancing market transparency, reducing transaction costs and increasing consumer recognition and trust. Other CSOs operate initiatives that focus on harmonizing advocacy, research and project implementation efforts. One such example is the WWF, which enters into multi-stakeholder partnerships with national organizations, stakeholders and experts specialized in a certain issue or sector. **Globally, CSOs are multiplying their individual impacts on SCP through partnerships and coordination.**

CSOs are also increasingly being recognized as an important component in accountability systems for governments, international organizations and businesses. In CSD 18, NGOs stated that they were "deeply concerned by the lack of significant progress" made by their respective countries (Sustainable Development Issues Network, 2010, p. 2). Many such organizations play a valuable role in monitoring and evaluating the activities of governments, intergovernmental organizations and businesses with respect to SCP and other commitments. **A primary function of global CSOs is still to hold businesses and governments accountable by raising public awareness, including media attention, of poor practice in environmental and social sustainability.**

By participating in international processes, global CSOs also play a fundamental role by representing civil society and ultimately, citizens. They can also act as a conduit for information in both directions. The role of labour unions in promoting SCP has been explored in several studies, which revealed growing awareness of an SCP agenda and of how issues such as climate change intersect with the social agenda of unions (Ecologic, 2004; UNEP, 2006). The ITUC, for example, has positioned itself extensively and explicitly on climate change, calling for action that respects equity, justice and solidarity concerns, and grasps the opportunities for labour (e.g., through green jobs). The above-mentioned labour union studies also show that innovative, bottom-up initiatives by labour in both developed and developing countries can lead to capacity-building and collaboration with the NGO community. **Global CSOs bring local and national CSOs into contact with decision-making processes related to SCP at the international level.**

Table 4: Civil Society advocacy, research, partnerships, standard setting and other activities to promote SCP

Summary	General activities	Notable efforts to promote SCP
Advocacy		
Consumers International (CI) (CI, 2011)		
CI is the world federation of consumer groups, made up of over 220 organizations in 115 countries. It is funded 35 per cent through by member fees and otherwise supported by project grants from foundations and government agencies.	As a broad federation of consumer groups, CI has the legitimacy to represent and defend consumer interests and build market demand for sustainable goods and services, with its work focused on areas as diverse as financial services, food, energy and communications. It also operates as a conduit from the international to the local level, such as its Green Action Fund, which provides grants of up to US$3,000 to CI members for awareness campaigns on sustainable consumption. Some of its key functions include campaigning, awareness-raising and the publication of information and training guides. CI has also conducted consumer education campaigns with notable examples in Latin America and the Asia-Pacific region. It also supports the work of the Partnership for Education and Research about Responsible Living (PERL).	CI has explicitly promoted the concept of SCP in a number of projects. Its programme, Education for Sustainable Consumption, advocates the Marrakech Task Force Here and Now guidelines, a package of educational materials about SCP. It also supports advocacy programmes around the Marrakech Process, CSD and Rio+20 and its Green Action Fund. It has also promoted SCP through other activities, including its leadership role in the development of ISO 26000 standard on social responsibility; the promotion of ecolabels; lobbying for the establishment of the United Nations Guidelines for Consumer Protection; and the publication of a training guide on how the Guidelines for Consumer Protection can be implemented.
Friends of the Earth International (FoEI) (FoEI, 2011)		
FoEI is the world's largest grassroots environmental network, with 76 national member groups and some 5,000 local activist groups. With two million members and supporters, it campaigns on today's most urgent environmental and social issues, challenges the current model of economic and corporate globalization and promotes solutions to help create environmentally sustainable and socially just societies.	FoEI currently runs seven programmes: agrofuel; climate justice and energy; food sovereignty; economic justice – resisting neoliberalism; forests and biodiversity; resisting mining oil and gas; and water. Its activities in these areas include awareness-raising and campaigning, from the community level to international negotiations. They also work with local communities to help them fight for collective and traditional rights to natural resources. Its various projects focus on different types of actors, ranging from citizens to businesses to governments.	Through its global network and influence at the local level around the world, FoEI can organize well-informed, influential grassroots community-based campaigns and projects that influence consumption decisions and production processes. It also emphasizes the importance of sustainable consumption throughout its work, encouraging its members to "consume less, live more" (FoEI, 2011).
Greenpeace (Greenpeace, 2011)		
Greenpeace is an international non-profit environmental organization that campaigns against environmental degradation. Greenpeace International and 28 national and regional offices have a presence in over 40 countries.	Greenpeace campaigns and raises awareness for a number of issues related to SCP, including sustainable agriculture, fishing and forestry. The organization complements its awareness-raising activities with sound research and topical partnerships. It also promotes the development of more sustainable products in alliance with businesses.	Although rarely part of its explicit messaging, many of Greenpeace's campaigns promote SCP, particularly where it seeks to influence production patterns by raising consumer awareness and engaging consumers to put pressure on producers to change their behaviour. Its attempts to develop new, more sustainable products have also had significant implications for SCP. A prominent example is 1990s development of an ozone-friendly GreenFreeze refrigerator system, which was the recipient of a UNEP Ozone Award in 1997 and has reportedly sold over 300 million units (Greenpeace, 2009, a).

Table 4 *Continued*

Summary	General activities	Notable efforts to promote SCP
World Wide Fund for Nature (WWF) (WWF,2011b)		
WWF is an independent non-governmental conservation organization established in 1961. Its aim is to protect biodiversity and ecosystems and reduce humanity's impacts on natural habitats. It has 90 offices in close to 50 countries and on-the-ground conservation projects in more than 100 countries.	The WWF combines on-the-ground conservation, awareness-raising, high-level policy and advocacy, engagement with business and industry, and partnering with a wide number of institutions. It also works to build marketing alliances with businesses to promote, advise, raise funds and implement joint initiatives on environmental protection and the reduction of corporate environmental footprints. Some of its projects also provide services such as technical support and training.	The majority of the projects WWF describes do not refer to the concept of SCP explicitly. Nonetheless, much of its work on transforming markets to reduce humanity's ecological footprint is relevant to SCP, including its emphasis on ecosystem-based management in fisheries (WWF, 2007), its company partnerships to improve the sustainability of supply chains and its co-founding of the standards body the Aquaculture Stewardship Council (2011). The WWF-led partnership the Global Forest & Trade Network aims to assist companies in overcoming challenges to certification through a gradual, stepwise approach, including the provision of technical support and training (WWF, undated)
Research and Partnership		
International Institute for Environment and Development (IIED) (IIED, 2011a)		
Launched in 1971, the IIED is an independent international research organization. It pursues a grassroots strategy, working closely with local populations of vulnerable regions. It also advises government, business and international development agencies, and publishes widely on policy.	IIED conducts research focusing on five main issues: climate change, governance, human settlements, natural resources and sustainable markets. Its Sustainable Markets Group drives the institute's efforts to ensure that markets contribute to positive social, environmental and economic outcomes, bringing together programmes on: business and sustainable development, market structure, environmental economics, trade and investment, tourism, and mining.	Much of the work done by IIED relates to SCP, particularly its business and sustainable development programme, which aims to address sustainable consumption with specific emphasis on the global social distribution of consumption impacts. IIED is currently conducting a study on sustainable consumption with an eye to addressing consumption issues among poorer communities, countries and regions; creating political space for opinions, values, demands and solutions from these constituencies; and providing clear analysis and critique on how consumption problems and consumption solutions fall differentially on different social groups internationally (IIED, 2011b).
International Union for Conservation of Nature (IUCN) (IUCN, 2011)		
The IUCN is the world's oldest and largest global environmental network that seeks to assist societies in nature conservation and equitable and ecologically sustainable usage of natural resources. It offers a neutral forum for governments, NGOs, scientists and communities to find innovative solutions and coordinates thousands of field projects around the world. It has a global network of more than 1,000 government and NGO member organizations and almost 11,000 volunteer scientists in more than 160 countries.	The IUCN identifies its three strengths as being science, the active implementation of conservation projects and influence over international environmental conventions, policies and laws. Its five priority areas of work are: biodiversity, climate change, sustainable energy, human well-being and the green economy. The IUCN provides assistance in developing innovative solutions for sustainable resource management.	In the course of promoting conservation, many IUCN projects provide scientific, technical and project implementation support that contributes to the promotion of SCP. For example, its work on biodiversity and ecosystem services supports national plans for more efficient use of natural resources in a range of industries and consumer groups, from mining to tourism. Similarly, its work on the green economy emphasizes the proper evaluation of the economic value of biodiversity and ecosystems; and how macroeconomic policies in general – and in particular, trade and investment policies – influence the relationship between economic activity and the environment.

Summary	General activities	Notable efforts to promote SCP
The Northern Alliance for Sustainability (ANPED) (Northern Alliance for Sustainability, 2011)		
ANPED aims "to empower Northern civil society through capacity development, exchanges and sharing of knowledge… [and] working in close cooperating with Southern civil society and stakeholders; thus creating and protecting sustainable communities and societies worldwide" (Northern Alliance for Sustainability, 2011, p. 1) through the development of SCP patterns. It has over 100 member organizations.	ANPED engages Northern CSOs in a variety of capacity-building activities, such as information-, knowledge- and skill-sharing, and enabling their participation in local, national, regional and international decision-making processes on sustainable development. ANPED acts as a bridge between grassroots CSOs – mainly located across Eastern Europe, the Caucasus and Central Asia – and national, regional and international decision-making processes.	Since 1992, ANPED has maintained a working group dedicated to SCP. Its five goals are: strengthening knowledge and capacity on SCP among ANPED members and CSOs; keeping ANPED members informed about possibilities for them to contribute to international processes and national activities on SCP; developing and sharing tools on public awareness-raising and education; developing an ANPED internal strategy; and building a strong network of organizations around SCP issues (Northern Alliance for Sustainability, undated). It has also published research on country promotion of SCP and some policy tools that can be used to promote SCP.
Sustainable Commodity Initiative (SCI) (SCI, undated)		
The SCI is a joint initiative managed by IISD and the United Nations Conference on Trade and Development. Its mission is to discover ways to ensure that sustainable practices are adopted in commodity production and trade. Its five priority areas are: strengthening technical assistance for sustainable production; supporting access to market information on sustainable products; improving access to finance for sustainable production; strengthening evidence about the impacts of sustainable products and supply chains; and facilitating the design and implementation of policies for sustainable products and markets. It has 60+ partner and advisory organizations from around the world.	The SCI currently facilitates four different projects: a) the Committee on Sustainability Assessment, a non-profit global consortium of institutions developing and applying sustainable impact assessment measurement tools to agricultural practices; b) the Sustainable Commodity Assistance Network, a partnership of 20 key standards bodies, technical assistance institutions and other stakeholders that provides customized, needs-based assistance to producers wishing to adopt sustainable practices and enter sustainable markets; c) the Finance Alliance for Sustainable Trade, a non-profit organization representing financial institutions, producers and others, dedicated to increasing the number of producers in developing nations who successfully access quality trade finance; d) the State of Sustainability Initiatives, a knowledge-sharing platform that researches and reports on the impacts, effectiveness and scope of market-based, voluntary approaches to SCP and trade.	The SCI brings together different stakeholders working in a number of SCP-related areas to increase dialogue and collaboration, support producers of sustainable products and increase information about the effectiveness of SCP-related policies.

Table 4 *Continued*

Summary	General activities	Notable efforts to promote SCP
Worldwatch Institute (Worldwatch Institute, 2011)		
The Worldwatch Institute, founded in 1974, was the first independent research institute devoted to the analysis of global environmental concerns. Its mission is to deliver "the insights and ideas that empower decision makers to create an environmentally sustainable society that meets human needs" (Worldwatch Institute, 2011). Its focuses on "the 21st-century challenges of climate change, resource degradation, population growth, and poverty by developing and disseminating solid data and innovative strategies for achieving a sustainable society" (Worldwatch Institute, 2011). Worldwatch has a network of international partners in over a dozen countries.	The Worldwatch Institute has three program areas: climate and energy, food and agriculture and environment and society. Its primary function in these three areas is to develop and disseminate data, research and analysis. Its *State of the World* series on sustainable development is highly influential. Its research findings are disseminated in more than 20 languages via print and online media.	The Worldwatch Institute dedicates reports to global consumption and lifestyle trends, notably on large emerging economies. A number of the Worldwatch Institute's research projects engage with SCP issues. The 2010 edition of the *State of the World*, for example, focused on how to shift toward sustainable consumption patterns. It also runs a series of blogs that deal with diverse topics related to environment and development.
World Resources Institute (WRI) (WRI, 2011b)		
Launched in 1982, the WRI is a global environmental think-tank that focuses on developing and implementing solutions to urgent environmental challenges by working with governments, companies and civil society. Its mission is to "move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations" (WRI, 2011b). As of 2009, WRI was working with 400+ partners in 50 countries. Its New Ventures programme has facilitated over US$200 million in investment and worked with 255 businesses.	WRI is organized around four key programmatic goals: climate protection, governance, markets and enterprise, and people and ecosystems. Among its many activities, and in addition to its highly respected data, analysis and policy research on environmental issues, it also engages with businesses directly, through the support of sustainable entrepreneurs in developing countries. The WRI has also advised development organizations on how to promote the growth of environmentally and socially beneficial SMEs.	Much of the work done by WRI promotes SCP. Its Corporate Ecosystems Services Review, for example, is a methodology for corporate managers to manage the risks and opportunities from their dependence and impacts on ecosystems (WRI, 2008). Similarly, the WRI Business & Ecosystems Leadership Group works on sharing best environmental practice and identifying emerging market opportunities that align corporate performance with ecosystem stewardship (WRI, undated). Its New Ventures programme connects entrepreneurs and SMEs to venture capital funds, angel investors and banks, including investment in sustainable production processes, as well as providing business development training (WRI, 2011a).

Summary	General activities	Notable efforts to promote SCP
Standard Setting		
Forest Stewardship Council (FSC) (FSC, 2011a)		
FSC is an independent, non-governmental, non-profit organization established to promote the sustainable management of the world's forests. It is multi-stakeholder in nature, involving CSOs and business. It governs and operates the FSC ecolabelling and certification programme. It operates national initiatives in more than 50 countries across five continents.	FSC certification provides a link between responsible production and consumption of forest products, enabling consumers and businesses to make purchasing decisions that benefit people and the environment as well as providing value to businesses. The council's activities include: developing forest management and CoC standards, delivering trademark assurance and providing accreditation services to a global network of businesses, organizations and communities. Its governance is particularly robust, with independent bodies to issue certification and verify compliance, this latter role being played by the Accreditation Services International. FSC has a Global Strategy that currently stresses the need to develop additional mechanisms to distribute the benefits of certification across the supply chain and to increase certification of tropical forests (FSC, 2011c) (see Case Study 8).	FSC oversees the development of national and regional forest management standards, offers resources and training around FSC certification and raises awareness of FSC certification and the benefits of using FSC-certified products.
Marine Stewardship Council (MSC) (MSC, 2011)		
The MSC is an international non-profit organization that operates a certification and ecolabelling programme to maintain the health of the world's oceans and promote sustainable fishing. It was originally founded in 1997 by Unilever and WWF, but became independent soon after.	Similarly to FSC, MSC is an ecolabelling initiative that sets standards and operates a third-party certification programme, where certificates identifying fish products that have been caught using sustainable methods are issued by accredited bodies and verified by Accreditation Services International. MSC also engages in outreach with the fisheries sector, leading retailers and consumers. Its Developing World Programme aims to promote fair and equal access to certification for developing country fisheries. Activities include: outreach to stakeholders in developing countries, including fisheries, governments and NGOs; the development of new methods to assess data-deficient fisheries; and helping link fisheries to funding support for certification.	The MSC works to promote SCP in seafood markets and promote sustainable fishing practices. The Developing World Programme promotes work to ensure that MSC certification becomes more widespread for fisheries in developing countries.

Table 4 *Continued*

Summary	General activities	Notable efforts to promote SCP
The Rainforest Alliance (Rainforest Alliance, 2011)		
The Rainforest Alliance works to conserve biodiversity and ensure sustainable livelihoods by transforming land use and business practices and consumer behaviour.	Businesses that meet certain environmental and social standards are given access to the Rainforest Alliance family of marks for goods or services, which help distinguish them in the marketplace. The Rainforest Alliance also conducts projects to promote sustainable agriculture, forestry, tourism and environmental education through the provision of training and encouragement of such business activity.	The Rainforest Alliance works to incentivize and enable SCP in the agriculture, tourism and forestry sectors through the implementation of Rainforest Alliance certification trademarks.
Other		
International Trade Union Confederation (ITUC) (ITUC, 2011)		
The ITUC is the world's main international trade union organization, formed in 2006 from the Confederation of Free Trade Unions and the World Confederation of Labour, as well as a number of trade union organizations with no global affiliation. Its mission is "the promotion and defence of worker's rights and interests" (ITUC, 2011). As of July 2011, it represented 175 million workers in 151 countries and territories.	The ITUC works with its affiliates to establish positions for the labour movement with respect to various key issues. It also conducts campaigns, including research, communications, grassroots trade union campaigns and pressuring businesses and business organizations.	The ITUC is focused on the social pillar in SCP, through activities such as pushing for improvements in working conditions, increased ceilings for minimum wages, negotiation of working hours and, indeed, all other aspects of decent work. It is also increasingly engaged with the environmental pillar through its work on climate change, in which it emphasizes the need to reach a fair agreement on climate change in order to avert welfare impacts on jobs and workers, as well as the need for a 'just transition' in the shift to a low-carbon economy.

There has been an increase in the number of global CSOs focused on implementing programmes, as opposed to the more traditional roles of advocating for change or raising awareness. Examples of this include attempts to improve market access in the field of certification and labelling, where some producers are vulnerable to 'green protectionism' – being effectively closed off from markets due the cost of compliance with a standard that has become a requirement. Although this is often a concern among producers from developing countries, it can also be an issue for small producers more generally, who may not have the resources to afford the costs of certification.

The FSC is an example of a CSO whose strategic priorities explicitly stress the importance of making progress with forest certification in the endangered tropical forests of the economic south and small forest owners (FSC, 2011b). Its stated aims are to develop mechanisms that ensure equitable access to FSC benefits more evenly across the supply chain, and it has already developed certification standards for groups of forest workers and small forest owners (see Case Study 8) (FSC, 2011a). The WWF also leads a partnership focused on helping forest owners progress towards certification through a gradual 'stepwise' approach (WWF, 2011).

Other CSOs have focused on the challenges facing businesses as they start up, offering technical assistance, training and networking to put social entrepreneurs and other start-up ventures in touch with investors. Such activities can take place in areas from clean energy to biodiversity. An example is the Word Resources Institute (WRI)'s New Ventures programme, which supports about 250 businesses around the world by facilitating their access to start-up capital (WRI, 2011a). The SEED Initiative (see Table 2) also supports local-level entrepreneurs in setting up sustainability businesses (SEED, 2011). The Sustainable Commodity Initiative (SCI), which includes CSOs and United Nations bodies, attempts to improve access to financing and technical assistance for companies active in the production and trade of commodities, particularly

agricultural, but also offering transversal assistance for other such sectors (SCI, undated). **CSOs at the global level are increasingly taking on a range of 'operational' activities, showing how SCP can be promoted on the ground at a country level.**

Table 4 offers a concise selection of some representative organizations, partnerships and initiatives that CSOs have used to promote SCP in the last few decades, chosen to illustrate the broad range of actors in this area, as well as to highlight examples that are timely, high-impact, innovative, effective and have the potential for replication. Readers are invited to browse the table for examples of strategies and organizations that have been notable for their effective promotion of SCP. Please note that, for the sake of readability, the table has attempted to order the CSO activities according to broad categories of function, but that this should not be seen as strict definitions of the CSOs' activities. In reality, many of the organizations are highly diverse, and their activities could easily have been placed under several of the categories used.

2.5 Conclusions

There has been a great deal of activity at the global level over the past few decades. Governments, businesses and CSOs have all engaged in a number of strategies and specific activities to make headway in promoting SCP – spurred on by the international declarations identifying the importance of 'sustainable consumption and production' from the 1992 UNCED in Rio de Janeiro, Brazil, to the 2002 WSSD in Johannesburg, South Africa.

Among governments, MEAs have been one of the most important instruments for promoting environmental protection at the global level. Although few conventions explicitly refer to SCP in their negotiated texts, many conventions have been influenced by the life-cycle approach inherent to the concept of SCP and others have strongly reflected an SCP approach at the point of finance and in-country implementation. A strong basis of scientific evidence was found to have been fundamental to the agreement on, influence and effective implementation of MEAs. Mechanisms for implementation have also been vital to their actual impact on the ground. Today, efforts to simplify the now complex international environmental governance structure have much potential to enable greater impacts from intergovernmental agreements.

Other aspects of international governance could also be usefully reformed to promote SCP. For example, the life-cycle approach and consideration of environmental and social impacts could be better integrated within governmental agreements and institutions that are not considered to be principally concerned with the 'environment' or 'sustainability.' In the light of a number of promising programmes initiated by intergovernmental organizations, it also seems clear that the emphasis of global government action in the twenty-first century needs to be a shift away from the negotiation of goals – the 'what' – towards inducing tangible progress – the 'how.' International informal and voluntary initiatives like the Marrakech Process on SCP represent and bear lessons for achieving this shift.

There are also many useful lessons about how SCP is taken up at the level of businesses associations. Businesses have been the focus of significant efforts to improve the sustainability of production and products, as well as being highly innovative actors in the field in their own right. Like governments, the foundation behind much action has been sound information, with a number of business associations collecting data, conducting research, communicating best practice, encouraging peer-learning and offering tailor-made advisory services to individual organizations. Businesses have also recognized that companies operating within specific sectors need to work together to find solutions to sector-specific environmental and socio-economic challenges. For example, the World Steel and the International Fertilizer Associations promote sector-specific sustainability principles. Where they recognize their environmental and social responsibilities, such networks have much potential to be powerful advocates for practical and cost-effective laws, policies and voluntary initiatives to promote SCP. Cooperation among businesses can also play an important role in improving the sustainability of supply chains.

Reporting on commitments to sustainability is also becoming increasingly common and important to business interests. In many ways, reporting is 'coming of age,' as it is increasingly backed by internationally recognized standards and integrated with financial reporting. Standards themselves appear to have been one of the central tools for enabling the promotion of SCP among businesses, as they provide practical frameworks for action, differentiation in the marketplace and accountability through third-party guarantees. Voluntary initiatives remain an important avenue of action for forward-thinking businesses.

CSOs represent a highly diverse set of actors. Many have evolved significantly in the past few decades, beginning as small, single-issue organizations, and ultimately transforming into international organizations with wide portfolios of activity and budgets larger than some intergovernmental organizations. Many CSOs can be seen multiplying

their individual impacts through partnerships and coordination at the global level. A number of CSOs have identified the ways in which they feel they have most significantly contributed towards SCP. These modalities include: engaging in international negotiations; participating in the Marrakech Process on SCP; participating in research, programme design, planning and implementation; lobbying governments; and representing the 'silent voices' among the global community. CSO partnerships with business have also been a key means to promote SCP.

Indeed, representation is perhaps one of the most important functions of CSOs at a global level, helping to bring the viewpoints of national and local CSOs (or even citizens) into international processes, as well as keeping regional and local CSOs informed about international developments. As part of this, CSOs execute a vital function in ensuring the accountability of governments and businesses, comparing their performance with their promises, drawing attention to non-compliance and raising public awareness about the importance of environmental and social sustainability. Like governments, CSOs at the global level are also increasingly moving to take on a range of 'operational' activities, showing how SCP can be promoted on the ground at a country-level.

And of course, none of these three categories of actors operate in a vacuum. In the past few decades, networks and partnerships between governments, businesses and civil society have become common. Indeed, any ambitious attempt to promote SCP should benefit from the breadth of information, of viewpoints, technical and financial resources and expertise that a partnership approach provides.

Nonetheless, in light of the unsustainable trajectory being pursued by the global economy, it is clear that the significant progress that has been achieved is far from enough. Although this overview was not exhaustive, it can identify significant gaps in necessary action at an international level.

First and foremost SCP needs to be mainstreamed in the decision making of businesses, CSOs, and citizens alike. Surprisingly few of the examples identified in this chapter refer to SCP explicitly. While it is the action that contributes to the shift to SCP that counts and not its labelling as such, this implies that SCP is yet to be formally put on the agenda as a global priority. It also suggests more progress needs to be made in defining and demonstrating its value in sustainable development terms. It is clear that more robust analysis of the (cost-)effectiveness of SCP initiatives, including the business case of SCP, is needed. Many initiatives are at the beginning, just developing their 'intentions' as opposed to their 'impacts.'

There is a need to consolidate, integrate and synergize the activities of the different actors, as well as to make widely available proven best practices on policies and other measures that effectively support the transition to SCP. A 10YFP on SCP could be a useful and powerful mechanism to do so as well as to more exhaustively map out the existence of SCP activities around the world and identify findings and gaps on (cost-) effectiveness evaluations. It seems clear that many of the fundamental drivers behind SCP at a global level are not sufficiently or effectively addressed. These drivers are numerous. The pricing of natural resources and externalities, for example, continues to dominate consumption and production decisions, and few attempts have been made at the global level to better align economic pricing with environmental and social impacts. Similarly, significant headway has to be made with respect to the consumer culture that lies at the heart of unsustainable consumption and production, including disposability and quantity over quality. Finally, in light of the above, there is an increasing urgency for the actual implementation of policies and projects to change consumption and production patterns for the better. To some extent, as noted with respect to government, business and CSO activities, this shift is already taking place, but more cooperation and support is needed to scale up and replicate good practices.

Nonetheless, the transition towards application and learning-by-doing needs increased leadership and support at the global level. Ultimately, increased commitment from governments will be necessary in order to significantly provide the means needed to support the transition toward consumption and production at a global level, supporting efforts to decouple economic growth from resource use and environmental degradation.

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3 SCP at the Regional Level

3.1 Introduction

This section of *The Global Outlook on Sustainable Consumption and Production (SCP) Policies* provides an overview of the SCP efforts underway at regional and national levels. Its aim is to illustrate the broad range of innovative policies and initiatives being pursued in countries and regions throughout the world today. It is divided into five chapters, one for each of the following world regions: Africa, Asia-Pacific, the United Nations Economic Commission for Europe (the UNECE, consisting of Europe, the Commonwealth of Independent States, Canada and United States of America), Latin America and the Caribbean, and West Asia. The chapters also review how a range of different actors in each region has promoted SCP: governments, businesses and civil society.

At the level of governments, each chapter identifies whether any SCP action plans exist at the regional and national levels, as well as the ways in which SCP has been reflected in the region's policy frameworks, such as national strategies for sustainable development (NSSDs), development plans, green economy strategies and sector- or theme-specific strategies. Where information is available, efforts were made to identify concrete targets and indicators, as well as the ways in which measures have addressed life-cycle stages. Key approaches and sectors addressed are identified jointly with illustrations of the range of policy tools used for implementation.

At the level of businesses, each chapter identifies examples of the proactive efforts to promote SCP that are being taken in each region, both in the presence and absence of motivating public policy. This includes the activities of individual businesses, as well as business associations and organizations. Much of the analysis focuses on the take-up of innovative strategies and management- and sustainability-centred business models, such as the adoption of corporate social and environmental responsibility principles, environmental management systems and sustainable supply chain management.

The review of civil society identifies the range of activities being undertaken by civil society organizations (CSOs) to promote SCP in each region. This includes knowledge-building, networks, campaigning, advocacy, partnerships, implementation of SCP projects and policies contributing to SCP. The chapters also distinguish between the three groups of actors that CSOs focus on: businesses, such as through partnerships or by naming and shaming; governments, such as through lobbying or monitoring and reporting; and citizens, such as by informing and empowering people through information campaigns and social innovation projects.

Due to the number and variety of activities to promote SCP around the world, the subsequent chapters can only provide a non-exhaustive review. The examples that have been highlighted were chosen to provide a summary of government frameworks for the promotion of SCP, alongside an informative and illustrative sample of the individual efforts taking place to promote SCP within these frameworks. The examples were selected for their innovativeness, effectiveness and potential to serve as good practice to inspire future efforts. The broad objective is to identify the general state of play, while pointing to areas where further, targeted efforts may be needed.

3.2 SCP frameworks and policies

The policies adopted by governments in the five regions can generally be divided into three categories: policies at the regional, national, and sector- (or issue-) specific levels.

At both the regional and national levels, larger, overarching frameworks for SCP can often be found, either as dedicated action plans, or incorporated into other sustainable development strategies. Among the regions described in this section, the European Union (EU) stands out, with its dedicated SCP action plan, in addition to its Sustainable Development Strategy (see UNECE chapter). The action plan includes a series of initiatives aimed at strengthening supply and demand for sustainable products and production technologies.

At the national level, a wide range of countries in all five regions has adopted SCP-related or broader sustainable-development-related frameworks, plans and strategies. Countries that have developed (or started to develop) dedicated SCP strategies or action plans include the Czech Republic, Finland, Poland and the United Kingdom, in Europe (see UNECE chapter), Burkina Faso, Ghana, Mauritius, Uganda, Tanzania and Zambia in Africa (see Africa chapter); Brazil, Colombia, Cuba, Dominican Republic, Ecuador, Peru and Uruguay in Latin America and the Caribbean (see LAC chapter); and Vietnam in the Asia-Pacific (see Asia-Pacific chapter).

The United Nations and bilateral development programmes have provided assistance, facilitating many countries' efforts. Regional policies, such as the EU's Integrated Product Policy, have also been a driving force behind the adoption of national policies.

In turn, policies at the regional and national levels incorporate more specific policies targeted at certain sectors or issues. Usually the competence for their development and implementation lies at the national or even subnational governmental levels. Although countries' approaches to promoting SCP differ widely, many focus on improving resource efficiency and product performance and increasing the demand for more sustainable products. The regional and national examples in the chapters categorize national-level policies into four main types: regulatory, economic, information and voluntary instruments.

Regulatory instruments comprise government norms and standards, common examples being product performance standards (e.g., for energy efficiency), extended producer responsibilities (requiring producers to take responsibility for the safe disposal of their products at end-of-life), chemical safety standards, prohibition of certain substances or goods, and building codes. While having proven to be effective in many cases, regulation can sometimes require high enforcement costs, which can represent a disadvantage, especially for developing countries.

Economic or market-based instruments include pollution charges for industry (a charge according to the amount of waste generated), pay-as-you-throw schemes for households (which charge according to the amount of waste a household generates), emissions trading systems (such as the emissions trading system for CO_2 in the EU) and the pricing of natural resources such as water. Without mandating specific, more sustainable technologies or practices, this type of instrument leads to their uptake by setting general economic incentives and internalizing to a certain extent the negative externalities of production and consumption.

Information-based instruments include awareness-raising campaigns, sustainability labels on products, tools for the calculation of ecological footprints and sustainable purchasing advice. Such instruments can also be directed at companies, for instance, by encouraging corporate sustainability reporting and general information disclosure, or by providing purchasing advice. Information-based policies are often designed as multi-stakeholder partnerships and thereby rely on civil society or business to successfully advance SCP.

Voluntary instruments include many types of agreements, including a range of the above-mentioned mechanisms that governments might otherwise make compulsory. Examples include public-private partnerships, certification schemes and extended producer responsibility, as well as voluntary initiatives for government bodies. Prominent examples also include the adoption of Environmental Management Systems by businesses. If they gain enough traction, voluntary instruments can become *de facto* market standards, such as Environmental Management Systems in many parts of the world for certain types of companies. Businesses can also be incentivized to implement voluntary tools in order to prevent binding regulations. Voluntary and information-based instruments are common across all regions, as they tend to represent low-resistance policies and have become cheaper through the spread of information technologies.

Sustainable procurement as policy is effectively setting standards, but has sometimes been enshrined in legislation and sometimes been adopted as voluntary approach, in both cases sending signals to the market for the demand for more sustainable products.

Countries themselves recently reported on many of their SCP policies in submissions to the eighteenth and nineteenth sessions of the United Nations Commission on Sustainable Development.[1] The table below highlights a selection of these policies, as well as a few select examples from the dedicated survey to this report. These measures are additional to those described in the following regional chapters, and are intended to provide a taste of the broad variety of policies being used to promote SCP throughout the world.

1. The reports are available in their entirety at http://www.un.org/esa/dsd/dsd_aofw_ni/ni_index.shtml.

Table 1: Examples of national government policy instruments

Summary	Major interventions	Notable mechanisms promoting SCP
Regulatory Instruments		
Croatian Ordinance on Classification, Labeling and Packaging of Chemicals (OCLPC), EU Registration, Evaluation, Authorization and restriction of Chemicals (REACH) regulation (Ministry for Environmental Protection, Physical Planning and Construction of Croatia, 2010)		
The OCLPC, the EU REACH Regulation, and other laws focus on creating the foundation for responsible and sustainable chemicals.	The OCLPC regulates systematic evaluation, classification and labelling of chemicals, and is complemented by initiatives towards a harmonized system of classification and labelling of chemicals as part of the country's EU accession. Partnerships with other Central European Countries are also envisaged. Among other policies promoting the safe use of chemicals, the REACH Regulation requires a Safety Data Sheet for all chemical substances and mixtures. All companies that import, export or produce must provide such documentation and make it available to the chemicals' users. The laws promote SCP by requiring transparency in chemical use and production.	The combination of hard laws on the national and the supranational (EU) levels, as well as regional partnerships, can create high-impact policies.
Estonian Green Public Procurement (GPP) strategy (Estonian Ministry of the Environment, 2010)		
Since 2004, Estonia has developed a comprehensive regulatory framework to ensure that publicly procured goods and services are environmentally preferable.	In 2006, a working group was established to compile green purchasing criteria and to promote GPP. The 2007 Public Procurement Act required government bodies to favour environmentally friendly goods and services in their procurement. Measures to support implementation of the law were included in the National Environmental Action Plan 2007-2013. As of 2009, GPP criteria have been set for ten product and service categories and plans were put in place for criteria to be established for ten further categories by the end of 2009. A target was set for these criteria to have been used in at least 50 per cent of relevant procurement by 2010.	Public procurement represents about 14-16 per cent of Gross Domestic Product in Estonia. There is therefore a powerful potential for GPP to create substantial market demand for green goods and services, stimulating supply and lowering costs throughout the market as suppliers produce at larger volumes.
Mongolian Law on Limited Use and Importing of Plastic Bags (Ministry of Nature, Environment and Tourism of Mongolia, 2010)		
Entered into force on 1 January 2010, the law bans the import and use of plastic bags.	Low-quality plastic bags have a short lifetime and, due to their extensive use and easy spread, represent a significant source of pollution on land and in water. When plastic bags photodegrade, they break down into smaller, more toxic petro-polymers that kill organisms that ingest them. The Mongolian law prohibited the import and usage of bags thinner than 0.025 mm, addressing widespread use and disposal of plastic bags.	Regulating plastic bags is a simple and highly visible policy, often supported by consumers, that prevents the production of waste while raising awareness about SCP more generally. Moreover, policies such as this can also have positive impacts downstream by providing consumers with reusable bags.

Summary	Major interventions	Notable mechanisms promoting SCP
United Kingdom Market Transformation Programme, EU Ecodesign Directive (Defra, 2011; Defra, 2009)		
The Market Transformation Programme implements the EU's Ecodesign Directive, which establishes minimum environmental performance standards for 'energy-using products' and 'energy-related products' across a wide range of product categories.	Ecodesign policies aim to improve products' environmental performance by reducing impact on the environment throughout their life cycles. This is achieved through regulation, but also through voluntary agreements. Product categories covered by EU – and thereby United Kingdom – law are: energy-using products that use, generate, transfer or measure energy (including boilers, computers, televisions, transformers, industrial fans, industrial furnaces and others); as well as other energy-related products that do not consume energy directly but can contribute to energy efficiency (including windows, insulation materials, shower heads, faucets and others).	The current and projected policies are estimated to deliver considerable carbon emissions reductions (about 24 $MtCO_2$ per year) and economic savings (a net benefit of around £28 billion) over the next 10 years. Additionally, there is considerable potential to increase these figures by promoting the uptake of best available technologies in the market and influencing consumer behaviour.
Economic Instruments		
Canadian ecoENERGY Efficiency Initiative (Natural Resources Canada, 2010)		
The initiative furthers more efficient energy use in homes, offices, and transport by investing more than C$960 million from 2007 to 2011. The objective is to reduce energy-related emissions that harm human health and the environment, and ultimately remove energy inefficient products from the marketplace.	The initiative disburses funds to a range of different activities. By far, the largest share of the funds (C$ 805 million) is destined at retrofitting of homes, smaller buildings (including businesses and non-profits) and industrial facilities. Construction of more energy-efficient buildings and houses is also supported. Another scheme supports efficiency explicitly in industry through investments in energy-saving and information exchange on best-practices in the sector. With the aim of reducing fuel use and related carbon dioxide (CO_2) emissions, transport efficiency in commercial and personal vehicles is promoted through training and education, best-practice sharing, campaigns, technical demonstrations and tips and tools. This scheme also covers a voluntary agreement with the car industry to reduce CO_2 emissions. Another scheme supports the regulation of vehicle fuel efficiency, which is set to become progressively more demanding up to 2016, creating a harmonized standard with the United States. The initiative further supports legislation on efficiency standards for energy-using products that will lead to the regulation of 80 per cent of the energy used in homes and businesses.	The provision of public funds, often complemented by legislation, creates opportunities for more efficient energy consumption than private investment decisions alone would realize. Lowering energy consumption achieves a number of associated benefits, such as lower CO_2 and sulphur dioxide (SO_2) emissions, and lower energy expenditures. Many of the measures affect both the consumption and production of energy, such as electrical appliances, cars and the construction and modification of buildings.
Croatian Environmental Protection and Energy Efficiency Fund (PEEF) (Ministry for Environmental Protection, Physical Planning and Construction of Croatia, 2010)		
The PEEF supports initiatives that treat, recycle, reuse or dispose of waste at the source of generation, according to the polluter-pays principle.	Producers and importers are required to make mandatory contributions to PEEF. The collected revenues are then used to improve waste collection and treatment systems. Consumers benefit from the scheme too, as waste collection services become free of charge for products produced by contributors to the fund. In the case of vehicles, consumers receive monetary compensation when they hand in their end-of-life vehicles at designated collection points.	The fund encourages increased producer responsibility while raising revenues for waste management and rewarding consumers.

Table 1 *Continued*

Summary	Major interventions	Notable mechanisms promoting SCP
German CO_2-based Vehicle Tax and Scrappage Scheme (Goverment of the Federal Republic of Germany, 2010)		
The German vehicle-related policies create economic incentives for the production and purchase of more efficient vehicles and lead to a less polluting car fleet.	In 2009, the German government changed its existing motor vehicle tax to include CO_2-emissions instead of basing it exclusively on the cubic capacity of vehicles. As CO_2 emissions correlate with fuel use, the new tax incentivizes demand for more efficient vehicles. This was reinforced by its "scrappage scheme" in 2010, which gave private consumers a €2,500 grant for trading in vehicles that were at least nine years old when they replaced them with newer, energy-efficient models.	Both incentives work to create positive market signals that incentivize SCP. While the scrapping incentive has ceased to be in force, the CO_2-based taxation creates an ongoing incentive for more sustainable production, reinforced by successive tightening of emissions thresholds in the coming years.
Romanian Environment Fund (Government of Romania, undated)		
Romania's Environment Fund is a financial mechanism that funds the implementation of environmental legislation according to the 'polluter pays' and 'producer responsibility' principles.	The Environment Fund helps local authorities implement the Romanian National Development Plan and EU directives for increasing clean technology investment potential, environmental rehabilitation and quality of life. It has, for example, been used to subsidize investments in renewable energy (Bojor, 2011). It also helps economic operators fulfil any requirements set out by compliance programmes. The Environment Fund is financed through 'polluter pays' taxes on the production, import and use of hazardous substances.	By guaranteeing that taxes will be used to pay for environmental improvements, policymakers can increase acceptance of 'polluter pays' taxes, though at the cost of reduced budget flexibility. The taxes that supply the fund also incentivize sustainability, by raising the cost of environmentally costly economic activity.
Turkey: Loans and direct financial transfers to support certain SCP efforts (Government of Turkey, 2010)		
Several ministries in Turkey provide financial support to promote SCP in areas such as wastewater treatment, technology development and certification.	Among various other programmes, the Turkish Ministry of Environment and Forestry provides loans and financial assistance for the cost of supervision, feasibility, consultancy, design and infrastructure in its wastewater treatment, waste disposal and waste recovery facilities; the Technology Development Foundation of Turkey provides financial support for research and development in the fields of environmentally friendly products, sustainable production technologies and renewable energy; and the Under-Secretariat for Foreign Trade bears the cost of companies applying for ISO 9000 series quality assurance system certificates and ISO 14000 environmental management system certificates.	The government promotes SCP through the use of financial incentives, notably loans and grants.

Summary	Major interventions	Notable mechanisms promoting SCP
Information and Voluntary Tools		
Barbados: Educational component in the Solid Waste Project Unit (Government of Barbados, 2009)		
The Integrated Solid Waste Management Programme of the government's Solid Waste Project Unit has an educational component aimed at increasing awareness of solid waste management practices. Complementary policies implemented under the Solid Waste Project Unit include waste reduction, reuse and recycling.	The Integrated Solid Waste Management Programme focuses on waste minimization and the 3Rs – reduce, reuse and recycle. It uses a combination of formal and informal activities such as town hall meetings, media programmes, literature and website promotion, workshops and educational expos to achieve this. In addition, Barbados has institutional strengthening programmes to facilitate training opportunities for government agencies dealing with solid waste management.	Direct contact with local communities (e.g., through town hall meetings, etc.) and indirect contact (e.g., through media campaigns) aim at raising awareness about best practices and to stimulate increased consumer responsibility.
Japanese Eco Mark (Japan Environmental Association, 2011; Eco-Mark Office, 2007)		
The Eco Mark has been run by the Japan Environmental Association for more than 20 years and aims to provide consumers with information on products' environmental impacts and to assist consumers to purchase more sustainably. The project is funded by the Ministry of Environment and certified producers.	Various labels under the Eco Mark indicate that a good or service is environmentally friendly, considering its entire life cycle, from extraction, through production and distribution, to usage and disposal. The criteria for each product category are established in cooperation with manufacturers, consumers and others. The increase in social awareness for environmentally friendly products, and consequentially the number of labelled products and number of firms using the label, is attributed to complementary actions including: news dissemination, campaigns, meetings, strengthening the labelling criteria, an award programme and international cooperation with other labels (including mutual recognition).	The eco-certification scheme both builds on and fosters environmental awareness in societies. It also helps companies differentiate themselves in the marketplace, while providing consumers with a trustworthy standard and product transparency that facilitates more sustainable consumption.
Mongolian initiatives to reduce risks related to the use of chemicals (Ministry of Nature, Environment and Tourism of Mongolia, 2010)		
The Government of Mongolia has developed a strategy to gather and share information about chemicals, including the use of print and internet media.	The government reports that it has conducted life-cycle analyses of hazardous and toxic chemicals and that media campaigns have been organized throughout the country on the basis of their findings. One specific outcome is the ban of all mercury use in mining. In order to share information, the Ministry of Nature, Environment and Tourism has created a dedicated chemicals website. This allows users to access national laws, regulations, standards and international conventions on chemicals from one source. The website also features a safety database of 250 chemicals that are widely used in Mongolia, with information on issues such as toxicity; rescue and relief measures in case of spills and disasters; and guidelines for safe use, storage, transportation and disposal.	Developing country-specific life-cycle analyses helps identify national priorities and builds capacity. The development of an information storing house on chemicals promotes good use, although websites are reliant on internet access.

Table 1 *Continued*

Summary	Major interventions	Notable mechanisms promoting SCP
Partnerships and Cooperation		
Barbados: Sustainable gastronomic tourism in rural areas (Government of Barbados, 2009)		
This tourism initiative is a successful pilot project that Barbados now hopes to integrate into a United Nations Commission on Sustainable Development partnership framework for Caribbean Small Island Developing States.	The project was established as the result of an assessment of production and consumption patterns in a specific rural community. The Environmental Unit and the Natural Heritage Department then collaborated to pilot a Farm and Food Lovers Trail, which, upon being judged a success by the government, was chosen for subsequent promotion within a partnership framework for Caribbean Small Island Developing States.	Pilot programmes identified as best practice can be effectively shared through partnerships with other states.
United States Environment Protection Agency's (EPA) inter-agency and external partnerships (United States Government, 2010)		
The EPA has addressed sustainability in a wide range of sectors by developing partnerships with other agencies, such as the Department of Transportation (DOT) and the Department of Housing and Urban Development (HUD), as well as other stakeholders, including the transportation and freight industry.	The DOT-HUD-EPA Interagency Partnership for Sustainable Communities works to improve access to affordable housing and to increase the number of affordable transportation options, while protecting the environment and promoting equitable development. The SmartWay Transport Partnership, between the EPA and the transportation technology and freight industry, aims to accelerate the deployment of fuel saving, low emission technologies and operational best practices across the global freight supply chain. It has over 2,500 partners, including many of the world's largest multinational retailers, manufacturers and transportation providers.	Interagency and multi-stakeholder partnerships facilitate policy alignment and help ensure that sectoral initiatives can address sustainability issues effectively.

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4 Global Outlook on SCP Policies: Africa

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4.1 Introduction

Africa is the planet's second largest continent in both land area and population (Dudley, 1999). The region is very diverse with regard to economy, culture, language, climate, industry structure and politics. It spans 54 sovereign countries with a population of approximately one billion people as of 2011 and represents 20.4 per cent of the Earth's land area. Sovereign country size ranges from 243.7 km^2 in Seychelles to 2,381,700 km^2 in Algeria (United Nations Environment Programme [UNEP], 2008).

Countries in Africa can be grouped into five subregions – Northern Africa, West Africa, Central Africa, East Africa and Southern Africa – comprising the following countries:

a) Northern Africa: Algeria, Egypt, Libya, Morocco, Sudan, Southern Sudan, Tunisia and Western Sahara
b) Western Africa: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo
c) Central Africa: Central African Republic, Chad, Democratic Republic of the Congo, Cameroon, Equatorial Guinea, Gabon, São Tomé and Príncipe
d) Eastern Africa: Burundi, Comoro, Djibouti, Ethiopia, Eritrea, Kenya, Madagascar, Mauritius, Rwanda, Seychelles, Somalia, United Republic of Tanzania and Uganda
e) Southern Africa: Angola, Botswana, Lesotho, Malawi, Mozambique Namibia, Swaziland, South Africa, Zambia and Zimbabwe

The region's economies are generally insufficiently diversified, with a broad split between Northern and Southern African countries on one hand and the sub-Saharan countries (Western, Central and Eastern Africa) on the other. The former have more diversified economies with more developed industrial sectors, higher energy consumption and higher carbon dioxide (CO_2) emissions, while sub-Saharan African economies are mainly agricultural. About one third of Africa's exports comprise agricultural raw materials, precious minerals and oil (United Nations, 2011).

Country populations range from 200,000 in São Tomé and Príncipe to 148 million in Nigeria. Population density ranges from 2.5 persons per km^2 in Namibia to 622 persons per km^2 in Mauritius, while the estimated GDP of Africa was 2.3 per cent of the total GDP of the world in 2009. In 2010 the GDP per capita was highest in Seychelles at US$24,837 and lowest in Democratic Republic of Congo at US$340 (International Monetary Fund, 2010).

The 24,165 km of peripheral coastline represents diverse geographies, from the world's largest hot dessert in the North, to the jungles and savannas of Central Africa, the source of the world's longest rivers (the Nile, Congo and Zambezi).

The region's rich biodiversity boasts 40,000-60,000 plant species, about 1,200 mammal species, 2,000 bird species and 2,000 species of fish (United Nations Economic Commission for Africa [UNECA], 2010). However, a significant proportion of these rich biodiversity resources risk extinction due to their unsustainable exploitation.

Environmental and development challenges are deeply interlinked in Africa. Access to energy is a particular challenge (African Roundtable on Sustainable Consumption and Production [ARSCP], 2009). In rural sub-Saharan Africa, less than 1 per cent of the population has access to electricity. The majority of the population depends on traditional biomass energy. Alternative sources of power are not affordable to the poor. The increased use of firewood, the expansion of agriculture and poorly regulated timber exploitation are all important factors contributing to deforestation in the region (UNEP, 2006). Between 1990 and 2000 the forest cover declined by 0.8 per cent, compared to global average forest decline of 0.2 per cent (UNEP, 2006; ARSCP, 2009).

Although Africa has enormous water resources, such as lakes, rivers, underground water and dams, more than 300 million people in Africa lack access to safe water (UNECA, 2009). Water scarcity and water pollution increase food insecurity and malnourishment.

On average, the people of Africa are the poorest in the world. More than 50.9 per cent of the sub-Saharan population of 736 million live on under US$1 per day and 32 per cent are undernourished (Hunger Project, 2011). In Africa, rural populations are moving into urban centres in massive numbers, leading to the highest rate of urbanization in the world, 3.5 percent per annum (ARSCP, 2009). However, even in urban areas, these immigrants from rural areas are marginalized due to lack of skills. Sustainable consumption and production (SCP) has the potential to increase competitiveness of agricultural products by creating new markets and green jobs requiring low skills, as well as providing renewable energy technologies that are appropriate to rural areas and mitigating climate change.

In order to reverse these trends, SCP principles should be mainstreamed in national development programmes, strategies and decisions within the region. This report highlights the progress made in the region in SCP policy formulation and

implementation. It is divided into three sections: SCP policies by governments at the regional, subregional, national and local levels; business involvement in SCP; and civil society activities to promote SCP.

4.2 SCP policies at the regional level

SCP activities in Africa started in the mid 1990s. The United Nations Industrial Development Organization (UNIDO) and UNEP established National Cleaner Production Centres (NCPCs) in 1995, which have remained the major institutions for promoting SCP in the region.

Since 2000, the African network of NCPCs started to convene biannual regional roundtables on SCP. In 2004, the NCPCs formed the ARSCP as a not-for-profit regional institution to promote SCP. The ARSCP is a multi-stakeholder forum and its activities include, but are not limited to, the organization of national and subregional SCP roundtables, developing subregional and regional programmes and projects on SCP, and organizing trainings on selected SCP topics.

The ARSCP pioneered the development of the African 10-Year Framework of Programmes (10YFP) on SCP in 2005. The strategic focus of the 10YFP is linking SCP with the challenges of meeting basic needs in a more sustainable manner. This framework of programmes brought new hope in the region for meeting the Millennium Development Goals (MDGs), with regard to the fight against poverty and environmental degradation (UNEP and ARSCP, 2006).

In 2005 the African Ministerial Conference on Environment endorsed the African 10YFP. As a result, the Dakar Declaration (2005) emphasizes the importance of linking SCP with the challenges of poverty and meeting basic needs. It calls upon nations to mainstream SCP in their national, subregional and regional activities under the 10YFP.

The African 10 YFP has become the primary framework for SCP development in the region. It embodies four main thematic priority areas: energy, water and sanitation, habitat and sustainable urban development, and industrial development. The plan further points out priority projects and activities in each thematic area. Development and implementation of the African 10YFP have been supported primarily by the Marrakech Taskforce on Cooperation with Africa, which is led by Germany. The priority list of actions in each thematic area is summarized in Table 1.

Since the endorsement of the African 10 YFP, a number of subregional, national and local SCP programmes have been developed and implemented. This report highlights SCP policies, initiatives, programmes and activities to date. The following major achievements of the African 10YFP on SCP fall under five categories:

Mainstreaming

i. Pilot projects for mainstreaming SCP in national and subnational development policies and plans were conducted in Tanzania, Mauritius and the cities of Maputo in Mozambique and Cairo in Egypt. Other African nations that have started or developed their own national SCP plans in the context of the 10YFP include Burkina Faso, Ghana, Senegal, Uganda, Zambia, Côte d'Ivoire and Mali.
ii. Development of subregional programmes such as the Lake Victoria Environmental Management Programme Phases I and II, which have been/or are being implemented in the East Africa Community (EAC) countries

Energy

iii. Development of the North Africa Energy Efficiency Initiative, which formulates and applies a variety of policies contributing to sustainable development in Egypt, Morocco and Tunisia

Water

iv. Establishment of the New Partnership for Africa's Development infrastructure project fund, which provides funding for sustainable energy projects
v. Studies on leapfrogging and reduction of water consumption in breweries, with these studies being replicated in other beverage industries
vi. Establishment of the Africa Ministerial Council on Water and the Africa Water taskforce to support the attainment of the MDGs on water and sanitation

Information-based instruments

vii. Establishment of the Secretariat of the African Eco-labelling Mechanism (AEM) in Nairobi, Kenya under the auspices of the African Union. This mechanism will adapt, validate, harmonize and facilitate existing ecolabelling initiatives in the region. It has established the African Eco Mark label aiming to increase international market access for African products (see Case Study 1)
viii. Promotion of SCP in primary schools and media groups through the establishment of SCP clubs in Tanzania (see Case Study 3)
ix. Sustainable lifestyles and sustainable entrepreneurships have been promoted through the Smart Start-Up programmes for universities in Tanzania, Kenya, Mauritius, Egypt and Ghana.

Sustainable Public Procurement

x. Mauritius has approved and Tunisia is currently finalizing a National Action Plan on Sustainable Public Procurement.

Table 1: African 10YFP on SCP: List of themes and priorities

Theme	Priorities
Energy	i. Assess and identify best practices for using renewable energy during the agricultural life cycle, including policy analysis and recommendations ii. Implement projects on renewable energy technologies in rural agriculture, by providing direct assistance to local communities iii. Promote and develop mini-hydropower for small rural enterprises iv. Promote and support increased use of improved wood fuel stoves by households with appropriate financing mechanisms, offering credits to install better wood fuel stoves v. Promote the use of energy-efficient light bulbs and electric appliances through affordable prices and information to consumers vi. Develop campaigns on environmental education and information for sustainable use of energy through schools and other institutions in cooperation with non-governmental organizations (NGOs) and local communities.
Water and sanitation	Promote the implementation of the MDG on water and sanitation by mainstreaming SCP issues through: i. Knowledge management of best practice in Africa through documentation of best practises, identification of opportunities and making investments ii. Transferring technology in water and sanitation by supporting efficient use of water iii. Carrying out awareness and education on SCP in water resources by developing manuals on best practises, campaigns and training iv. Replicating successful experiences in safe reuse of waste water by implementing pilot projects on the topic v. Integrating SCP and a life-cycle approach in integrated water resource management (IWRM) and carry out surveys, awareness-raising and dissemination of results
Habitat and sustainable urban development	i. Promote integrated solid waste management (ISWM) in order to improve the waste management for municipal and industrial waste, and promote waste prevention, minimization, reuse and recycling ii. Promote sustainable urban mobility by better managing the infrastructure for transportation as a way of improving the health of people and the environment iii. Reduction of vehicular emissions and the use of unqualified polluting cars iv. Sustainable urban development through the upgrading of unplanned settlements, as well as employing city development strategies, and sustainable building designs and construction
Industrial development	i. Strengthen the capacity of the ARSCP and its members ii. Explore the expansion of value chains for agricultural products and by-products by expanding their industrial uses iii. Improve markets for sustainable goods and services to ensure competitiveness irrespective of destination market

Source: African Ministerial Conference on Environment (2005)

All of these programmes support the implementation of SCP programmes and activities at regional, subregional, national and city levels. The following section describes selected activities at the subregional level in more detail.

SCP policies at the subregional level

Africa has a number of subregional frameworks, programmes and initiatives based on its 10YFP on SCP.

Northern Africa
The Northern African states participate in the Arab States Regional Strategy on SCP, which is supported by the League of Arab States (LAS), the United Nations Department of Economic and Social Affairs and UNEP. They have held two regional SCP consultations (Al-Ain, in the United Arab Emirates, in March 2008, and Cairo, Egypt, in September 2009). As a result, the Arab states launched their Regional Strategy on SCP in September 2009. For detailed information, please consult the West Asia chapter of this report.

East Africa
One important initiative is the Lake Victoria Environmental Management Project by the five EAC Partner States and coordinated by the Lake Victoria Basin Commission. It focuses on the collaborative management of transboundary natural resources, with emphasis on management of the water and fisheries resources, interventions that will reduce

CASE STUDY 1

Eco Mark Africa

The Eco Mark Africa label has been developed by the African Eco-labelling Mechanism (AEM). It is under the auspices of the African Union Commission and hosted by the African Organisation for Standardisation (ARSO) in Nairobi, Kenya.

The initiative, which is supported by the Marrakech Task Force on Cooperation with Africa and the German Agency for Technical Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit [GIZ]) promotes African products in intra-African and international trade through the inclusion of ecological parameters into product standards. The objective of this project is to: reliably identify sustainable products from the agriculture, forestry, fisheries and tourism sectors; add to the value of African brands; and improve the image of sustainable African products on international markets. This improves Africa's market share at national, regional and international levels (UNEP and ARSCP, undated).

The importance of ecolabelling has been recognized in several countries. For example:

- Tunisia has national organic standards equivalent to those of the European Union (EU) that focus on promoting environmental quality, preserving consumer health and safety, and improving the competitiveness of its exports abroad. In 2007 Tunisia started with a set of pilot product categories involving companies from the textiles, tourism, soap and detergents, and agro industries (UNECA and UNECA, 2008)
- Kenya, which is the leading exporter of leather products in the East African Community (EAC) and in the Common Market for Eastern and Southern Africa, is developing ecolabel standards with the help of UNEP, to meet EU standards for leather, to make full use of its production capacity and to increase its international market share (Janisch, 2007).

environmental stress within the lake and its littoral zone and watershed management. With the participation of local governments, communities and the private sector as a prerequisite to promoting the sustainable use of indigenous people's livelihoods, the project supports: (i) institutional capacity development and harmonization of policy, legislations and regulatory frameworks and (ii) capacity-building at community, national and regional levels.

Another important initiative in East Africa is the Nile Basin Initiative. The Nile River Basin, home to millions of world's poorest people, has a unique environment that is threatened by pollution and resource depletion. This initiative aims at enhancing the analytical capacity of water resource experts to manage, develop and protect the Nile Basin waters, contributing to security and prosperity for all (Food and Agriculture Organization [FAO], undated).

Southern Africa

The Southern African Development Community has a subregional framework on renewable energy. The framework has set recommendations[1] on how member states should: align their policies on this theme, collectively develop capacity to implement renewable energy projects, pool resources for development of appropriate renewable energy technologies and facilitate trade in these technologies. The ultimate objective is to increase citizens' access to affordable energy services and promote sustainable development.

This framework has been instrumental in successfully developing renewable energy capacity in the subregion. Examples include the Programme for Energy Conservation and the Financing Energy Services for Small-Scale Energy Users programme, which is supported by UNDP.

4.3 National SCP policies

At the national level, countries are increasingly developing SCP action plans. To operationalize parts of the African 10YFP and generate region-specific know-how that could be replicated in other countries in the region (ARSCP, 2009), Burkina Faso, Ghana, Mauritius, Senegal, Uganda, Tanzania and Zambia have developed or have started to develop national SCP action plans. The 10YFP priority areas – energy, water, urban development and industrial development – feature prominently in these national plans. The cities of Cairo in Egypt and Maputo in Mozambique have mainstreamed SCP in their development plans. Additionally, Côte d'Ivoire and

1. Among others issues, the framework recommends the use of fiscal incentives as drivers for renewable energy technology development and utilization through developing a 'level playing field' and adopting fair pricing mechanisms, the use of the polluter-pays principle in order to address externalities, gender mainstreaming and the creation of renewable energy enterprise zones, and prioritization of renewable energy technologies.

Mali, have started to mainstream SCP in greening their economies. In 2008 the National Roundtable on SCP in South Africa recommended priority areas for SCP that should be included in its national strategy on sustainable development (Department of Environmental Affairs and Tourism, South Africa, 2008).

The Marrakech Task Force on Cooperation with Africa and UNEP supported the development and implementation of the national- and city-level pilot action plans (UNECA, 2009). Four of the countries that have developed SCP strategies and plans (Ghana, Mauritius, Tanzania and Zambia) and Senegal, which has included the 10YFP in its development plan, are described more in detail below. Egypt and Mozambique are described in the city-level section. Efforts by Côte D'Ivoire and Mali are described in the mainstreaming sections of this report.

Mauritius has developed a comprehensive SCP programme with 44 projects, more than half of which are being implemented. Its priority sectors are resource efficiency, ISWM and recycling, sustainable public service practice, increased market supply and demand for sustainable products, and education and communication for sustainable lifestyles (see Case Study 2).

The Senegalese 10-Year Action Plan on Sustainable Production and Sustainable Consumption was developed in 2006 in a participatory process, adopted in January 2007 and included in the second Strategy Paper Poverty Reduction (personal correspondence, Cheikh Fofana, 22 August 2011). It is based on an in depth analysis of national social and economic development sectors, spanning from the primary (forestry, agriculture, water and livestock), to the secondary (industry, construction, energy) and service (tourism, transport, commerce) sectors. It draws particular attention to the need for sustainable consumption of the following resources: firewood, construction materials (sand, basalt), some aquifers and overexploited species of fish.

The action plan draws 10-Year Plans for the following resources, production processes and sectors: firewood, tourism, textile, construction and housing, and agro-sylvo-pastoral production of fishing products and aquaculture. For each sector, it provides a costed and staged plan comprising: awareness-raising and information on SCP, capacity-building, setting up priority equipment, setting up monitoring and evaluation structures and mechanisms, and reinforcing public policy and legislation on SCP (Ministère de L'Environnement et de la Protection de la Nature, République du Sénégal, 2006).

Tanzania developed its SCP National Action Plan in 2008. It is based on the National Strategy for Growth and Poverty Reduction and focuses on the following five priorities, together with other crosscutting issues: energy efficiency, water and sanitation, habitat and urban sustainable development, industrial development (see Case Study 3).

South Africa like, other countries, is developing a national ecolabelling scheme (see Case Study 4).

Ghana's Sustainable Development Action Plan, which also serves as its National Programme on SCP, provides the umbrella for action, development of policy instruments and projects on SCP. It includes a major analysis of the country's development plans and legislation to identify entry and leverage points (see Case Study 5).

To accelerate the shift to SCP, Zambia has identified pilot activities that match the priorities of its overarching framework for sustainable development – called Vision 2030 – the African 10YFP and where the institutional structures are in place. For example, activities relate to demand-side management of energy and water uses, integrated waste management and sustainable agriculture. Zambia has set indicators and identified possible sources of funding for these activities (Ministry of Tourism, Environment and Natural Resources, Republic of Zambia, 2011) (see Case Study 6).

A variety of policies and practices exist with relation to harnessing Africa's vast renewable energy potential. Zimbabwe has developed a draft energy policy framework in 2008. The objectives of the energy policy are to ensure accelerated economic development, to facilitate rural development, to promote small- to medium-scale enterprises, to ensure environmentally friendly energy development and to ensure efficient use of energy resources (Renewable Energy and Energy Efficiency Partnership, 2010). The following countries have made use of their renewable energy potential (UNECA, 2006):

- South Africa and Zimbabwe have developed mini hydro plants. Mauritius already sources over half of its electricity from sugarcane bagasse (Karekezi and Kimani, 2010), Zimbabwe and Malawi produce ethanol from molasses.
- South Africa, Namibia, Kenya and Zambia produce energy from geothermal sources. In Kenya, its geothermal potential is estimated in excess of 10,000 MW, which represents ten times the current total power capacity (TradeInvest Kenya, 2011). Currently it has installed capacity of 128 MW from geothermal sources (Access Kenya Group, 2011).
- South Africa, Namibia and Mozambique started windmills and are researching the feasibility of expanding wind-energy harvesting.

CASE STUDY 2

Mauritius National Programme on Sustainable Consumption and Production

In Mauritius, the Ministry of Environment and Sustainable Development, in collaboration with UNEP, has developed a National Programme on SCP for Mauritius. The programme comprises 44 projects to be implemented by 14 lead agencies within a 5-year time frame (2008-2013).

The National SCP Programme Framework is framed around the following priority themes and sectors: energy, water, change in lifestyle, and mode of production and consumption. A National SCP Coordination Committee has been set up to ensure the effective and proper implementation of the National SCP Programme. These SCP initiatives contribute to Mauritius's goal to become a sustainable island, commonly referred to as "Maurice Ile Durable."

In 2008 the Mauritius government introduced the Maurice Ile Durable Fund (Government of Mauritius, 2008) to finance sustainable development in the country through taxes, subsidies, development partners and carbon credits. It introduced a tax on plastic bags, polyethylene terephthalate bottles and petroleum products, and increased the road tax for large vehicles.

In 2008 Mauritius was able to collect US$30 million, which is used to provide free consultancy services on energy audits for SMEs, subsidies for compact fluorescent lamps, grants for solar water heaters, tax removal on hybrid vehicles and LED lamps for street lighting (Ramjeawon, 2011).

In the country's National SCP Programme, 25 out of the above mentioned 44 projects are currently being implemented with a budget of US$1 million, through joint or individual action by multiple ministries. Some projects identified under the National SCP Programme for Mauritius did not take off due, inter alia, to a lack of funds. Projects on energy labelling and sustainable buildings, among others, are progressing well, and energy intensity per unit of output of the economy is falling. However, absolute decoupling has not been achieved and it is clear that high-level political as well as technical and financial support are required for successful complete implementation of the National SCP Programme (Ministry of Environment and Sustainable Development, Government of Mauritius, 2011).

Source: UNEP (2011, a)

Priority areas	Pilot projects
Resource efficiency	Energy: initiation of an auditing system, public procurement of energy efficient gadgets or appliances Water: initiation of sustainable consumption codes and regulations, audits, rainwater harvesting systems Sustainable buildings and construction: initiation of guidelines and a rating system, amendment of building regulations to embody energy efficiency principles, financial incentives
ISWM and recycling	Promotion of supermarket waste recycling (focus on cardboards and plastics), diversion of organic wastes from the hotel sector, backyard composting, elaboration of integrated waste management action plans in all local authorities
Sustainable public service practices	Implementation of a sustainable public procurement framework
Increasing market supply and demand for sustainable products	Development of a national ecolabelling framework, financial incentives, capacity-building for industry in life-cycle management and corporate sustainability reporting
Education and communication for sustainable lifestyles	National awareness campaign, locally adapted educational materials targeting small and medium-sized enterprises (SMEs) and awards programmes

CASE STUDY 3

Tanzania National Action Plan on Sustainable Consumption and Production

As an important step towards sustainable development, in 2008 Tanzania developed its National Action Plan on SCP (2008-2017) which is based on the National Strategy for Growth and Poverty Reduction popularly known as MKUKUTA (a Swahili acronym).

Tanzania's National Action Plan focuses on these five priorities: energy efficiency, water and sanitation, habitat and urban sustainable development, industrial development, together with other crosscutting issues.

Theme	Planned pilot projects
Energy efficiency	Demand-side Management on Energy Use
Water and sanitation	Demand-side Management on Water Use and Water Harvesting
Habitat and urban sustainable development	Integrated Solid Waste Management in Urban Areas; Sustainable Building and Construction; Cleaner City – Vehicular Emissions
Industrial development	Sustainable Manufacturing; Sustainable Tourism; Sustainable Agriculture
Crosscutting areas	Education for Sustainable Consumption and Production

Tanzania has set 96 national development targets that are monitored as part of its National Strategy for Growth and Poverty Reduction, out of which 16 pertain to the environment and are relevant to SCP.

Activities:

a. A national awareness-raising seminar was conducted for Members of Parliament demonstrating the value of mainstreaming SCP in national development policies and strategies. A media roundtable and campaign helped to promote awareness on key issues in the national action plan on SCP and facilitate the dissemination of SCP benefits. Journalists of mass media were trained to become SCP ambassadors. The Journalist Environmental Association of Tanzania, which has existed since the 1990s, has started to make SCP one of its priority themes in their periodical environment publications.
b. SCP clubs in primary schools have been formed as part of the Education for SCP Pilot Project. In partnership with the NGO Nature for Kids and building on its children's environmental awareness and education programmes in Tanzania, the project ran as a pilot in three municipalities of Dar es Salaam (Ilala, Kinondoni and Temeke) from July to October 2009 under the high-level coordination of the Tanzania Vice President's Office and the Ministry of Education and Vocational Training.
c. In collaboration with Nature for Kids, the Cleaner Production Centre of Tanzania implemented a project promoting the 3R principles: Reduce, Reuse, Recycle. The project aimed to sensitize parents and the community at large with the help of the school-age children. Forty-one schools and more than 2,000 pupils in rural and urban locations of Dar es Salaam were involved. The pupils came up with play stories on waste management and recycled waste material into household objects and artwork. They also campaigned to clean up a nearby market place.

Lessons Learned

- Involving and educating children helps to develop their mindsets on sustainable consumption
- A good starting point are projects that have the potential to produce quick results, that can easily secure financial resources and that can effectively demonstrate the benefits of SCP
- To ensure the success of the programme, it is crucial to communicate to stakeholders and involve them in the implementation process
- Entertaining films and songs performed in the national language are effective for educating children on SCP

Sources: UNEP and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (undated); UNEP (2011, a).

Examples of moving towards mainstreaming of SCP and a green economy: Côte d'Ivoire and Mali

Côte d'Ivoire and Mali have studied how to integrate SCP and green economy concerns into existing national planning frameworks. The countries have been supported by UNEP, and in the case of Mali, also by the Poverty and Environment Initiative.

The Republic of Mali produced a study called *Étude sur les Modes de Consommation et de Production Durables* (2010) on potential synergies and linkages between sustainable consumption and production and the country's poverty alleviation efforts. The outcomes of the study are used as inputs to the national sustainable development and poverty reduction strategies.

In 2010 a two-day capacity-building workshop on SCP and Green Economy, in collaboration with the Poverty and Environment Initiative, brought together a large group of participants from different ministries including Environment, Planning, Finance, Economy, Water, and Energy. Mali is further planning to imbed a greening process in the forthcoming Poverty Reduction Strategy Paper.

CASE STUDY 4

South Africa National Framework for Sustainable Development

South Africa held its first roundtable on SCP in Johannesburg in August 2008 marking its initial step into the Marrakech Process and its contribution to the implementation of the Johannesburg Plan of Implementation. It recommended developing a framework strategy for SCP that integrated all the existing SCP policies and initiatives taken at various governmental levels. The roundtable identified the following priority areas: energy and climate change, integrated waste management, sustainable procurement, and sustainable building and construction.

Later in 2008, South Africa finalized the National Framework for Sustainable Development, which included priority areas for SCP that had been recommended by the National Roundtable mentioned above. It proposes a national vision, principles and areas for strategic intervention that will enable and guide the development of the national strategy and action plan. The five strategic focus areas for intervention are: enhancing systems for integrated planning and implementation; sustaining ecosystems and using natural resources efficiently; economic development via investing in sustainable infrastructure; creating sustainable human settlements; and responding appropriately to emerging human development, economic and environmental challenges.

During the national Green Economy Summit in May 2010, the South African government, in collaboration with business and civil society organizations (CSOs), committed to investing in green industries and green jobs to ensure that the country's growth path is resource efficient, less carbon intensive and more labour absorbing. It also committed to mobilizing and further developing the significant scientific and technological capacities of society at large.

The different stakeholder groups worked together on the formulation and adoption of sustainable development indicators to guide the integration of economic growth, social equity and environmental protection. This collaboration includes:

- The stronger alignment of policies to maximize the use of funds, capacity and tools that have been developed for the implementation of SCP principles
- An examination of consumer information in order to influence behaviour changes for the promotion of sustainable development
- Development of green growth policies and regulations that support and enable an integrated strategy that effectively covers, both economy-wide and sector-level demand and supply aspects. The integrated strategy ensures coherence in policy design and implementation and maximizes the synergies among different policies to accelerate the development and diffusion of clean technologies and related knowledge

To promote SCP, South Africa is also developing the South African National Eco-labelling Scheme. The label aims to become a credible and independent guide to help consumers identify products with lower environmental impacts. It also aims to provide for standards in export markets that demand a national ecolabel certificate so they can grow the pool of eco-friendly goods and services and improve competitiveness in the sustainable goods and service market (Eco Standard South Africa, 2010).

CASE STUDY 5

Ghana National Programme on SCP

In Ghana, the Sustainable Development Action Plan is also the National Programme on SCP and includes a major analysis of the country's development plans and legislation. The National Programme places emphasis on education, in its broadest sense, to transform the country. It focuses on: education for sustainable lifestyles aimed at the broad population, developing the science base, and applying and managing appropriate technology to achieve its goal of becoming a middle-income country by 2015. As Ghana is well endowed with natural resources such as gold, diamonds and petroleum, the plan includes the promotion of research on natural resources and better ways of mining these resources to decouple growth from environmental degradation. One of the key areas of the Ghana Poverty Reduction Strategy is the restoration of the environment and sustainable natural resources management (Environmental Protection Agency, Government of Ghana and UNEP, 2010).

The National Programme on SCP focus on energy, water and sanitation, and urban and industrial development. It identifies priorities for energy such as: assessment and identification of best practices on renewable energy to be used during the life cycle of agriculture; promoting the use of energy-efficient light bulbs and electric appliances through affordable prices and information to consumers; and developing campaigns on environmental education for sustainable use of energy through schools and other institutions in cooperation with NGOs. On the themes of water and sanitation, it aims to promote the implementation of IWRM, which was endorsed by the National Water policy developed in 2007, adopting a life-cycle approach and replicating successful experiences in safe reuse of waste water (Environmental Protection Agency, Government of Ghana and UNEP, 2010).

For their theme on chemicals, the National Programme identifies the need for creating synergies between Stockholm and Rotterdam conventions on chemicals and waste at the national level and set a number of banned chemicals as one measure to monitor progress in this respect. The plan also promotes cleaner production techniques in industry and highlights the need for increased capacity for implementation and enforcement. The National Programme specifically recommends lowering the current 25 per cent corporate tax in order to encourage firms to invest in cleaner technologies (Environmental Protection Agency, Government of Ghana and UNEP, 2010).

Concerning policy instruments already in use, the government has instituted the liquefied petroleum gas promotional levy aimed at promoting the use of the more environmentally friendly gas. Clear goals are proposed in the Strategic National Energy Plan (2006–2020), which aims to increase liquefied petroleum gas penetration by 30 per cent by 2020. To combat deforestation, the Strategic National Energy Plan also calls for 15 per cent penetration of rural electrification by decentralized renewable energy, and a reduction in firewood intensity by rural households by 10 per cent and by urban households by 50 per cent (Environmental Protection Agency, Government of Ghana and UNEP, 2010).

The Action Plan for SCP and Industry proposes actions encompassing ecodesign requirements, reinforcing energy and environmental labelling, incentives for highly performing products, green public procurement, and partnerships with retailers and cooperation with consumers. The plan proposes, for example, to extend the ecodesign directive to all energy-related products, including not only those that consume energy, but any product that has an impact on energy consumption (e.g., water taps and windows) (Environmental Protection Agency, Government of Ghana and UNEP, 2010).

On the theme of transportation, Ghana has chosen a short-term project to demonstrate SCP on eco-driving. This low-cost measure aims to reduce CO_2 emissions by 5-15 per cent in cars, buses and trucks, with the best drivers achieving a 50 per cent reduction (Environmental Protection Agency, Government of Ghana and UNEP, 2010).

In Côte d'Ivoire, the national sustainable development strategy guides economic and social development, respecting and protecting the country's natural resources and the environment. Developed with technical and financial assistance from UNDP, Organisation Internationale de la Francophonie, Institute of Forestry/Institut de l'Energie et de l'Environnement de la Francophonie and UNEP, it is in line with the national Poverty Reduction Strategy Paper (2009-2013) and United Nations Development Assistance Framework-UNDAF (2009-2013).

An awareness-raising and capacity-building workshop using the Planning for Change 10-Step Methodology was organized in 2009 to reinforce national capacity on SCP and to promote sustainable development. The workshop was the kick-off event to develop an SCP pillar for the national sustainable development strategy. It brought relevant ministries and other stakeholders together to discuss concrete modalities to develop an SCP pillar.

As a direct outcome of this training, the National Sustainable Development Commission decided to conduct an additional study, *SCP in Côte d'Ivoire: Challenges and Opportunities* (Ministère de L'environnement des eaux et forêts, Republic of the Côte d'Ivoire, 2010), to complete the national sustainable development diagnostic stage. This study is an analysis of existing strategies and policies relevant to SCP, baseline data and existing activities. It presents the challenges and opportunities in mainstreaming SCP in Côte d'Ivoire's national development planning, where SCP can become a key element for poverty alleviation. A second SCP training was held in May 2010 to present the first draft of the national study on SCP.

Both examples underscore the need for baseline data, awareness and capacity-building for the issues and linkages across ministries, and stakeholder consultations.

City-level SCP plans

This section describes two pilot city-level action plans developed under the African 10YFP. In conjunction with national pilots, city pilot SCP action plans based on the 10YFP were developed in 2008 for Cairo, Egypt and Maputo, Mozambique. These pilots have been replicated in other cities in Africa, such as Matola in Mozambique and Alexandria in Egypt.

Maputo, Mozambique
The Mozambican framework of SCP programmes at the city level was developed in the context of the Mozambique National Action Plan for Absolute Poverty Reduction, which aims at reducing poverty by promoting sustainable and comprehensive economic growth. It was developed in cooperation with the Mozambique National Cleaner Production Centre and several committees formed by central and local government officials and NGOs.

The Maputo pilot programme supports four national sectoral policies in the areas of energy, water, urban development and industrial development. Parallel with the development of the Maputo programme, a similar programme was developed for the nearby city of Matola (Mozambique National Cleaner Production Centre, 2007).

The following priority programmes were identified for the cities:

- Integrated Solid Waste Management
- Education for Sustainable Consumption and Production
- Sustainable Tourism
- Demand-Side Management on Energy Use
- Demand-Side Management and Water Harvesting
- Sustainable Buildings and Construction

From the above projects, the Sustainable Tourism Programme was further developed into a joint UNIDO and UNEP project on Mainstreaming Resource Efficient and Cleaner Production in the Accommodation Sector of Mozambique and its Supply Chain. The project is coordinated by the Mozambique National Cleaner Production Centre, and the UNIDO component is being implemented in seven hotels in Maputo and Matola cities.[2]

Cairo, Egypt
Within the framework of Africa's 10YFP, Cairo developed its city SCP programme as a pilot for an SCP programme at the mega-city level. The Egyptian Environmental Affairs Agency, the Cairo Governor and the Egyptian National Cleaner Production Centre jointly planned its development. After consultation with local authorities, a number of pilot projects were identified in four thematic areas: solid waste management, industrial development, urban development with a focus on slum areas, and transportation and its emissions.

One of the main achievements in implementing the pilot programme was the development and implementation of an ISWM plan, based on the promotion of source separation of waste, for the Heliopolis district. It included a baseline

2. UNIDO (unpublished), *Progress Report (August to December 2010): Mainstreaming Resource Efficient and Cleaner Production in the Accommodation Sector of Mozambique and its Supply Chain*. Project Number: UE/MOZ/10/002.

Photo courtesy of National Water and Sanitation Council, Zambia

CASE STUDY 6

Zambia: Vision 2030

The overarching framework for sustainable development in Zambia is its Vision 2030. Its principal polices that integrate SCP elements are: the National Policy on Agriculture (2005), the National Policy on Environment (2007), the National Energy Policy (2008) and the National Water Policy (2010) (Ministry of Tourism, Environment and Natural Resources, Republic of Zambia, 2011).

One key goal of the Zambia Vision 2030 is a fully integrated and sustainable water and resource management programme (Ministry of Tourism, Environment and Natural Resources, Republic of Zambia, 2011). In the areas of water and sanitation, one of its goals is to improve access to appropriate and environmentally friendly sanitation for all, using the Devolution Trust Fund to fund pilot projects in low-income areas (Ministry of Tourism, Environment and Natural Resources, Republic of Zambia, 2011). The Devolution Trust Fund was established in 2003 by the National Water Supply and Sanitation Council, and is funded by the Government of the Republic of Zambia and partners such as Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ, formerly GTZ), Kreditanstalt für Wiederaufbau, Danish International Development Assistance and the European Commission (Muyeba, undated). It funds water kiosks set up by commercial utilities to provide basic sanitation. In 2010, it provided the funding to set up 65 water kiosks, 59 km of water pipes and 350 m^3 of water tanks (Devolution Trust Fund, 2010). One kiosk can serve up to 1,800 people (Ministry of Tourism, Environment and Natural Resources, Republic of Zambia, 2011).

For the pilot activities in the field of sustainable agriculture, Zambia plans to promote agro-forestry. It has set a goal of increasing the number of commercial famers employing sustainable farming practices by 20 per cent and, for small- to medium-scale farmers, by 30 per cent in the first year of implementation. An example of the sustainable practices they are promoting is tree intercropping.† One of the most effective species for intercropping in Zambia is *faidherbiaalbida*. (Ministry of Tourism, Environment and Natural Resources, Republic of Zambia, 2011). This tree has been frequently reported to significantly increase crop yields for cotton, groundnut, maize, millet and sorghum when grown in proximity (FAO, 2011). The African Carbon Credit exchange is working with Zambian and international partners to get each famer to agree to plant 100 *faidherbiaalbida* on one hectare of their land (Ministry of Tourism, Environment and Natural Resources, Republic of Zambia, 2011).

To promote efficient use of energy, the government, in cooperation with Zambia Electricity Supply Corporation Limited, has started an electricity demand-side programme. Some of its actions include the suspension of duty and value-added tax on energy-saving lamps, energy-efficient appliances and power generators. The government also introduced a voluntary Time of Use tariff for high-demand users, such as farmers and manufacturers. These users receive a discount of between 25 and 50 per cent on capacity and energy charges respectively between 10p.m. and 6a.m. This measure should free up capacity for power during the day (Ministry of Tourism, Environment and Natural Resources, Republic of Zambia, 2011).

† Intercropping consists of planting crops directly below and between trees

assessment of waste, collection systems, transportation and final treatment methods and facilities. It could be replicated elsewhere in Cairo and in other cities in the region. It also provided a basis for mainstreaming SCP in sectoral policies and strategies (Marrakech Task Force on Cooperation with Africa and German Federal Ministry of Environment, undated; personal communication, Hanan El Hadary, 22 September 2011).

Policy instruments

Some policy instruments that support the shift towards SCP have been developed in Africa. While a combination of regulatory, economic, information-

based and voluntary instruments have been used, much is still needed in the area of policy development to meet the expectations of the 10YFP.

Regulatory instruments

A regulatory approach that features prominently in the Africa SCP frameworks is the setting of minimum product specification standards. From a review of ten countries (Burkina Faso, Egypt, Ghana, Kenya, Mauritus, Rwanda, South Africa, Tanzania, Uganda and Zambia), at least three have set such standards with relation to plastic products.

Thin plastic bags (below 30 microns) generally tend to be used only once and then are thrown away. This 'single-use practice' creates a lot of waste and littering. However, thick plastic bags can be reused many times. For this reason, many countries have banned thin plastic bags. EAC countries have banned thin plastic bags and have set minimum standards for plastic bag thickness (ARSCP Secretariat, 2010).

The Kenya Institute for Public Policy Research and Analysis (KIPPRA) was commissioned by the Kenyan government to review the various policy instruments and experience of managing plastic wastes in other countries (both developed and developing). As a result, KIPPRA came up with a policy package proposal for plastic bag waste management in Nairobi. Based on their findings and recommendations, the Kenyan government issued a report on 23 February 2005 proposing that Kenya should ban the common plastic bags that consumers get from retailers. Also, they placed a levy on other plastic bags such that money raised from these levies is directed to create plastic recycling programmes. The partial ban of flimsy plastic bags with thickness below 30 microns came into effect on 14 June 2007 (KIPPRA, 2006).

Mauritius has set product standards to ensure that only energy-efficient appliances are consumed. Under the Energy Efficiency Act (2011), Mauritius requires energy audits for buildings, minimum energy efficient standards for appliances and labelling of products. Labels for appliances must contain clear product specifications (Government Gazette of Mauritius, 2011).

Regulation 5 of Uganda's National Waste Management Regulations (National Environment Management Authority, Uganda, 1999) mandates cleaner production techniques for production processes, efficient utilization of raw material, energy conservation, exclusion of toxic raw materials from the production process and waste minimization. In addition, these regulations emphasize product monitoring, identification of product negative impacts, sustainable product design and recycling (National Environment Management Authority, 1999). For example Sub-regulation 5.1 states that: "A person who owns or controls a facility or premises which generate waste shall minimize the waste generated by adopting cleaner production methods ie improvement of production processes and monitoring the product cycle from beginning to the end" (National Waste Management Authority, 1999).

Another policy being promoted for SCP in the region is sustainable public procurement. Projects on capacity-building for sustainable public procurement in developing countries have been piloted in Mauritius and Tunisia.

Economic instruments

Economic instruments such as pollution fees and charges are commonly used in Africa (ARSCP, 2009). Examples of economic instruments that promote SCP in the countries studied include: a plastic bag levy in South Africa; contracts for managing solid wastes between governorates and the private sector in Egypt; subsidies for solid waste facilities in Tanzania; and levies on petroleum products, aluminum cans, polyethylene terephthalate bottles and a road tax in Mauritius. Parry (2011) found that, in Mauritius, "excise taxes on petroleum products and motor vehicles are the two largest sources of revenue raised from taxes in Mauritius that might be rationalized on environmental grounds" (p. 9). In the 2008-2009 fiscal year, fuel excise raised Rs2,213 million or 4.7 per cent of total tax collections, while vehicle excise raised Rs1,852 million, or 3.9 per cent of total tax collections. Parry (2011) found that while the levies' main motivation is to raise revenue, it is close in design to an ideal tax for mitigating CO_2 emissions. "Excise on plastic products (bottles, bags, and cans), an environmental protection fee (a tax on hotels, guest houses, and tourist residences), and a solidarity levy, each contributed 0.2–0.3 percent of total tax revenue, while passenger fee contributed 1.2 percent of total tax revenues" (Parry, 2011, p. 9).

In the 2008-2009 fiscal year, excise on fuels raised Rs2, 213 million or 4.7 per cent of total tax collections (Parry, 2011).

Voluntary agreements

Voluntary agreements between governments and businesses can encompass measures such as voluntary reporting, the setting of voluntary targets and certifications. One example of voluntary agreements that helped to decrease environmental impacts, while contributing to the country's gross domestic product (GDP) are the voluntary agreements between the Moroccan Ministry of Energy, Mines, Water and Environment and the cement industry.

Table 2: Cement industry upgrades

Objective	Actions taken	Results
Reducing emissions of dust and gas	• Dusting gas equipment upgrade • Monitoring devices installation and upgrade • Development and control of the manufacturing process • Extension of paving and areas of dust emission covers • Control of CO_2 emissions	• Dust emission reduced by 70% • SO_2 emissions reduced by 62% • NO_x emissions reduced by 41% • CO_2 emissions reduced by 25%
Water savings	• Generalization of dry processes • Closed circuit for recycling of water • Desalination of seawater	• Consumption reduction from 300 to 120 liters/t cement • Sending waste water to semiarid areas • Use of 1000 m^3/day of desalinated water • Recycling of water
Energy saving and renewable energy	• Installation of pre-calcination in preheater towers, vertical roller mills • Improved fuel mix (fuel, coal and petroleum coke and alternative fuels) • Upgrading of equipment-process (variable speed motors) • Introduction of co-generation • Development of renewable energy (wind farms)	• Reduce heat consumption from 1500 to 770 kcal/t clinker • Consumption reduction of electricity from 120 to 78 kWh/t cement. • Installation of windmills with a capacity of 37 MW
Fuels and alternative materials	• Use of alternative fuels (shredded tires, waste oil, etc.) • Valorization of alternative materials such as scale, fly ash, ash pyrrhotite, sludge from water treatment plants, etc.	• Valorization of 80,000 to 100,000 t of waste • Use of 680 kiloton/year of other materials as a substitute or additions in raw cement materials
Landscape and improvement in living conditions	• Interior paving, paving areas and roadways • Rehabilitation and quarries development • Planting trees and shrubs • Noise reduction	• Paving of traffic areas: 110 000 m^2 • Redevelopment of quarries: 250 ha • Plantations: 450 000 trees and shrubs • Development of an Argan tree planting: 500 of 1200 ha planned • Elimination of 550 t of plastic • Improved visual appearance

Source: Association Professionelle des Cimentiers 2011

In 1997, the Association of Cement Industries (Association Professionnelle des Cimentiers) signed a six-year voluntary agreement with the Moroccan Ministry of Energy, Mines, Water and Environment on behalf of the industry committing to integrating the environmental dimension in the choice of the location, equipment and industrial processes. Later it signed specific agreements on waste oil elimination (2004), plastic elimination (2008) to reduce pollution and environmental degradation and entered into a broader agreement with several ministries (Maradan and Zein, 2011).

It is important to note that all these agreements and conventions became effective in 2011. Some of them are gaining momentum. This is the case in the removal of plastic bags, which increased from 190 metric tons in 2010 to 1,000 metric tons in 2011. Achievements following the upgrades are shown in Table 2.

In 1997 the costs of environmental damage and inefficiency were estimated at 15 per cent of the sector's added value. Through the measures adopted to fulfill the voluntary agreements, the costs fell to 3 per cent by the year 2008. The reduction of the cement industry's costs of damage and inefficiencies has been linked to adoption of measures such as: ISO 14001 certification of major cement plants, the adoption of effective filtration systems, process optimization, the use of renewable energy, the reduction of water and electricity consumption, and quarry reclamations, including planting trees, refilling, etc. (Maradan and Zein, 2011).

Between 1997 and 2008, the cement sector invested MAD2.5 billion (about €230 million) in environmental protection, as follows (personal communication, Hanan Hanzaz, 22 November 2011):

- MAD1.5 billion for upgrades and equipment at production plants
- MAD500 million dedicated to waste valorization/ disposal
- MAD500 million for the production of electrical energy, out of which 37 MW was produced from windmills

The cement industry's contribution to Moroccan GDP increased from 0.61 per cent to 0.74 per cent during this period, while the environmental impacts fell from 1.41 per cent to 0.19 per cent of total environmental degradation. Thus, this voluntary agreement not only contributed to the return of the invested capital, but also for the well-being of the population of Morocco (Maradan and Zein, 2011).

Information and education instruments

In Africa, examples of public information and awareness-raising can be found in key areas such as waste (Kenya), and energy and water savings (Tanzania, South Africa and Mauritius).

One such example is the annual Water Week in Tanzania. Since its inauguration in 2001, it has aimed at educating the public about good water management (Onyango, 2011), which is crucial since the seasonal rainfall in Tanzania provides a challenge for collecting water during the dry season. Normally, water collection for household use is the work of women and children. Because they have to walk from early morning to midday to collect water, productive hours are lost and children miss school. A demonstration project in Biharamulo in rural Tanzania showed that an average school roof in Tanzania covering about 250 m^2 has the potential to feed water tanks with about 20,000 m^3 of water – enough for an average of 500 students. This represents enough water for a whole year (Concern, 2010).

Another initiative found is introducing sustainable lifestyles and sustainable entrepreneurship into universities and colleges also known as SMART Start-up, which trains the academic community and young people in post-secondary education on SCP. This training has been supported by UNEP and the Wuppertal Institute Collaborating Centre on SCP (2011, a), and involves universities from six countries in Africa: Egypt, Ethiopia, Ghana, Kenya, Mauritius, Tanzania and Germany (Wuppertal Institute Collaborating Centre on SCP and Ministry of Environment Sweden, 2011). In 2010 the SMART Start-Up ICT initiative was launched in collaboration with Deutsche Telekom. It addresses the need to improve entrepreneurship and ensure sustainable practices in the ICT industry, presenting the concept of sustainability as an opportunity for investment in and the development of sustainable business ideas (Wuppertal Institute Collaborating Centre on SCP, 2011b).

4.4 SCP initiatives for and by business

The African 10YFP on SCP considers the private sector as an important actor in driving the shift to SCP. Businesses are urged to adopt policies, strategies and practices that are cleaner, safer, eco-efficient and socially responsible. Sustainable production initiatives in Africa date back to the early 1990s. Initially, bilateral cooperation programmes such as the cleaner production programme in Tunisia supported by United States Agency for International Development and the Cleaner Environmental Production in Industry Programme in Tanzania supported by the Danish International Development Agency, were implemented.

Starting in 1995, business was supported by the establishment of cleaner production centres to assist them in becoming more efficient and less polluting. The 12 NCPCs in the region (Cape Verde, Egypt, Ethiopia, Kenya, Morocco, Mozambique, Rwanda, South Africa, Tunisia, Uganda, the United Republic of Tanzania and Zimbabwe) play a vital role through training, capacity-building, and demonstrating the economic and environmental benefits of SCP to the business community. Today, several programmes aimed at sensitizing businesses to voluntarily implementing SCP in view of the benefits stemming from adopting sustainable practices are in place.

The UNIDO-UNEP Resource Efficient and Cleaner Production Programme in developing countries and economies in transition continues to be one of the leading global initiatives in adapting and adopting sustainable production.

Additionally, several research projects aiming at enhancing the scientific knowledge for SCP have been implemented. For example, the African Brewery Sector Water Saving Initiative was conceived by ARSCP and supported by UNEP. The project aimed to demonstrate how to save water in breweries. Breweries in Ethiopia, Ghana, Morocco and Uganda, whose water consumption ranged from 7.2 to 22 litres of water per hectolitre of beer (UNEP, undated) have reduced their water consumption considerably. For example, the Dashen Brewery, which is the best performer in Ethiopia, has achieved a consumption rate of 6.5 litres of water per litre of beer in 2011.[3] Furthermore, this initiative reduces the amount of chemicals used for water treatments in breweries. The initiative has set parameters that could be used to measure water efficiency in other breweries and has now been extended to the beverage industry (UNEP, 2011b).

3. UNEP and ARSCP (unpublished). Report on Regional SCP Meeting, Dar es Salaam, 21-22 September 2011.

CASE STUDY 7

Commercial production of medicinal plants by a community forest conservation group

Photo courtesy of ICIPE

In a project that helps protect the unique biodiversity of the Kakamega Forest, researchers at the International Centre of Insect Physiology and Ecology (ICIPE) in Kenya have developed a successful enterprise with the local community-based MFCG to produce ointments from medicinal plants.

The work of ICIPE focuses on tropical insect science. Spanning prevention, cure and integrated pest management, it thereby contributes to health, the sustainable use of natural resources and sustainable livelihoods. First established in Kenya in 1970, it has partnered with the University of Nairobi, the Kenya Wildlife Service, the World Agro Forestry Centre and the Kenya Forestry Research Institute to set up a variety of forest conservation projects. The work of ICIPE in the Kakamega Forest, the eastern-most fragment of the Guineo-Congolian rainforest, brought it together with community members from the neighbouring village of Virhembe. Thirty farmers in this village had originally started the MFCG in the 1990s with the aim of conserving the forest by planting tree seedlings to sell to other members of their community.

ICIPE and its partners introduced to these farmers the techniques of on-farm cultivation of the medicinal plant species *Ocimum kilimandscharicum*, an indigenous herb of the mint family that they traditionally harvested from the wild and used to treat colds, flu, coughs, sore eyes, diarrhoea, abdominal pain and measles. Using the essential oil from its leaves, ICIPE, together with the University of Nairobi, developed a commercially branded range of products known as Naturub®, which includes a balm and an ointment. The oil is extracted locally by members of the MFCG group, who have mastered the technology and set up a hydrodistillation facility in their village, with assistance from ICIPE and its partners. Funding is provided by the Small Grants Programme of the Global Environment Facility, the Ford Foundation, the MacArthur Foundation and the Swiss-based Biovision Foundation.

The MFCG farmers are able to run a sustainable profit-making venture based on this medicinal plant. Not only does it help with forest conservation, the growers also make a much better income than they would from maize cultivation. The group now has the capacity to contract with other farmers in Western Kenya to scale up production, manufacturing the Naturub® range for nationwide distribution (ICIPE, 2011).

The initial farming group of 30 members from Virhembe has fostered eight out-grower groups currently growing *Ocimum kilimandscharicum* on 20 hectares spread over three districts in the Kakamega County of Western Kenya. The sales benefit nearly 360 households (averaging seven people per household) participating in the commercial cultivation, benefiting a population of over 2,500 people. Since 2005 the community enterprise has produced 450,000 pieces of Naturub® balm and ointment products and the collective sales stand at US$75,000 (Personal correspondence, Fred Nduguli, ICIPE, 11 August 2011).

The project won international recognition when the MFCG won the Equator Prize in September 2010 during the United Nations General Assembly and Millennium Development Goals Review Summit in New York. It was also one of 30 innovative start-up ventures selected as winners of the SEED Awards for Entrepreneurship in Sustainable Development (SEED Initiative, 2010d; ICIPE, 2011)

Other platforms and business associations have been promoting sustainable business practices in the region by providing seed funding or disseminating good practices.

On a regional level, the African Institute of Corporate Citizenship, an initiative by the New Partnership for Africa's Development, was established in 2001. This business association promotes the role of business in building sustainable communities. Related are organized forums promoting the adoption of sustainable practices among African companies. The Africa Corporate Sustainability Forum is one such example (UNECA, 2008).

On a subregional level, an example is the Eastern and Southern Africa Leather Industries Association, which supports the interests of the Regional Leather and Footwear Products Industry. A single leather grading system was established, which aims to facilitate the entry of leather products into markets in developed countries. For example, it has enabled Uganda to produce quality leather and leather goods from fish (Nile perch) skin that is otherwise waste, turning waste into a resource, and export them to Europe. Today, Uganda exports about 7,000 skins per month of sizes 0.7 to 1.9 sq ft at US$10 per sq ft. (personal correspondence, Edgar Mugisha, 1 June 2011).

On an enterprise level, African business has started to address SCP in their operations and in the context of social and environmental responsibility.

In 2010, the SEED Initiative recognized 30 sustainable start-up ventures in ten countries (Burkina Faso, China, Colombia, Ghana, Kenya, Niger, Rwanda, Senegal, South Africa and Sri Lanka), seven of which were African. The examples from South Africa, Niger and Kenya show business models based on sustainability practices bringing social and environmental benefits. They encompass different life-cycle stages, from manufacturing of sustainable products to consumption, use and waste management. Three of the initiatives in Africa and their contribution to SCP are described here to illustrate the possible shift to SCP on the ground.

The Claire Reid Reel Gardening project provides consumers in South Africa with a pre-fertilized, biodegradable seed strip that encases seeds at the correct distance apart. Implemented by a youth organization with assistance from government and social development programmes, the initiative aims to create sustainable subsistence gardens to grow vegetables, herbs and flowers throughout South Africa. Reel Gardening uses worm castings as organic fertilizer and the paper and ink of the strips are biodegradable (SEED Initiative, 2010a).

A case for adopting a life-cycle approach is made by Almodo, a partnership between a small business and a research institution in Niger. Almodo collects and recovers waste that is then transformed into products for the local community, such as school slates, paving stones, bricks, latrines, organic fertilizers or combustibles, making a contribution to improving the environment and sanitation in cities. The use of the equipment and the production process do not require specific expertise, and hence they offer accessible employment opportunities. According to the SEED Initiative, Almodo is aiming to show the feasibility of a new waste management model as solution for other sub-Saharan African cities (SEED Initiative, 2010b).

Another example of a start-up building on sustainable consumption and production is the Muliru Farmers' Conservation Group (MFCG)'s partnership with research and civil society organizations to market an ointment from medicinal plants (see Case Study 7).

While the above show promising examples of African companies and business partnerships to develop local solutions incorporating SCP practices, some multinationals are also contributing to introducing sustainable solutions to business processes in Africa. Many supply chains rely on Africa for providing raw materials. An example of incorporating SCP into the international supply chain of commodities from Africa is Cafédirect.

Cafédirect, a U.K.-based company, helps growers to achieve certification and standards to access international markets and reinvests 50 per cent of its profits back into the cooperatives, forming longstanding partnerships. Operating in 39 countries in total, it is active in Africa in Kenya, Tanzania and São Tomé and Príncipe. With support from the International Fund for Agricultural Development, the U.K. Department for International Development, the São Tomé government and local NGOs have helped smallholder farmers in São Tomé to form a cooperative. Drying and fermenting their own cocoa, the cooperatives achieve Fairtrade certification and sell directly on international markets. The Guardian reports that the farmers' incomes have increased by 500 per cent within two years (Beavis, 2011).

An example for an African company implementing broad CSR policies can be found in Madagascar. UNIMA, an agro-food company and Madagascar's largest shrimp exporter, has implemented a range of corporate social responsibility practices across its operations. For example, UNIMA has established potable water supply systems, supported the creation and operation of health centres in the villages surrounding its Aqualma aquaculture and Verama cashew plantation operations, and

CASE STUDY 8

Implementing the DSM Programme in South Africa

The South African economy has been growing quickly, resulting in an annual increase of 4 per cent in electricity demand. This has triggered the need for efficiency in electricity consumption.

Eskom, a South African company and also the largest producer of electricity in Africa, addressed this challenge by exploring various options. This includes a Demand-Side Management (DSM) programme whose aim is to influence efficient electricity usage by consumers. This programme is implemented by Eskom in collaboration with the Department of Minerals and Energy and the South African National Electricity Regulator.

Through this programme, Eskom aims to achieve an overall 15 per cent reduction in energy consumption in the country. They plan to reduce that energy consumption by: reduced power consumption in power generation plants, efficiency improvements in their thermal substations, reduction of line losses and customers' energy consumption.

The DSM strategy comprises a dual approach: to reduce electricity demand at peak periods by shifting load to off-peak periods (e.g., by switching on some machines only during off-peak periods such as lunch time, late night, etc.) and to reduce overall electricity consumption by installing energy-efficient equipment and optimizing industrial processes in households and companies throughout South Africa.

Raising customer awareness on energy efficiency is a very vital component of Eskom's programme (Eskom, 2010). It has established communication campaigns designed to educate the general public about energy efficiency through television, radio, printed advertisements, editorials, public events and expos. The media exposure is intensified during winter. The goal is to ensure short-term security of electricity supply through the optimal use of energy.

A number of energy-efficiency tools are employed in Eskom's energy-efficiency programme. This includes campaigns promoting: energy-saving bulbs instead of halogen bulbs, employing a solar water heating rebate programme to replace electricity-heated water heaters and the use of low-pressure solar water heaters instead of hotplates for bulk water heating. Another tool is industrial process optimization to achieve a greater efficiency per product unit produced.

Raising awareness among consumers

This programme started in 1991 and has studied 42 different tariffs that could be used at different times or days (time-of-use tariffs). This system has grown to become a reliable national energy strategy for South Africa, making energy available for more consumers. The programme includes a broad range of marketing and public relations activities, and targets customers of diverse income segments as well as different groups such residential, commercial and industrial.

Benefits of raising awareness include:

- Reduced electricity demand during peak periods, thus avoiding immediate additional capital investment to further increase the electricity supply
- Conservation of the environment by reducing emissions and water consumption in its power stations. For example, the new Medupi and Kusile power stations are planned to use dry cooling technology, which will reduce its current water usage of 1.35 L/kWh to 1.21L/kWh (a reduction of 10.4 per cent) by 2015–2016. Its coal-fired plants will reduce CO2 emissions from the current 0.99t/MWh to 0.68t/MWh (Eskom, 2011).
- Furthermore, since its inception in 2003, Eskom's Energy Efficiency and DSM programmes have realized total demand savings of 2,372 MW from the evening peak time, between 18:00 and 20:00 (Van der Merwe, 2010).

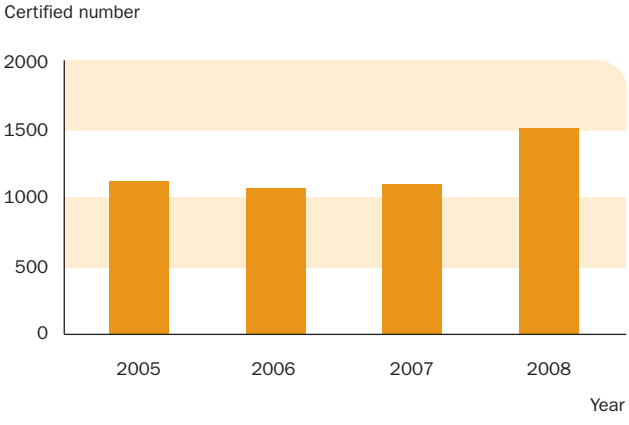
supported the construction and running cost of primary schools in communities neighbouring Aqualma. In 2008, an assessment commissioned by World Wide Fund and UNIMA found that UNIMA's community development activities resulted in significant development impacts. The study found that UNIMA has implemented an overall remuneration and social protection policy exceeding the legal minimum and that its cooperation with traditional fishing promoted sustainable natural resource use and helped to protect the marine and coastal environment in northwest Madagascar (Rajaosfara and de Peyrat, undated).

Eskom is an example of a business driving sustainable consumption. Eskom, a South African company and largest producer of electricity in Africa, has put in place a Demand-Side Management (DSM) programme achieving 400 MW in saving (see Case Study 8).

While these examples give a positive outlook on sustainable ventures on a nation-wide operation in a developed economy in Africa, the formal integration of environmental concerns in business processes in African companies remains low.

Most of the International Organization for Standardization (ISO) 14001 certificates issued to organizations in Africa went to South African organizations, followed by Egypt, Morocco, Tunisia, Zimbabwe and Kenya. In 2008, about 1,520 certificates were issued in Africa (see Figure 1). The 2005–2008 trend shows that almost constant numbers (about 1,000) were issued each year. However, Africa holds only a very small share, less than 0.5 per cent, of ISO 14001 certifications issued in 2008 worldwide (Nielsen Company, 2008).

Figure 1: Status of ISO 14001 Certification in 38 African Countries



Source: Nielsen Company, 2008

4.5 Civil society initiatives for SCP

CSOs play important roles in the development and mainstreaming of SCP in the region. They conduct research, raise awareness and educate the public on SCP. To determine which roles CSOs play in Africa with relation to SCP, desk research of fifteen civil society organizations[4] was carried out.

Most CSOs are involved in empowerment, capacity-building, awareness for poverty alleviation, waste management and natural resource conservation.

For example, the Uganda Network for Water and Sanitation helps to improve water protection through application of IWRM methods in communities (Netwas International, 2011). The Association pour la Réhabilitation de l'Environnement au Mali works with local authorities and communities in the field of household waste disposal, hygiene education and sanitation, wastewater and capacity-building. It promotes environmental conservation education in primary and secondary schools, colleges and universities. The Tanzania Youth Environmental Network conducts climate change education in schools through what is called the Chill Out project. The project aims to enable young people to exchange ideas about the causes and effects of and mitigation measures for climate change (Tanzania Youth Environmental Network, 2010)

CSOs are also important contributors to research and development on SCP. They seem to fill a gap in sustainable goods and services delivery left by companies or government. They have been successful in establishing sustainable income-generating ventures, as illustrated in the below text and case studies.

In Madagascar, a partnership among the local community, international NGOs and research institutions is working with the Andavadoaka community to implement Madagascar's first experimental community-run marine protected area (MPA). The team is developing management solutions to help sustain the traditional artisanal fishing economy while minimizing the environmental impacts of human activities on the region's marine and coastal environments. The project aims to demonstrate the economic, conservation and fisheries benefits that can arise from establishing

4. Action Aid, Africa Resource Centre, Afrisolar, Agency for the Environment and Wetland, Andavadoaka community, Association pour la Réhabilitation de l'Environnement au Mali, Centre for Environment and Development, Consumer Unity & Trust Society, Endangered Wildlife Trust, Environ Care, Evergreen Habitat Organization, Gregory C. Carr Foundation, Kenya Food and Agriculture Organization, Kenya Institute of Organic Farming, Micro Sow, Network for Water and Sanitation Uganda, Tanzania Traditional Energy Development and Environment Organisation and Tanzania Youth Environmental Network.

Madagascar's first community-run MPA. This project helps to promote biodiversity and natural resource management together with sustainable tourism by employing sustainable fishing practices. These sustainable practices protect coral reefs, mangroves, sea grass beds and other threatened habitats along Madagascar's southwest coast. The initiative was replicated in several villages in Velondriake. Following this success, the MPA network has partnered with 23 villages to develop a network of community-run marine and coastal protected areas that will span more than 800 km of protected area in southwest Madagascar (SEED Initiative, 2005; United Nations, 2008).

The Tanzania Traditional Energy Development and Environmental Organization is a local NGO that promotes the rational use of renewable energy technologies and efficiency in energy use. It has developed 10 prototypes of modern, efficient cooking stoves and five types of baking and meat-roasting ovens for households and SMEs. The thermal efficiency of the prototypes is between 30 and 40 per cent, compared with 15 per cent for traditional stoves,

CASE STUDY 9

Organic farming in Kenya

The Kenya Institute of Organic Farming (KIOF) is an NGO that was established in 1986 in Juja, Kenya. It operates in the Eastern Africa region. KIOF promotes rural development and education for organic agriculture and related marketing services among smallholder farmers. It trains and raises awareness in youth, women and self-help farming groups (KIOF, 2011).

KIOF's training in organic farming builds on indigenous farming knowledge with the aim of maximizing production of food crops to feed a growing population. KIOF adopts a holistic approach to farming, looking at the choice of crops, composting techniques, planting systems, crop storage, animal husbandry, crop protection and soil conservation. As an important means to spearhead the organic farming objective, KIOF operates two important initiatives: demonstration gardens and an organic foods market in Juja. In addition, KIOF publishes books on smallholder organic farming practices (KIOF, 2011).

Demonstration gardens on organic farming
KIOF has established seven demonstration gardens in three districts of Kenya, which demonstrate good crop and livestock production practices to the surrounding communities. These gardens aim to teach local communities more about organic farming methods for sustainable livelihoods and increase food security using organic farming as a sustainable means of natural resource management (KIOF, 2011).

Juja Organic Market: Organic products from Kenya's smallholder farmers
The Juja Organic Market, established in 2006, offers organic farm produce that has been grown without the aid of chemical fertilizers, synthetic pesticides or growth regulators. This market offers a unique venue to market strictly organic produce. Currently, the main suppliers of the Juja Organic Market are the organic farmers who have been trained by KIOF and/or other farming institutions around Kenya (KIOF, 2011).

The KIOF model to empower people with skills and knowledge of organic farming for sustainable rural livelihood is a good example of what needs to be done in Africa for green farming to pick up. KIOF has been supported by the Dutch development organization Hivos. For farmers to grow economically they need both skills and markets. So far, KIOF has trained over 20,000 small-scale farmers in Central Kenya. Farmers have increased their food production. Organic foods also obtain higher prices in the international markets and farmers need to be connected to these international markets (Guijt and Woodhill, 2008)

so they use 40 to 50 per cent less charcoal (Tanzania, Traditional Energy Development and Environmental Organization, 2011).

The Micro Sow and Afrisolar organizations aim to fill the energy gap faced by citizens in rural areas of Burkina Faso that are excluded from the official power grid (98 per cent of the population). Through an initiative that provides access to mobile solar-powered charging stations (the Nafore), rural households can charge their mobile phones in a commercially and environmentally sustainable way. The Nafore kiosks, powered by 100 per cent solar energy, replace petrol- and diesel-powered charging stations, thereby reducing pollution and emissions. By improving communication capacity, people in rural areas receive better access to information and services, such as market prices or medical assistance (SEED Initiative, 2009).

CSOs also help disseminate sustainble production practices in the agri-food sector. Research conducted by UNEP and the United Nations Conference on Trade and Development (2008) involving 114 projects across 24 African countries found that organic practices helped to more than double the yields, with yields increasing to 128 per cent in East Africa. An example of training of farmers in organic farming to harness potential and environmental benefits is a project by the Kenya Institute of Organic Farming (KIOF) (see Case Study 9).

While the above are promising examples of CSO activities related mainly to natural resources management, an important part of moving toward more sustainable consumption and production patterns is the development of more holistic activities by CSOs.

There is also untapped potential within African societies for creating greater awareness of the risks associated with pollution and with resource-intensive production and consumption patterns. Raising awareness will help change attitudes and increase demand for appropriate policies and sustainable products.

4.6 Conclusions

SCP is one of the overarching objectives and an essential requirement to achieve sustainable development. As a region, Africa has been at the forefront of the global Marrakech Process on SCP, through developing, approving and implementing a regional 10YFP. It has also created a regional institutional support mechanism, the ARSCP. Together with the only regional Task Force on SCP, supported by the German Federal Ministry of Environment, Africa has established appropriate structures, political goodwill and mechanisms for sharing experience.

National- and city-level pilot projects spurred the further development of SCP policies. Twenty per cent of the countries in Africa have finalized the development of their national SCP programmes on the basis of the African 10YFP on SCP.

The African 10YFP has gained political and institutional support and SCP initiatives are carried out at the regional, subregional, national and local levels. Regional institutions and initiatives focussing on and contributing to SCP development include the Climate for Development in Africa Initiative and the African Eco-labelling Mechanism Secretariat. Organizations at the subregional levels can provide good platforms in the early stages of programme development, since countries in the subregions share many common issues and similar approaches could be adopted. Support on the subregional level includes the Lake Victoria Environment Management project by the Lake Victoria Basin Commission and the North Africa Energy Efficiency Initiative. At a national level, NCPCs support the shift towards SCP.

Most government initiatives fall in the areas of renewable energy and waste management as a matter of urban development. Analysis of 13 countries shows that five countries and three cities have developed strategies that holistically embody SCP. These strategies include: the National Programme on SCP (Ghana), the Mauritius National Action Plan on SCP; the Poverty Reduction Strategy Paper (Senegal); National Action Plan on Sustainable Consumption and Production (Tanzania); National Programme on Sustainable Consumption and Production (Zambia); Sustainable Consumption and Production Programme for Cairo City and Alexandria (Egypt); and the Action Plan on Sustainable Consumption and Production, Maputo and Matola Cities (Mozambique).

Other national- and local-level strategies have focused on a specific theme or set of themes such as Policy Instruments for the Management of Plastic Bags in Nairobi (Kenya) and the Energy Efficiency Strategy (South Africa), which focuses on extraction, use and management of raw materials.

Few countries in Africa have come up with SCP-related indicators in their national development or environment plans. This is a major hindrance to the development of SCP in Africa, as progress cannot be measured. The few developed SCP indicators are on energy and water. Some countries, such as Egypt, Mauritius and South Africa, have introduced reporting on environmental performance. Most countries, however, do not have SCP monitoring mechanisms in place and have not formulated targets and indicators

in their policy frameworks. Measuring the progress of SCP strategies would greatly benefit from the formulation of these targets and indicators.

SCP legislation and enforcement have been enacted in Africa. Regulations exist in waste management and pollution control. In order for the African 10YFP to achieve its goals, there is a need for more measures on enforcement of legislation, using market- and information-based instruments. However, these require standards to be set for a broader base of products and resources.

Businesses in Africa have started to incorporate policies and implement projects pertaining to SCP and corporate social responsibility. They have designed innovative ways of achieving these goals by: establishing business linkages with the local communities, forming public-private partnerships with governments, carrying out environment and social impact assessments for their investments, carrying out voluntary reporting of their environment and social obligation performance, educating consumers on efficient use of their products, promoting cleaner small-scale technologies and even contributing to the collection of waste from their sold products. All this effort, in one way or another, helps to maintain a healthy environment and eradicate poverty.

Businesses in Africa, especially in the more developed economies like South Africa, have started to implement SCP practices and projects. From the examples discussed herein, the focus lies on providing better products and services and adopting cleaner production principles. The adoption of cleaner production practices, however, remains low in francophone Africa, due to the absence of NCPC support for the agenda (UNECA, 2008).

Africa needs to develop locally and regionally adapted innovative business models, to make the most of its enormous potential in renewable resources and maximize the use of green technology for its sustainable development and the achievement of faster economic growth.

CSOs in Africa are also involved in the development and implementation of SCP programmes. They mainly carry out programmes and projects that focus on education, skill development, promotion of clean production methods and conservation of natural resources. Many CSOs are working in single countries and in local communities, contributing to empowerment and capacity-building. If enabled technically and financially, this group has the potential to disseminate the concept of SCP more widely in both rural and urban areas. They can bring change through seed financing, demonstration projects, awareness campaigns, education and capacity-building activities, especially to the poor, who are a focus in the African 10 YFP.

The mainstreaming of SCP in African national development and business policies is progressing slowly. More education and awareness on the merits of SCP could speed up mainstreaming SCP into policies, helping to alleviate poverty in the region and enabling Africa to meet the MDGs.

Government, business, CSOs and intergovernmental organizations have a role to play in the implementation of the African 10YFP on SCP. Governments must drive the process through sufficient funding, the right policy and institutional framework, strengthening the institutional capacity of regulatory institutions, enhancing the enforcement of regulations, mainstreaming SCP in educational curricula and providing the right incentives for stakeholders to push the SCP agenda forward.

The case studies presented in this chapter illustrate the potential of SCP and how innovative and sometimes surprisingly simple solutions can help to increase poor people's incomes and access to resources throughout Africa, while at the same time reducing environmental damage. Where the initiatives include the introduction of modern technologies, they also offer an opportunity for leapfrogging – the ability for these countries to by-pass inefficient, polluting and ultimately costly phases of development and jump onto a sustainable development path. Ultimately, the realization of SCP in Africa will involve implementing many different strategies than in other countries, in promising areas such as biodiversity, tourism, reforestation and the transparent management of non-renewable resources.

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5 Global Outlook on SCP Policies: Asia-Pacific

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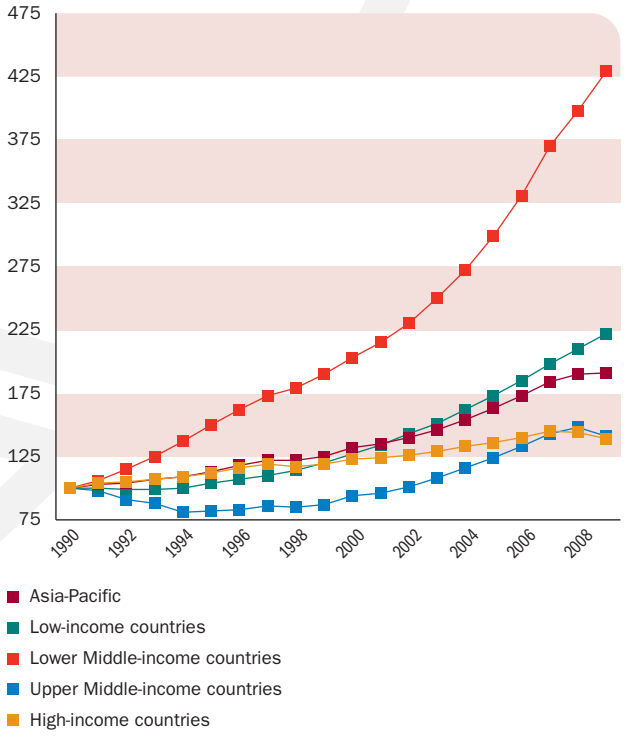
5.1 Introduction

The Asia-Pacific region covers over 40 per cent of the planet's land area and is home to almost two thirds of the world's population. Recently, it has witnessed some of the world's fastest economic growth and, simultaneously, rapid rates of urbanization. Conversely, the region also has some of the highest numbers of people living in poverty; in 2009 the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, 2010a) estimated the number of people living on less than US$1.25 per day to be 979 million.

Sustainable consumption and production (SCP) patterns are framed by the economic climate of the country. Policy responses and initiatives on SCP thus follow clustered characteristics for countries of the region, which can be placed into three broad categories: industrialized economies (e.g., Australia, Japan), emerging or fast developing economies (e.g., the Kingdom of Thailand and the People's Republic of China), and least-developed economies (e.g., the Socialist Republic of Viet Nam and the Lao People's Democratic Republic).

Industrialized economies like Australia and Japan have, over recent decades, seen single-digit economic growth rates; however, Gross Domestic Product (GDP) per capita remains high in these countries. Correspondingly, consumption per individual is high, with overall higher ecological footprints than are sustainable (World Wide Fund for Nature [WWF], 2010). Rates of population growth in these countries have been fairly stable in recent decades; some, such as Japan, are witnessing decreasing population. Although rural-urban migration has slowed down, most of the population resides in urban areas. With high minimum incomes distributed over these countries – in both rural and urban areas – there is much disposable income, the rate of poverty is low, and the income distribution gap between the rich and the poor is fairly small when compared to other industrialized countries like the United Kingdom (Asian Development Bank [ADB], 2010).

Figure 1: Index of change in GDP, by income groupings of Asia-Pacific countries, 1990-2008



Source: UNESCAP (2011) (calculated by UNESCAP using data from United Nations Statistics Division, National Account Main Aggregates Database)

In emerging economies, a typical trend over the last few decades has been the surge in industrial expansion and consumption activity. This is most clearly illustrated by China and India and, to a lesser extent, by Malaysia and Thailand. Even as the financial crises threatened European, American and other industrialized economies, these countries still registered growth rates of about 8 per cent. After surpassing Germany as the world's third largest economy in 2010, China further moved up behind the United States of America after replacing Japan as the second largest. Given its high growth rates and the fact that a large volume of the goods and services consumed in industrialized countries are produced here, the Asia-Pacific region is now the world's largest user of natural resources. In 2005, led by China and India, the region consumed about 32 billion tons, or 8.6 tons per capita, of resources, including biomass, fossil fuels, metals, and industrial and construction materials (United Nations Environment Programme (UNEP), forthcoming). This intensive industrial activity among emerging economies has seen jumps in total emissions of greenhouse gases (GHGs). Between 1970 and 2005, carbon dioxide (CO2) emissions in the region grew by 400 per cent and rose from 13 to 30 per cent of global emissions (United Nations Environment Programme [UNEP], forthcoming). However, in terms of per capita emissions, developing economies like China and India are still well below industrialized countries.

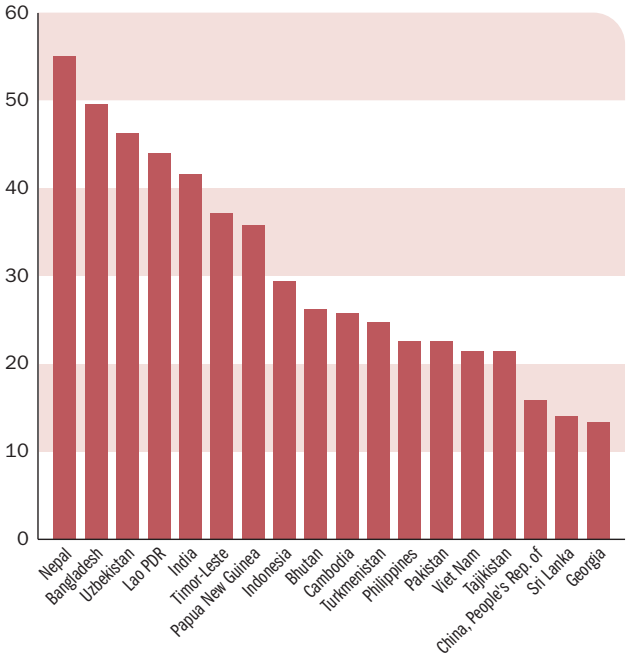
Hand in hand with this economic growth, these economies have seen the rise of a new consumer class, with lifestyles that largely emulate those seen in more industrialized societies. A report by the ADB (2010) looked at growth rates among developing Asian economies over the last 20 years and extrapolated that, at such rates, developing Asian countries will comprise about 43 per cent of worldwide consumption by 2030. According to the ADB authors, "Asia's emerging consumers are

likely to assume the traditional role of the US and European middle classes as global consumers" (ADB, 2010, p. xxvi). Unsustainable production and consumption patterns are becoming an issue and governments are starting to address them. The growing number of people now living in urban areas is leading to even more resource-intensive lifestyles; however, per capita consumption in these countries is still much lower than in industrialized countries.

There is a dichotomy of social existence (Akenji and Bengtsson, 2010) in emerging Asian countries. Income distribution in China, India and other countries in the region is lopsided, leading to conspicuous consumption by the rich, an emerging consumer class cast against the many slums in cities and large pockets of poor rural areas. About 35 per cent of Asia-Pacific urban residents were living in slums in 2005 (UNESCAP, 2010a). Basic health and social needs are yet to be met among the poor; in some cases, livelihoods are being threatened to accommodate development projects.

Waste is increasingly a problem in Asia-Pacific economies. There is noticeable increased volume and varieties, qualitative diversification and an increase in transboundary movement of wastes. Industrialized economies maintain high waste outputs, a result of the relatively high material consumption lifestyles of citizens. Emerging economies have been seeing rapidly increasing waste generation, correlating with increases in GDP and growth in disposable income. In China and India, for example, e-waste generation from old computers was predicted to jump by a factor of 2 to 4 between 2007 and 2020; during this period, the number of discarded mobile phones was projected to increase by seven-fold in China and 18-fold in India (UNEP, 2009).

Figure 2: Economies with more than 10 per cent of the population living on less than $1.25 a day



Sources: ADB (2010); Secretariat of the Pacific Community (2010); United Nations Statistics Division (2010)

Open dumping is the usual means of waste disposal by households, leading to water contamination, foul odours and other environmental, health and social problems (Akenji and Bengtsson, 2010). The situation among least-developed countries tends to be the worst. De-soldering and wet chemical leaching of printed circuit boards found in computers, televisions and radios often causes contamination via heavy metals and flame retardants; dioxins and furans are released from open burning of poly-vinyl chloride (PVC) or wire insulation and this contributes to the contamination of air, water and soil.

Consumption and production patterns in least-developed economies are more restrained versions of those in emerging economies, the primary restraints being poverty and resource scarcity. As a region, the challenge is therefore to develop production and consumption patterns that can meet the needs of an increasing population that is rapidly urbanizing and decreasing biophysical capacity due to resource constraints, while at the same time curbing increasing rates of pollution.

5.2 SCP policies at the regional level

In the Asia-Pacific region, SCP rides on the back of the economic growth and broader sustainable development agenda. The strategy of Environmentally Sustainable Economic Growth, or Green Growth, is an approach that, promoted by UNESCAP, has been widely adopted by countries in the region. It was launched in 2005 at the Fifth Ministerial Conference on Environment and Development in Seoul, Republic of Korea, as a way to reconcile tensions between efforts to achieve two of the Millennium Development Goals, namely, poverty reduction and environmental sustainability (UNESCAP, 2005). Green Growth promotes SCP, the development of sustainable infrastructure, and the introduction of green tax reform for reducing poverty, while improving the eco-efficiency of economic growth. UNESCAP has since provided capacity-building to some national governments towards the development of Green Growth strategies. One such government is Cambodia, which has developed a national roadmap towards Green Growth. However, at the

CASE STUDY 1

Asia-Pacific Roundtable for Sustainable Consumption and Production

The APRSCP is an Asia-focused international, non-governmental, non-profit, network institution that promotes sustainable consumption and cleaner production in the Asia-Pacific. The APRSCP is concerned with reducing environmental impacts while maintaining or improving economic outputs and standards of living. It has a strong network of industrialists, environmental professionals, university academics and researchers, and policymakers.

The APRSCP was established between 1997 and 1999, arising from a regional cleaner production meeting in Thailand with catalytic support from United Nations agencies, the United States-Asia Environmental Partnership, the ADB and other partners. The participants in this meeting agreed that there was a need for a forum to discuss and promote the idea of cleaner production and share results regionally, in order to speed up acceptance of what was then a new concept. Along the way, cleaner production evolved into the more challenging topic of SCP. Since those earlier years, a regional roundtable has been held every 18 to 24 months.

Participating countries, including those on the Board of Trustees, are Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Fiji, Hong Kong (China), India, Indonesia, Japan, Taiwan (China), Kazakhstan, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Korea, the United States, Russia, Singapore, Sri Lanka, Thailand, Uzbekistan and Viet Nam, along with member countries in the United Nations agencies (UNEP, the United Nations Industrial Development Organization, and UNESCAP) and the ADB.

The APRSCP has undertaken several programme activities, such as: (1) engaging in information exchange among members, using approaches such as newsletters, e-mail list servers, technical journals, special publications, conferences and symposia; (2) conducting training sessions, workshops and staff exchanges for the purpose of increasing the skills and knowledge of members and other interested parties; (3) acting as a clearing house for the exchange of data and information on sustainable consumption and cleaner production in the Asia-Pacific region, including reports, books, articles, data and statistics; (4) developing and maintaining a register of professionals involved in promotion of sustainable consumption and cleaner production who are available to provide advice and counsel; (5) supporting development of new country-level SCP roundtables and fostering the sharing of information and experience among existing and planned country-level SCP roundtables; (6) assembling qualified and objective committees and working groups that can provide competent and objective analyses as well as information on sustainable consumption and cleaner production; (7) maintaining relationships among APRSCP, its members, and appropriate regional and international organizations; and (8) carrying out activities, programmes and initiatives as necessary to fulfil the mission and objectives of APRSCP, such as the periodic regional roundtable.

The roundtable has been successful in including participants from all subregions including South Asia, Southeast Asia, Northeast Asia, Central Asia and Australasia. The stakeholders have commented that the roundtable format is very effective for the consideration of technology, management and policy issues. APRSCP outputs have been used as major inputs in global decision-making processes, such as the World Summit on Sustainable Development and the 18th and 19th session of the Commission on Sustainable Development, to name two.

The APRSCP network has grown and matured over the years and, with its supporters, has cooperated in recent projects such as Resource Efficient and Cleaner Production activities in the Asia-Pacific region.

Source: APRSCP (2011) and input from APRSCP Board members.

2010 Ministerial Conference on Environment and Development held in Astana, Kazakhstan, several major economies – including China and India – expressed the need for further clarification of the Green Growth concept (Dorji and Dorji, 2010).

The region has also actively participated in the Marrakech Process on SCP (See Chapter 2). In 2009 the following priorities for SCP were identified at the Marrakech Process regional workshop and the UNESCAP regional implementation meeting: green public procurement, development of fiscal instruments, resource efficient and cleaner production, and greening business and markets. Some countries have also started to develop National SCP Action Plans (UNEP, 2011).

A number of platforms exist in the region for collaboration on issues of sustainability. Most of these involve meetings by government officials, but quite often other stakeholders are brought in at the project implementation phase. A majority of these platforms address climate change, followed closely by the number addressing biodiversity conservation and water problems. The Tripartite Environment Ministers Meeting (TEMM) has been bringing together China, Japan and Korea since 1999 for cooperation concerning climate change, biodiversity conservation, pollution control and transboundary movement of e-waste, among other issues. In 2005 TEMM member countries formed a working group on common standards for environmental labels (TEMM, 2010a). Through the working group, the three countries have agreed to develop common standards (for water-based paints, stationery, personal computers and plastics) and to harmonize their ecolabels to facilitate green purchasing with each other (TEMM, 2010b).

One SCP-dedicated initiative is the Asia-Pacific Roundtable for Sustainable Consumption and Production (APRSCP). The APRSCP is a network of industrialists, environmental professionals, university academics and researchers, and policymakers. It started in Bangkok in 1997 as a roundtable forcleaner production focusing on technical approaches (such as eco-efficiency). With a global shift to include social approaches to cleaner production such as consumer behaviour and psychology, the forum was renamed and given a new focus on thebroader subject of SCP. The roundtable has been held every 18 to 24 months since being founded, working to facilitate uptake of SCP research, policy and practice (see Case Study 1).

An example of a broader and more practice-oriented mechanism is the Asia-Pacific Forum for Environment and Development (APFED). It promotes model local initiatives and brings together experts to formulate lessons learned in policymaking and apply them to climate change, biodiversity conservation, the 3Rs (reduce, reuse and recycle) and water management. In its second phase, launched in 2005, APFED has been giving out awards to outstanding projects, funding showcase projects and running events on capacity-building, stakeholder empowerment, governance, technology and finance for sustainability (APFED, 2010).

Several sustainability policy platforms tend to be subregional in geographic focus. Examples include the Northeast Asian Sub-Regional Programme of Environmental Cooperation, the North West Pacific Action Plan, the South Asia Cooperative Environment Programme, and the Pacific Islands Forum. Other corporation platforms are more focused on specific issues; the Asia Forestry Partnership and the Acid Deposition Monitoring Network in East Asia are examples.

Box 1: Weaving SCP into broader policy platforms

Rather than being stand-alone, SCP policies and programmes are quite often embedded in broader policy platforms. As an example, recognition for SCP is enshrined in the Association of Southeast Asian Nations (ASEAN) key documents, among them the *ASEAN Declaration on Environmental Sustainability* (ASEAN, 2007). ASEAN was created out of security concerns amidst political upheavals in the 1960s. Over time, it has expanded its scope, with economic cooperation becoming a priority. ASEAN founding documents from Bangkok, 1967, highlight the need for prosperity of the peoples.

In 2003 the Bali *Declaration of ASEAN Concord II* (ASEAN, 2003) created a Socio-Economic Community as a third pillar of the association and under which ASEAN environmental issues are addressed through a working group. The *ASEAN Vision 2020* (ASEAN, 1997), which charts a future for ASEAN countries, aspires for “a clean and green ASEAN with fully established mechanisms for sustainable development to ensure the protection of the region’s environment, the sustainability of natural resources and the high quality of life of its peoples” (p. 4).

SCP is further built into the Roadmap for an ASEAN Community 2009-2015 under the *ASEAN Socio-Cultural Community Blueprint* (ASEAN, 2009). Components of Section D, on Ensuring Environmental Sustainability, show SCP as a cross-cutting theme for “promoting clean and green environment by protecting the natural resource base for economic and social development.” The *ASEAN Environmental Education Action Plan 2008–2012* (ASEAN, 2008) also provides a basis for stakeholder awareness-raising and involvement in SCP activities.

Some countries have also championed regional initiatives as part of their foreign environmental policies. One example is the promotion of the Clean Asia Initiative by the government of Japan. Launched in 2008, the initiative's goal is for developing countries to learn from the experiences of Japan in order to 'leapfrog', primarily through transfer of technology and the sharing of know-how. The goal is to achieve a low-carbon society with a sound material cycle and to live in harmony with nature. A cross-cutting objective is to promote environmentalism in the marketplace (Ministry of the Environment, Japan, undated, a). A number of high-level forums and initiatives have been started under the Clean Asia Initiative to address environmental issues related to water, pollution, biodiversity and other concerns. An example is the Regional 3R Forum in Asia (Ministry of the Environment, Japan, 2010b), which brings together ministers of environment for high-level meetings to collaborate on the problem of growing waste that has paralleled rapid urbanization in the region.

Other governments around the world are also active in promoting SCP in the Asia-Pacific region. The SWITCH Asia programme is one such example and remains one of the better-funded major initiatives in the region. Through the programme, the European Commission provides grants to build the capacity of small and medium-sized (SMEs) enterprises in SCP practices, maintains a Networking Facility that facilitates the upscaling of successful practices and offers a Policy Support component for the implementation of SCP-related policies in the region. The SWITCH Asia programme (see Case Study 2) has funded over 47 projects in 15 Asian countries in areas such as green public procurement, cleaner production and ecolabelling. The Policy Support component targets 19 Asian countries eligible under the programme (European Commission Development and Cooperation – EuropeAid, 2011).

Despite recognition of their necessity by regional organizations such as ASEAN and by national

CASE STUDY 2

The SWITCH Asia programme

The SWITCH Asia programme was set up by the European Commission in line with its Strategy Document for Regional Programming in Asia and provides funding opportunities of €152 million over the period 2007-2013. The aim is to promote SCP among SMEs and support Asian policymakers in designing policies to promote the shift to SCP. The SWITCH-Asia Programme is made up of three strategic components:

1) Through project grants, projects are funded that show a potential for replication and can produce quantifiable reductions both of CO_2 emissions and of resource, water and energy consumption. So far SWITCH Asia has funded 47 projects in 15 Asian countries in areas such as greening supply chains, marketing for eco-products, green public procurement, cleaner production, ecolabelling and products for the poor.

2) The Network Facility provides support for projects funded under the SWITCH Asia programme in order to increase the quality and impact of project activities, along with facilitating the uptake of successful results by Asian policymakers.

3) The Policy Support component, launched in 2010, aims to strengthen the formulation and implementation of SCP policies in Asia. On a regional level this is done primarily through capacity-building in collaboration with UNEP. Furthermore, national policy support components, managed by EU Delegations, will focus on selected countries – Malaysia, Thailand, Indonesia and the Philippines – that have already gathered experience in applying SCP tools.

In addition to promoting specific SCP practices, the projects employ innovative replicating mechanisms such as voluntary agreements, public-private partnerships, and upgrading of technical standards or reinforcement of existing SCP service providers to make countries self-sustainable on the market.

Source: European Commission Development and Cooperation – EuropeAid (2011)

governments, SCP policies have so far not been met with sufficient follow-through to implementation – and although demonstration programmes and pilots have occurred, SCP on the whole has yet to become mainstream. Even at the policy level, however, achievements encourage the establishment of precedents and provide the necessary groundwork for further developments.

5.3 National SCP policies

This section highlights positive examples of progress in the Asia-Pacific region that could be emulated as good practice and improved upon.

Following the Rio and Johannesburg Earth Summits, Asia-Pacific countries actively developed national strategies for sustainable development (NSSDs). The 2002 Johannesburg Earth Summit called upon countries to draft these by 2005. Although many countries in the Asia-Pacific region got off to a slow start due to capacity and financial constraints, with support from UNEP, the ADB and the Norwegian Ministry of Foreign Affairs, most governments in the region have formulated NSSDs as part of a larger effort to mainstream sustainability into decision making (UNEP, Regional Resource Center for Asia and Pacific, 2008). There is also strong regional interest in the Millennium Development Goals, with most countries – especially the least-developed countries – pursuing them as primary objectives of their NSSD.

The concept of SCP is embedded in NSSDs, usually as a cross-cutting theme, but in some cases as a dedicated strategy that parallels other approaches. The following examples do not comprise an exhaustive list of representative SCP policies; rather, they demonstrate some of the innovative approaches emerging in the region – with some showing how SCP policies take shape in the local context.

In 2005 the Republic of Korea launched its National Vision for Sustainable Development (Chung and Hwang, 2006), which highlighted the need for economic growth that enhances the quality of life and, through environmental preservation, ensures resources for future generations. The vision was followed by development of an NSSD (2006-2010), which was approved by the national cabinet in 2006. Similar to most other NSSDs, the Korean strategy contains five main themes: sustainable management of natural resources, social integration and national health promotion, sustainable economic development, climate change and global environmental issues and education for sustainable development. Each of the five themes has 'implementation tasks'. SCP is included as an implementation task in the strategy. More recently, in 2010, Korea passed the Framework Act for Low Carbon, Green Growth (Ministry of Government Legislation Korea, 2010), laying out a strategy towards "creating the green technology and the green industry to ensure that the economy and the environment are harmonized, encouraging green buildings, and helping people to lead a green life." As an economic priority, Korea has created a Presidential Committee on Green Growth (Ministry of Environment Korea, undated).

The NSSD in Japan, based on an act passed in 2000 and called the Fundamental Plan for Establishing a Sound Material-Cycle Society (Government of Japan, 2008), has the objective of restraining the consumption of natural resources and minimizing the environmental burden. In 2007 the Japanese cabinet passed a broader plan to guide environmental policy in Japan, entitled Becoming a Leading Environmental Nation Strategy in the 21st Century: Japan's Strategy for a Sustainable Society (Government of Japan, 2007). The strategy aims to achieve a low-carbon society, a sound material-cycle society and a society in harmony with nature. Under this plan, for example, Japan's 3R activities are based on the spirit of 'Mottainai'. Mottainai is a long-established Japanese concept expressing, essentially, that it is a shame for something to go to waste without having made use of its full potential. This expression encompasses a respect for the environment that has been handed down from ages past (G8, 2008). In 2010 the Japanese strategy was revised and integrated into a national New Growth Strategy (Government of Japan, 2010), emphasizing the country's strength in low-carbon technology and providing incentives for green innovation. Among others, the strategy provides incentives for green production and procurement, development of smart energy grids and energy-efficient housing. It also sets targets for 2020, among which are to realize a ¥50-trillion green market, create 1.4 million new environment-related jobs, and reduce CO2 emissions by 1.3 billion tons.

Each country's strategy introduces aspects of sustainability unique to the national context. For example, the NSSD in New Zealand pays attention to the role of women in the country's society. The strategy also focuses on the integration of Maori communities.

SCP is one of four national strategies of the *Tenth National Economic and Social Development Plan of Thailand, effective from 2006 to 2011* (National Economic and Social Development Board, 2007). It is complemented by a guidance manual covering the period of 2007 to 2036. Thailand aspires to a balanced state of happiness, self-sufficiency and social security for present and subsequent generations. The Thai approach of a Sufficiency Economy (UNEP, 2006) was developed by His Majesty King Bhumibol Adulyadej as a guiding philosophy

CASE STUDY 3

The Green Growth Roadmap in Cambodia

Cambodia has joined the Republic of Korea as an innovator in the field of low-carbon Green Growth. Supported by the Korean International Cooperation Agency and UNESCAP, the country has recently declared its intention to embark on a path to environmentally sustainable economic growth. To aid this process, the Cambodian government created a Green Growth Secretariat in the Ministry of Environment, who has liaised heavily with other ministries to set up an inter-ministerial working group. Throughout 2009, the group convened several times and identified the contents and structure of the recently published National Green Growth Roadmap. The roadmap was produced in consultation with other development experts and practitioners, with a view to identifying a way of balancing economic growth with environmental limitations.

The roadmap lays out a vision for increased multi-stakeholder collaboration in the design and implementation of projects and programmes, placing special emphasis on agriculture, tourism, industry and commerce. As an overall goal, the roadmap accentuates the increase of access to crucial goods and services necessary for Cambodian people. Being a communicative effort by the government to propose greater coherence between sectoral and agency development priorities, the roadmap begins by proposing a number of interventions to aid the mainstreaming of Green Growth concerns into the overall development framework of Cambodia. Such interventions aim to enhance inter-ministerial and multi-stakeholder cooperation. If implemented, the suggested interventions will, in the short term, create green jobs and make major contributions towards stimulation of the economy while protecting vulnerable groups and improving environmental sustainability.

The roadmap identifies necessary actions, including the creation of a National Ministerial Green Growth Council, a national public awareness and consultation process, the integration of eco-village/eco-city initiatives into the country's National Strategic Development Plan, development of a national strategy for greening industries that is based on resource efficiency and the 3Rs, and development of stimulus measures for promotion of sustainable agriculture in cooperation with international and local development agencies. Finally, the document proposes the establishment of green funding mechanisms, including payments for ecosystem services, internalization of environmental externalities, and debt-swap schemes and measures to strengthen the national environmental industry sector.

Source: UNESCAP (2010b)

for the country's sustainable development. It seeks a balance between society at the local level and the market in the global context. According to the King, it is not important for Thailand to be an 'economic tiger' or to become characterized as a newly industrialized country; instead, a Sufficiency Economy requires people to live in moderation and be self-reliant in order to protect against changes that could destabilize the country. Among others, the objectives of the Government of Thailand are to increase the proportion of national income from green service sectors; to reduce government subsidies and supports for dirty production and service sectors; to increase tax on dirty sectors and decrease tax on incomes; and to promote green governmental procurement (Termpittayapaisith, 2008).

In China, SCP is guided by the Circular Economy approach, which promotes the 3Rs through reduced material input, increased efficiency in production, and integration of consumption and production systems in order to facilitate resource circulation within industries and municipalities. Reflecting the fast pace of China's resource-intensive growth in the last decades, one of its priorities is ecological efficiency in economic development. A series of pilot projects towards the above objectives have been initiated at the levels of individual firms, eco-industrial parks and networks, and at the municipal and provincial levels (Pintér, 2006).

In September 2006 the Royal Government of Cambodia organized an inception workshop for

beginning the formulation process of its NSSD. In a process of over a year of consultations, the NSSD was formulated by consolidating a Cambodian Social-Economic Development Plan and its National Poverty Reduction Strategy and aligning it with the country's Millennium Development Goals and Action Plan (Royal Government of Cambodia, 2009). The strategy underscores the need in Cambodia, as with the least-developed Asian countries, to lift substantial portions of the population out of poverty. Recently Cambodia, with the assistance of UNESCAP, has developed a Green Growth Roadmap (see Case Study 3).

Bhutan places a strong emphasis on cultural and environmental preservation, and SCP is very much embedded in its use of Gross National Happiness (Centre for Bhutan Studies, undated) as a guiding framework for development. The country's strategy is explained in *The Middle Path: National Environmental Strategy for Bhutan* (Royal Government of Bhutan, 1998).

As is typical of least-developed countries in the region, good strategies are not necessarily complemented by concrete targets. Sri Lanka, for example, has an NSSD that emphasizes eco-tourism, cleaner production, sustainable fisheries, high quality of healthcare and so on, and yet no targets or indicators have been set for any of the aforementioned policies; more capacity-building is needed to realize NSSD objectives (UNDESA, 2007).

Broader sustainability activities by the government of Viet Nam are guided by the Operational and Organizational Charter of the National Council on Sustainable Development (Government of Viet Nam, 2005). Although Viet Nam showed a keen interest in cleaner production in the 1990s, it got off to a slow start, due in part to capacity constraints and limited awareness of sustainable options. However, by 2010 the Government of Viet Nam had established a cleaner production model for industry, developed and implemented 3R projects through cooperation with Japan, established economic incentives for environmentally friendly investment, and integrated the Green Growth/Economy concept into the national socio-economic development strategy for 2011-2020 (Thuy, 2010). In 2010 Viet Nam, with support from UNEP, developed an SCP national action plan.

In December 2009 the Prime Minister of Viet Nam signed its National Strategy for Integrated Solid Waste Management covering the period up to 2025 and with a longer-term vision to 2050 (Viet Nam, 2010). The objectives are to improve community health and environmental quality, achieve source separation of domestic waste by households, and apply the 3R approach to minimize waste disposal and reduce pollution. Among some of the tools, Viet Nam will provide state incentives for investment in solid waste management facilities; boost environmental technology development and support technology transfer; develop capacity of waste collectors and volunteers at local and central levels; develop a database system on solid waste patterns for use at central and local levels; create a fund to support solid waste reduction and recycling; and promote scientific research, environmental education and awareness-raising at schools, communities and business establishments. Up until 2015, Viet Nam's target objectives under its waste management strategy are to collect and sustainably treat 85 per cent of domestic solid waste in cities, 50 per cent of construction waste in urban areas, 80 per cent of non-hazardous industrial solid waste and 60 per cent of hazardous solid waste from industrial parks, and to clean up all its seriously polluted dumping sites. These percentages and goals increase and expand from 2015 to 2025.

Most countries see economic growth as a way to end poverty. Viet Nam, Lao PDR and Cambodia all have strategies that reflect this. In the Viet Nam Vision 2020, the country aspires to be a modern industrialized country in 2020 by doubling its GDP, increasing the level of savings and investment and improving upon the Human Development Index. SCP activities in Lao PDR are a part of the National Socio Economic Development Plan, and also the National Growth and Poverty Reduction Strategy; the government's overarching development goal is to lift the country from the ranks of least-developed countries by 2020. Bhutan, Bangladesh, Lao PDR, Nepal, Thailand and Viet Nam have all been working with UNEP to mainstream poverty-environment linkages in national planning, through the UNEP-United Nations Development Programme (UNDP) Poverty and Environment Initiative (UNEP and UNDP, undated).

Local strategies and initiatives have also contributed to multiplier impacts that, in turn, have promoted further SCP. Examples include sustainable local agriculture and marketing in the rice-producing town of Ikeda in Japan, and the Green Shop movement started in the city of Gwacheon, Korea (see Case Study 4).

The Phitsanulok municipality in Thailand has carried out a number of waste management initiatives using the 3R approach; these have helped to reduce the amount of waste for final disposal, thereby mitigating environmental impacts and GHG emissions. As a strategy, the municipality decided to make waste management a priority area in several departments. It educated residents through a door-to-door campaign and by making public announcements. The municipality then reduced the budget for automatic street sweepers by 70 per cent, creating 97 new jobs for residents. In addition, public-private partnerships were established

CASE STUDY 4

Using local shops to bolster sustainable community lifestyles

In the rice-farming town of Ikeda, in the Fukui prefecture of **Japan**, the decreasing number of farmers in the town (whose population declined by almost 20 per cent from 1995 to 2005) and a faltering local economy inspired the mayor to use sustainable local production and consumption of agricultural products as part of an overall plan to promote sustainable lifestyles and revitalize the community. One successful initiative is a store named Koppoi-ya, which means 'thankful' in the local dialect. People from Ikeda run the store, which sells organic rice and other agricultural products produced by Ikeda's farmers at a shopping centre in the capital city (population 270,000) of the Fukui prefecture. Ikeda has its own certification mechanism for organic foods, in particular for products consumed by farmers themselves; today, about 160 farmers participate.

In 2007 the annual sales through this store exceeded 20 per cent of Ikeda's total agricultural sales. The town developed a centre to produce fertilizers from organic waste, generated by town residents by mixing dung and rice husks. Collection of household organic waste is implemented by local non-profit organization volunteers, of which about one third are town government staff. The fertilizer produced at the centre supports Ikeda's agricultural production.

One factor in the project's success has been the mayor's effort to develop and deepen the trust between local government staff and local residents. To highlight its importance, the mayor identifies agriculture as "a part of life, bond among people, art for living, and the cornerstone of local lives" (Nakamura and Elder, 2010, p. 105). The mayor instituted a green tourism package that invited people to come and experience the agricultural way of life. This project included the development of a facility where urban residents can stay and experience agriculture in Ikeda, further deepening the common citizen's understanding of the fundamentals of a sustainable lifestyle and culture.

In the city of Gwacheon, **Korea**, local community members initiated the opening of a 'Green Shop'. The original aim of this shop was to encourage citizen participation in exchanging everyday items that they did not use anymore but were still in good condition. It soon became very popular and gathered support from the wider community and from the municipal government. As a result, the city of Gwacheon started to support this Green Shop movement, setting up a formal office to replicate the city's achievements in other cities in Korea. By supporting governmental agencies and citizen organizations, the Green Shop network expanded, with 55 Green Shops operating in different provinces across the country by 2009.

When a Green Shop opens in a new city or province, an education programme is provided to community members. The Green Shop Movement's primary website shares information and experiences to facilitate sustainability, not only via the exchange of products but also through citizen donations and other activities. This expanded activity indicates an evolution of the Green Shop goals over the last two decades, from simple recycling or energy-saving activities to the creation of a culture of sustainable community living. According to one of the participating cities, Suwon-City, its Green Shop has raised KPW19,400,000 and provided student grants to 28 local students. Local volunteers continuously offer various social service activities – for example, provision of services, food and daily necessities twice a week to local elderly people living alone or in poor conditions. The Green Shop membership also runs a 'Green Farm Sharing Happiness' and donates products to social welfare facilities. The local authority is now considering setting up an administrative unit to oversee the Green Shop, as its scale increases.

Source: Choi and Didham (2009)

CASE STUDY 5

Supporting compost utilization in the Republic of Indonesia

The Kitakyushu Initiative for a Clean Environment Network, initiated by the city of Kitakyushu, Kitakyushu International Techno-Cooperative Association and the Institute for Global Environmental Strategies (IGES), with support from UNESCAP, provided its technical assistance to the city of Surabaya in establishing a sound material-cycle society through promotion of composting in 2004. The system was first piloted in an urban community called Rungkot Lor, which is located adjacent to the largest industrial area in the city. Pusdakota, a local non-governmental organization (NGO), organized a community meeting and educated its residents in the separation of waste at the source, introducing a simple technology to treat the organic waste at the household level (the design of the household compost bin was based on the Takakura Home Method) and encouraging residents to grow vegetables and herbal plants in home gardens using household compost. The results revealed that the project provided extra economic opportunities for community members, improved the sanitary conditions in the community, and created greener and cleaner waste handling at the community level.

Based on the success of the pilot project, the city of Surabaya introduced some policy measures to positively support the community-based composting programme at a city level, building partnerships with the women's network, local NGOs, informal waste pickers, academic institutions, private ventures and the media. A system of environmental waste collectors and volunteers was established to share information regarding the new waste collection system, to assist new families in starting household composting and to educate those families about the benefits of keeping the environment clean and green. Once the households had a general knowledge of the system, free compost bins were given to them by the city. In addition, 16 composting centres have now been established throughout the city to process waste collected from markets, streets and parks. City-wide environmental competitions and award systems were established in partnership with the private sector to motivate and strengthen community participation in the city's new waste management system and to encourage communities to improve their neighbourhood environments. The city also enacted a local regulation, No. 1/2006, on community-based solid waste management and incorporated this new strategy into the preparation of the midterm development plans (2006-2010) of the city.

Photo courtesy of IGES

As a result of this supportive policy environment, there has been a significant reduction of transported waste to the final disposal site, as much as 20 per cent. About 1,797 community groups in the city are actively involved in promoting community composting activities, which has provided additional income-earning opportunities for low-income families, since they are able to sell their own compost, on average, for US$0.07 per kg. The green spaces in housing areas have increased from 269.29 acres in 2006 to 274.44 acres in 2007, due to the establishment of an urban farming programme by the communities. About 15 small- and medium-scale recycling businesses have been started by private ventures, creating new job opportunities for low-income people. The social capital within communities has been strengthened by the active involvement of community members in the pursuit of common goals. In addition, compost utilization has mitigated GHG generation in landfills, a reduction of about 8,000 tons of CO_2 equivalent in 2009. The city of Surabaya has also received a number of international awards in recognition of its achievements, including the Energy Global Award in 2005 from Austria, the Green Organisation's Green Apple Award in London in 2007 and Urban Environmental Improvement from UNESCAP in 2007.

Source: Personal communication, D. G. J. Premakumara, Toshizo Maeda, and Miwa Abe of the Secretariat of the Kitakyushu Initiative for a Clean Environment: IGES, 22 November 2011.

to promote recycling and decentralized composting of household waste. While these interventions already managed to reduce waste generation by 40 per cent, the 'Faber-Ambra' mechanical biological treatment method prior to landfill further reduced the amount of waste. The combined impact of these activities yielded an 80 per cent reduction in waste headed to the landfill; the potential exists for even further reduction via using plastic waste fragments as refuse-derived fuel, increasing composting and reducing the arsenic contamination of the organic fraction from the mechanical biological treatment. The SCP benefits of the Phitsanulok municipality's strategy are increased resource efficiency, income generation for families supporting the recycling business, a raised social status of waste pickers, and increased social acceptance and awareness of 3R practices (Sang-Arun and Bengtsson, 2009). This example mirrors another by the city of Surabaya under the so-called Kitakyushu Initiative that has come to be seen as a model of waste management success in the region (see Case Study 5).

Waste management remains the most widely addressed life-cycle stage by governments. This is a reflection of the visible pressures that come with increased consumption. But it also reflects that policy is more reactive than proactive. Although there is much consensus on the scarcity of resources to feed business-as-usual economic growth in several Asian countries, there is yet to be an implementation of policies aimed at shifting from a consumptive growth scenario to a more sustainable economy. Closest to such a scenario is the strategy of Bhutan, which strives to replace GDP with the happiness of its citizens as a measure of successful development. Even so, the Gross National Happiness strategy in Bhutan faces implementation challenges and is still seen more as a novel concept rather than a replicable policy approach. Going forward, government policy instruments would have to encourage reduced material consumption among the growing middle class while simultaneously balancing it with increased consumption of basic needs among the large numbers of poor. Progressive taxation systems for the rich, reward systems for community service and for corporate social and environmental responsibility, development of infrastructure for clean water, and rural energy, as well as subsidies for viable rural economies to avoid rural-urban migration, would be possible approaches.

Policy instruments

Analysis shows that there are differences in approaches across the region, depending on economic, political, environmental and social contexts.

Regulatory instruments

These are the least-preferred instruments by governments, in part because they need more human, financial and technical resources to monitor implementation. Given such demands, it is relatively easier for regulations to be enforced in industrialized economies than in developing ones. Japan and Australia, for example, maintain very strict monitoring procedures and liabilities for the use of certain banned chemicals in food, food packaging or children's toys. Although China and India have such regulations, enforcement remains a challenge; tests of common products often reveal traces of banned chemical components above regulated limits.

Regulatory instruments also tend to be applied more where there is high social pressure or there are directly visible damages or point sources. There is a partial ban on plastic shopping bags in Australia, China, Singapore and other countries. The South Korean Ordinance on the Standards of Packaging Methods and Materials sets 'empty space ratio' goals for most product packaging. A complementary Act restricts the use of disposable cups, plates, plastic bags and paper bags in restaurants, public baths and department stores, among other places. In Taipei, Taiwan (China), there is a per-bag household waste collection fee, based on a so-called 'Pay as You Throw' scheme. In the Republic of Korea, the Volume-Based Garbage Collection Fee system also charges per garbage bag discharged per household. Authorized bags can be bought in grocery and department stores; unauthorized bags and illegal waste dumping are fined (Akenji and Bengtsson, 2010).

A regulatory approach that features prominently is extended producer responsibility (EPR), whereby producers are required to take responsibility for managing waste from their own products at the post-consumer phase. Several economies now include EPR as a part of their waste management strategy. Typically, industrialized economies like Japan, Australia and Korea have properly implemented EPR legislation; emerging economies like China, Thailand and Malaysia either have drafts or have developed systems where implementation is still a challenge; least-developed economies like Lao PDR and Viet Nam are still in evaluation stages or simply have EPR mentioned as an instrument but lack the capacity to put it into practice.

To boost the competitive advantage of its green technology market and encourage employment in the sustainable production sector, the Korea's Green Procurement Policy was adopted in 2005. It legally requires all public sectors including the Central Authority, Provincial Councils and Governmental Investment Institutions to use sustainable products. As a result, between 2004 and 2010, the scale of green production has increased by a factor of four – from 1,540 products (443 companies) to 6,531 products (1,739 companies).

CASE STUDY 6

The Green Purchasing Network in Japan

The Green Purchasing Network of Japan (GPN-J) was initiation by the Environmental Agency as a collaboration of consumers, businesses and government organizations to promote green purchasing. As of June 2009 GPN-J had 3,000 members. The early efforts of GPN-J were to build consensus on the 'Principles of Green Purchasing'; from these principles GPN-J went on to create purchasing guidelines covering products in 16 different categories. GPN-J has also developed a database in which assessments of 11,000 products are provided, consistent with the purchasing guidelines. In 2000 the efforts of GPN-J were supported with the Ministry of Environment's enactment of the Law on Promoting Green Purchasing, which requires government agencies to purchase environmentally friendly products. To disseminate the purpose of this law and the purchasing guidelines, GPN-J now runs training courses six to eight times a year for purchasing officers in the government. The other notable outcome of the Law on Promoting Green Purchasing is that many companies have improved their products to meet the criteria of the purchasing guidelines, and this has helped to expand the quantity and quality of environmentally friendly products available to consumers.

One of the key factors in GPN-J's early success was the achievement of strong multi-stakeholder collaboration that promoted many innovative activities. The coordinated efforts of these stakeholders served to stimulate each other and resulted in overall performance improvement. GPN-J was supported by the Ministry of Environment to collect and disseminate good practice through award schemes and seminars. The mandating of governmental green purchasing has been the key factor in ensuring the long-term effectiveness of this project; an additional factor is that the various stakeholders have clearly understood their roles and responsibilities. GPN-J has also engaged in several important educational activities through promoting the green purchasing criteria to companies/product developers, training government procurement officers in the new criteria, international networking to share good practice, and working to raise consumer awareness regarding the availability of green products.

GPN-J has taken a leading role in the formation of the International Green Purchasing Network, whose objectives are similar (albeit on a broader scale) to the national network. It further serves to share information and good practice on green purchasing and to harmonize green purchasing activities among countries.

Source: Didham and Hayashi (2011)

Japan has been a leader in sustainable public procurement, mainly facilitated by its Green Purchasing Network (see Case Study 6). The total Japanese government expenditure is equivalent to 17.6 per cent of its GDP, or about ¥58 trillion per year (¥14 trillion from the national government and ¥44 trillion from local governments). With the proper economic incentives, such an amount has a leveraging power to usher in a strong market for SCP.

Economic instruments

Industrialized economies with mature industries, like Japan, are capitalizing on their experiences to drive economic growth in a more resource-efficient manner by using new technologies. Japan provides incentives for green technological innovation; India, Malaysia and other countries undergoing fast growth are employing economic instruments to signal directions for preferred growth.

In 2009 Japan revised its laws on industrial development and innovation, introducing programmes aimed at increasing the resource efficiency of industrial production facilities and the energy efficiency of household appliances, while at the same time providing financial support to industry. Under one of these programmes, companies that achieve certain improvements in energy efficiency or carbon efficiency can receive tax reduction measures, such as immediate depreciation of capital investment, financial assistance and exemptions from certain regulations. The other programme offers similar benefits to companies producing appliances ranked among the top 20 per cent most energy-efficient.

The Chinese Renewable Energy Law from 2005 offers a variety of financial incentives, such as a national fund to foster renewable energy development, discounted lending and tax preferences for renewable energy projects, and a requirement that power grid operators purchase resources from registered renewable energy producers. The combination of investments and policy incentives has encouraged major advances in the development of both wind and solar power (UNEP, 2010).

Much like regulatory instruments, in order to generate the desired effects, economic instruments usually require sophisticated institutions to implement and enforce them. Charges and taxes need to be collected, and monitoring is needed to avoid free-riding. Tradable permits are especially challenging: to create a well-functioning market can require a fairly large administration, and the regulated entities usually need training in how to utilize the permit market effectively (IGES, 2010). This, again, leaves least-developed countries challenged in terms of capacity to take control of their own sustainability direction through use of economic instruments.

Voluntary instruments

Due to the challenges in the use of mandatory regulatory and economic instruments, governments often prefer the use of voluntary measures to address unsustainable production and consumption patterns.

The Singapore Packaging Agreement came into effect in 2007 between the government and the food and drink industry. Each industry sector prepares its action plans, in which it set targets to reduce packaging waste from various packaging materials. The government encourages more sustainable packaging by giving an annual award to exemplary companies. A similar agreement is the National Packaging Covenant in Australia, which promotes reduction in consumer product packaging. Parties to the Covenant submit a three- to five-year plan to meet the negotiated targets, prepare annual progress reports and contribute an annual fee that is used to fund waste recycling.

Information-based instruments

Informational instruments are some of the most widely used, especially through ecolabels, consumer awareness-raising campaigns and corporate sustainability reporting. Thailand has a Carbon Reduction Label to help consumers purchase more environmentally friendly products. The scheme results from cooperation between the Thailand Greenhouse Gas Management Organisation and the Thailand Environment Institute. It uses a life-cycle approach to give a measure of a product's contribution to GHG emissions, thus providing the consumer with information that can help direct consumers towards less environmentally harmful purchases. Among businesses that have applied for registration are producers of dried food, cement, rice bags, condoms, artificial wood, milk cartons, cooking oil and floor tiles (Rabhi and others, 2010).

Most governments, in collaboration with NGOs, encourage corporate sustainability information disclosure. The Indonesian Program for Pollution Control, Evaluation and Rating (PROPER), Green Watch in China, Eco Watch in the Philippines and the Environmental Rating Project in India are some examples.

The emergence of better information technology has decreased costs of information dissemination, partly contributing to the popularization of informational instruments in recent years. One of the advantages of informational instruments is the relatively low implementation cost, compared to the complex administration often needed in order for regulatory approaches to work properly. The limited costs in the use of such tools means they can be more easily employed by least-developed economies. However, the effectiveness of informational and voluntary instruments is more pronounced in societies where consumers, investors, government officials and other key actors have high awareness of sustainability issues, and where there is the availability of sustainable product options at competitive rates (IGES, 2010). This again puts least-developed economies at a disadvantage, because information on a sustainable product or service will have little effect in a society where people are still trying to meet their basic needs, let alone choosing between sustainable and unsustainable options. Fair trade and highly energy-efficient products are generally consumed by the middle class, who can afford to pay slightly higher market prices for such goods.

5.4 SCP initiatives for and by business

Recently, due to a combination of external stakeholder pressure, government regulation and business competitive strategy, businesses tend to have a pro-sustainability stance.

Some of the most conspicuous voluntary business initiatives towards sustainability have been in developing greener corporate images. Some of this has been through advertising or repositioning of products to carry green labels. Sustainability reporting, as a part of corporate social responsibility (CSR) communication, is also on the rise. Both the Global Reporting Initiative (GRI) and the International Organization for Standardization (ISO standards) have reported an increasing number of CSR reports

by companies from Asia and the Pacific. Whereas in 2000 there were fewer than 10 reports from Asia-Pacific businesses registered with the GRI database, in 2005 that number had climbed to over 60, and in 2010 there were over 300 registered reports (GRI, 2010). The situation is similar with respect to implementation of ISO 14001 standards for environmental management systems. In 2008 the top two countries for number of ISO 14001 certificates were China (with 39,195 certificates) and Japan (with 35,573 certificates). In most countries, the number of certificates jumped by over 30 per cent between 2006 and 2008 – in Malaysia, the number went from 593 to 997; in Indonesia, from 369 to 849; in Korea, from 5,893 to 7,133 (ISO, 2009).

Corporate sustainability awards are also a developing trend, with international agencies and business associations either giving out their own awards or affiliating with a third-party corporate sustainability award. The International Chamber of Commerce, UNDP, and the International Business Leaders Forum have developed World Business and Development Awards in support of the Millennium Development Goals. Every two years, winners are recognized for their roles in alleviating poverty, thus contributing to more sustainable production. Among the winners in 2008 was SMART Communications, a telecommunications corporation in the Philippines, for providing millions of people access to communication and micro-enterprise opportunities through its mobile phone services in the Philippines. A more recent winner in 2010 was a social enterprise, LifeSpring Hospitals in India, described in more detail below.

Although awards and sustainability reports have been touted as early steps to more integrated corporate sustainability, participating businesses are usually major corporations. The selection criteria, financial and human resource costs and organizational membership fees are generally greater than SMEs can meet. SMEs often lack the technical expertise needed for improvements in environmental and social responsibility. This means that local practices and SMEs, which constitute the majority of businesses in Asia and are active within the value chain as suppliers of major corporations, are left out of these pro-sustainability incentives.

Asia and Pacific businesses have been developing their capacities to meet the sustainability challenge. For example, Business for Social Responsibility, a global network of over 200 major corporations, started the China Training Institute in 2004 as a CSR capacity-building project for brand companies and their suppliers in China. It offers long-term and short-term training on topics such as environmental risk management, worker healthcare programmes and analyzing the causes of excessive overtime. In April 2010 the Institute held a workshop in Guang Zhou, China, in collaboration with the Cleaner Partner Project of Hong Kong government, to share experiences on energy saving in manufacturing industries. Participants explored trends of energy efficiency in manufacturing industries and were presented best practices.

Like awards, such capacity-building trainings are increasingly common, funded or supported by international agencies, national governments or industry. Another example is a partnership formed among Fraunhofer IFF of Germany, the Asian Society for Environmental Protection in Thailand, the Viet Nam Productivity Center, Government of Viet Nam and the Louth County Enterprise Board of Ireland, and funded through the European Commission's Asia Invest programme. The partnership's aim has been to empower Asian business intermediaries through knowledge-based networking focused on sustainability management. The partnership has brought together European and Asian researchers and business-intermediary organizations to promote European know-how and information and communication technologies, along with the transfer of best practices. Over 800 representatives of SMEs were trained in Viet Nam and Thailand.

New business strategies, such as social entrepreneurship, are also spreading in the region. A well-known example is the Grameen Bank, which provides micro-grants to rural women who would otherwise not have the collateral to receive loans from traditional banks for their small business. Entrepreneurial activities using micro-grants have lifted several families out of poverty. LifeSpring Hospitals, a 2010 winner of the World Business and Development Awards, is another example of social enterprise. Across India, it provides low-cost, high-quality maternal care to low-income mothers who would otherwise not have access to such services. Launched in 2005, LifeSpring Hospitals has grown to a chain of nine clinics; it has delivered more than 7,000 babies and its doctors have treated over 100,000 outpatient cases, thus contributing to reduced rates of infant mortality and better health care for mothers.

Some financial and insurance organizations are beginning to insist on comprehensive environmental audits to limit the environmental risk in their project financing. In order to promote a green credit policy to businesses, in 2007 China's State Environmental Protection Administration, the People's Bank of China and the China Banking Regulatory Commission jointly issued a policy called Notes on Reducing Loan Risk by Enforcing Environmental Protection Policies and Regulations. Incorporation of environmental concerns into business planning is increasingly a

prerequisite to obtain loans. These are broadening signs of socially responsible investment.

An example of an Asian company addressing SCP is Toyota Motor Thailand (TMT). TMT has developed Green Purchasing Guidelines. Suppliers are requested to submit certified test reports that products supplied do not contain substances of concern (lead, mercury, cadmium and hexavalent chromium), show improvement in their use of natural resources, take measures to reduce CO_2 emissions generated by deliveries to the company and cooperate with the efforts of TMT to reduce usage of packaging and wrapping materials. In its own operations, TMT reduced waste by 7,900 tons and water by 1,910,000 tons between 2001 and 2008 (TMT, 2007; TMT, undated).

Businesses are also getting innovative regarding management strategies. Criterion Furniture, a furniture manufacturer with headquarters in New Zealand, has seen multiple benefits (financial and non-financial) by shifting its management and manufacturing approach towards sustainable production. Another example is TanTec, a leather goods company with bases in China and Viet Nam, which has invested extensively in reducing energy needs, raw materials and waste generation (see Case Studies 7 and 8).

Least-developed countries, driven by the need for foreign direct investment, are generally more relaxed when it comes to regulating corporate behaviour towards sustainability, inviting major multinational corporations as a means of offering employment to local populations. There is, however, international collaboration to encourage voluntary sustainable corporate behaviour.

The most widely addressed business aspect is sustainability communications. This is partly because business sustainability is seen to give a competitive advantage in a market of increasingly conscious consumers, and also because communication comes naturally to businesses, as they need to advertise their products and services. Going forward, there are still opportunities for businesses to explore models such as leasing or hiring services instead of the outright purchase of products. For example, car leasing instead of car sales, and collaborative consumption, such as community computer services, would be in the community spirit of Asian societies.

CASE STUDY 7

Green business practices in China and Viet Nam

TanTec produces leather goods for overseas companies from tanneries located in China and Viet Nam and has achieved significant cost savings by implementing energy-efficiency and waste management practices. The key, according to the CEO, is to constantly innovate and look for better solutions. The company uses a combination of existing in-house and external benchmarks, comparing them with the company's existing manufacturing performance. Accordingly, the Saigon TanTec uses on average only 33 MJ of energy per square metre of leather, compared with a leather industry standard of approximately 52 MJ – as calculated by the British Leather Technology Centre (Leather International, 2010).

The energy reductions have been achieved through a host of improvements, including: the installation of continuously controllable compressors and pumps, the retrofitting of dryers, the installation of energy-efficient re-tanning drums, and the shift from oil to liquefied gas as a heating source. In addition, the factory has invested in energy-efficient lighting systems with light sensors and timer control and is using translucent plastic panels that allow sunlight to penetrate parts of the roofs and walls. Bamboo walls also allow for a natural ventilation of the factory. The use of reed grasses and 'wetland' methods for wastewater management and post-purification, along with the use of solar thermal and wind energy, have been among the central measures. The company has now achieved a 40 per cent reduction of its energy consumption, and has reduced CO_2 emissions by 2,700 tons per year. In addition, TanTec has reduced water and chemical consumption by 50 per cent and 15 per cent, respectively.

Source: Leather International (2010)

CASE STUDY 8

Furniture business benefits from shift to sustainable production

An example of a company that has changed its management strategy to embrace more sustainable production is New Zealand-based Criterion Furniture, manufacturer of ready-to-assemble furniture and employer of 200 people. In 2005 the company noticed initial indicators from its target export markets in Europe that environmental sustainability criteria were increasingly becoming important. In addition, it noticed that waste treatment and energy consumption had an impact on the company's financial bottom line. These provided an initial nudge for the company to change its management approach and manufacturing practices.

The company went through a process of developing an environmental vision and strategy for itself, estimating the resource requirements, potential savings, and benefits of running a sustainable operation. It developed the basis for an Environmental Management System and accountability structure, which it then proceeded to implement. In 2009 Criterion's Environmental Management System was certified to ISO 14001, which added further recognition to its sustainability efforts among external stakeholders. It adopted a 3R approach in its design and manufacturing process and integrated environmental considerations into its purchasing decisions. Further, it works together with its suppliers to ensure that the raw materials used for manufacturing have low environmental impact. It also set up an eco-portal to facilitate communication among various functions of the business.

Excess polystyrene in packaging was identified as a needless waste of material and resources. That project resulted in a 15 per cent reduction in polystyrene usage, leading to an NZ$75,000 annual material cost savings. By reducing packaging size, the company also achieved a 7 per cent increase in the number of products that can be shipped in containers, leading to cost savings and reductions in carbon emissions from transport. Criterion Furniture achieved financial benefits of about NZ$100,000 in cost savings through material reduction from cutting optimization, and a further NZ$300,000 reduction in landfill costs.

Source: Criterion Furniture (2011)

5.5 Civil society initiatives for SCP

Civil society organizations (CSOs) work on a variety of issues related to sustainable development – from Asian values in sustainability to Pacific island climate change adaptation to zoological species management. Thus, their activities vary depending on the targeted sustainability stakeholder group: government, the general public or the private sector.

The creation of public awareness on SCP issues has been central in civil society in recent years. In Viet Nam, for example, the groups Center of Support for Combating Climate Change and Action for the City have joined forces to organize 'The Green Days', a campaign to encourage people to change their behaviour and promote a sustainable lifestyle. In addition to media activities, during the campaign, organizers get people and businesses to pledge to use green transportation, support organic agriculture and avoid the use of plastic bags.

Holding corporations accountable is also a core activity of CSOs, through commenting on CSR reports or boycotting companies or products that are considered unsustainable. Primary targets of recent campaigns in the region include pharmaceutical and agricultural businesses – including those dealing with seeds, farming and fertilizers. In 2007 the National Asian chapters of Consumers International campaigned for a ban on promoting unhealthy foods in schools, along with broader restrictions on television and Internet advertising. In Nepal, Fiji, Malaysia, Hong Kong, India, the Philippines and Thailand, there have been campaigns against junk food. Consumers International members in Asia and

the Pacific have also held campaigns demanding more transparent practices in the marketing of pharmaceutical products.

CSOs are good at mobilizing grassroots action. Through the Indian Office of the Global Alliance for Incinerator Alternatives (GAIA), grassroots action is coordinated against polluting, end-of-pipe waste-management activities. 'Zero Waste for Zero Warming' is one of GAIA's coordinated campaigns. GAIA members share information online and in regional meetings, organize trainings and skillshare events, provide technical support to member groups and communities, and provide mini-grants for advocacy and education campaigns to stop the expansion of incineration as a method of waste management. According to GAIA, its members in the region have contributed to the cancellation of the Broga mega-incinerator project in Selangor, Malaysia, and the success of waste-reduction projects at the 2002 World Cup in South Korea and the 2005 Southeast Asian Games in the Philippines (GAIA, 2010).

APFED (2010) has documented an extensive number of civil society initiatives, some of which are highlighted by Kobayashi (2010), a coordinator at the APFED Secretariat. NGO involvement at a local level also provides opportunities to promote resource-efficient lifestyles. Since 2006, a local NGO from Nikaweratiya, Sri Lanka, has supported experimentation on the production of oil from the jatropha shrub in order to supplement fuel consumption in the local community of Gurugoda. With support from an international NGO, this project has seen multiple benefits, from mitigating contributions to climate change to supporting livelihoods and, of course, the cost savings from reduced dependence on imported fuel and local-level recognition of sustainable alternatives to fossil-fuel-based energy. Jatropha shrubs have been planted as natural barriers around houses and gardens to prevent crop damage from animals. In so doing, the common land-use conflict that occurs with biofuel production has been avoided. Further avoiding conflict, jatropha oil is inedible by humans and the plants typically can grow in soil unsuitable for plants used for consumption. The locals harvested the seeds and sold them to a local processing centre, later benefiting from reduced expenses on fuel for local transport and equipment. One limiting factor is the water demand of jatropha during its first year of life. However, after the initial water-intensive year, jatropha grows quite well as a hardy shrub in tropical climates with a fair amount of annual rainfall. Although the allure of jatropha is compelling, it should be seen as one part of an overall approach to sustainable consumption, which necessarily includes other lifestyle changes (Kobayashi, 2010).

CSOs also run capacity-building projects. Live and Learn Environmental Education, a Fijian NGO, has been running a project in which training workshops are conducted to promote environmentally sound resource and waste management practices such as composting and recycling. A unique feature of the project is the involvement of youth leaders in the training programme to encourage them to disseminate their newly acquired knowledge and skills within their own community. As a part of the project implementation process, monitoring and evaluation are carried out to share successes and failures and to ensure the delivery of expected outcomes. Throughout the project activities, the people participating in the project have been changing their consumption patterns, thereby reducing waste generation and promoting resource circulation (Kobayashi, 2010).

CSO understanding of traditional practices and community engagement, and using these to address sustainability problems, is demonstrated by a case in Viet Nam, where poaching and illegal trade in endangered species has become a major social concern. Education for Nature Viet Nam, a Vietnamese NGO, has been carrying out an environmental education project to promote public understanding of the protection of endangered species and to increase public collaboration to halt illegal wildlife poaching and trade. One of the key features of the project is a "wildlife hotline." Tigers and bears are poached illegally for the trade of bones and gallbladders, respectively, as alleged aphrodisiacs, a claim that is rebuffed by mainstream science. In winning support to prevent the unsustainable consumption of endangered species, public education and consumer awareness campaigns have contributed greatly. To curb such illegal transactions, community members keep an eye out for illegal trading of wildlife and its by-products and operate public peer pressure systems involving the media. From the beginning of 2005 to the end of 2006, almost 400 cases were reported and culprits were arrested in over 80 per cent of the cases. By 2008, more than 1,400 criminal cases were reported and documented. Information disclosure on illegal trafficking of wildlife and its products, along with prosecution of the culprits, strengthens local authorities and communities in their suppression of illegal poaching and trading of wildlife (Kobayashi, 2010).

Another dimension of civil society activity calls for government action to address the sustainability issues identified. Examples include a call for banning plastic bags in almost all countries of the region and extensive campaigns for legislation to mandate environmental labelling by producers as a means of providing information to consumers. CSOs have been active through policy processes, pushing for the right policies to address unsustainable consumption and production. In China, Cambodia, Thailand, Korea and other countries, CSOs have been active participants at SCP roundtables and in the provision

CASE STUDY 9

Collective buying and distribution in India

The case of the Mumbai Grahak Panchayat (MGP) in India demonstrates CSO understanding of local communities and the use of that understanding to self-organize into meeting societal needs in a more sustainable manner. MGP brings together households in Mumbai under a common system to collectively buy and distribute groceries. To overcome food shortages, ensure better distribution and get better prices for food, consumers are organized into buying groups, which then take advantage of their large numbers to eliminate the middleman and buy directly from producers and wholesalers. In 2010 there were more than 2,000 buying groups and more than 26,000 families as members of the system, managed by volunteers and housewives.

MGP has seen 15 to 20 per cent savings in families' grocery budgets. Collective buying and bulk delivery eliminates about 60,000 km of transportation and saves about 10,000 litres of fuel per month, thereby reducing carbon emissions and air pollution. The group uses textile bags instead of plastic bags for packing sugar, wheat and rice. These bags are then reused several times. It has also banned the use of plastic bags at product fairs, which bring together local producers, small entrepreneurs and consumers; this prevents the use of nearly 1,500 kg of plastic per month or 18,000 kg of plastic per year, reducing waste generation. Broader sustainability benefits of MGP's activities include wider awareness and participation in SCP and inspiration for other communities to follow suit.

Source: Mumbai Grahak Panchayat (2010)

of input to NSSDs. The first national consultation in the region towards the United Nations Earth Summit in 2012 was organized in Sri Lanka by civil society, through the Climate Sustainability Platform. At the Commission on Sustainable Development eighteenth session in New York, interventions were made by IGES, on behalf of NGO Major Groups at the High Level Segment on SCP.

CSO partnerships with business and the private sectors have been instrumental in bringing solutions to some sustainability issues. The Regional 3Rs Forum for Asia has spurred collaboration among governments, businesses, research groups and NGOs towards better technology for waste management in countries including Japan, Malaysia and Thailand. In Sri Lanka, the Federation of Electricity Consumer Societies promotes the use of environmentally sustainable energy technologies by developing the technical capacities of off-grid communities, working together with the national government and local communities. In one such project, the federation helped members of the remote Sinhala, Tamil and Muslim areas of Sri Lanka to generate energy for households through micro-hydro technology. Some 300 remote villages now have micro-hydro schemes, providing electricity to some 10,000 households. The federation's activities have led to establishment of national standards for micro-hydro power generation.

The World Resource Institute (WRI), through its New Ventures programme, has gone beyond research, facilitating partnerships and helping small businesses to access investment opportunities. It connects entrepreneurs and SMEs to venture capital funds, angel investors and banks, and then helps the entrepreneurs achieve success by providing business development training. Within its portfolio is Accura Bikes Private Limited in India, which manufactures and sells pollution-free and noise-free electric bikes. A China-based company in WRI's New Ventures portfolio is Landwasher, a producer of environmentally responsible toilets that utilize a water-free flushing system. This technology both conserves resources and meets the sanitation needs of rural communities lacking access to current public infrastructure. In Indonesia, WRI works with Intaran on sustainable agriculture through the Tree of Life programme. Intaran has reforested more than 200 hectares with neem trees, supplied over 30,000 seeds to the local community, and provided technical assistance and training on the environmental benefits of this sustainable activity. By providing communities with an alternative, stable economic activity, Intaran has aided efforts to prevent further deforestation in three provinces. The company has developed a line of 15 products, including organic fertilizers, pesticides, cosmetics and natural medicine, maximizing the use of the different parts of the neem tree (WRI, 2010).

In general, civil society has been most active in areas of raising awareness, especially through education on sustainable livelihoods and lifestyles. CSOs have also been instrumental in getting businesses to respond positively to CSR and other sustainability concerns. However, owing to limited research capabilities, funding and other relevant capacity, CSO engagement has not been able to go much further than grassroots activism and the taking up of causes that reflect more immediate societal concerns, such as food shortages and water pollution. There is a need for efforts to involve CSOs in policy dialogue processes, to expose them to scientific research on sustainability, and for deliberate efforts to increase funding for their activities. CSO initiatives should also be encouraged to cover more nuanced areas, for example, the upholding of traditional values and sustainable community examples of consumption and production.

5.6 **Conclusions**

Several countries have policies and programmes in place that could effectively guide a societal shift towards SCP. Despite recognition of its necessity, however, and positive examples highlighted in this report, SCP does not seem to have been effectively mainstreamed in society and policymaking. A move from political commitment, demonstration and piloting to implementation and enforcement of SCP policies on a wider scale is needed.

There is little coordinated action or collaborative effort for common capacity-building and addressing cross-regional issues. One action that could begin to make collaboration more concrete would be the creation and funding of a programme-oriented working group on SCP.

The Marrakech Process consultations have identified some priority tools for SCP in the Asia-Pacific region. Among them is the development of national SCP action plans and education for all stakeholders. Consumers need information on sustainable lifestyles, whereas, for businesses, the main need is for enhancing competitiveness through sustainable production, with a special focus on SMEs. Governments need to lead by example, by developing sustainable public procurement guidelines and practices. This will allow the high purchasing power of public institutions through economies of scale to increase demand for sustainable products and services, thus reducing their prices and increasing their competitiveness. It will also send a signal to the market about future and encouraged production directions.

Economic growth is the overriding policy driver in Asia and the Pacific, meaning that SCP-related policies and initiatives are scattered throughout various components of national economic growth strategies. As such, Asia and Pacific economies tend to approach SCP policy as an add-on, rather than as a common thread running through NSSDs, as well as an opportunity for policy integration. The relationship between achieving SCP and the regional Green Growth Strategy and associated policies needs to be more closely analyzed and better understood, to enable more effective integration of policies. This should involve development of concrete indicators for a green economy, including production and consumption standards and targets that reflect resource constraints, societal needs and environmental carrying capacity.

There tends to be a heavy emphasis on solid waste management in several countries, a reflection of where government feels pressured; when economies grow quickly, the national infrastructure cannot keep pace with waste generation. In order to promote SCP, emphasis needs to be shifted upstream to address issues of resource efficiency. The threat of low biophysical capacity in the region means that if countries are to meet their economic development targets, provide infrastructure for fast growing cities, feed their growing populations and lift hundreds of millions of people out of poverty, there is an urgent need to shift to proactive approaches rather than end-of-pipe management.

To ensure that economic growth in the region is sustainable, policies need to use ecological taxation as a tool to address the problem of resource scarcity and inefficient use, as well as to internalize the costs of pollution. Further, given the rapid development of infrastructure among countries, approaches such as sustainable public procurement to drive the market and life-cycle methodologies to assess the best triple bottom line outcome over the long term should be applied. Lessons from environmental impact assessments should also feed into policy design for the built environment.

To give a sense of ownership, individual country and cultural interpretations should be encouraged, along with initiatives demonstrating clear benefits to society and individuals. Part of this entails moving beyond the technology emphasis that puts eco-efficient economic growth at the centre of development. Some appropriate policy approaches include provision of infrastructure for local markets and programmes that encourage local produce, a policy shift from taxing labour to taxing resource consumption and pollution, and the subsidizing of traditional food production and distribution systems. There is now recognition of the need for broader socio-technical approaches with core elements of social well-being and ecological integrity. In Asia, this would tap into rich Asian and Pacific traditions, sustainable local communities and a positive sense of contribution by the people – those who on a day-to-day basis undertake activities of consumption and production in society.

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6 Global Outlook on SCP Policies: Latin America and the Caribbean

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6.1 Introduction

Home to 580 million people, covering about 21 billion km^2 of territory, the Latin America and Caribbean (LAC) region is full of diversity and contrasts. The state of development varies among the countries in the region. While the region comprises a great majority of upper-middle-income countries, it also counts a least-developed country[1] (LDC), Haiti, and a number of lower-middle-income countries, such as Nicaragua, Guatemala and El Salvador (Organisation for Economic Co-operation and Development [OECD,] 2009).

While the expansion of industrial development has brought about substantial economic growth, poverty alleviation and social progress, industrial production processes and consumption patterns have also led to an increase in environmental degradation and depletion of natural resources.

The statistics below demonstrate the pressing need to change consumption and production patterns:

- Between 1970 and 2006, average electricity consumption quadrupled from 427 to 1,688 kWh per capita (United Nations Environment Programme [UNEP], 2010c)
- Water demand in LAC increased by 76 per cent between 1990 and 2004 from 150 km^3/yr to 264.5 km^3/yr, due to population growth and increased agricultural use (UNEP, 2007)
- The amount of solid waste per capita has doubled in the last 30 years (UNEP, 2010b)
- In 2008, LAC countries consumed 749.5 million tons of oil, which amounts to 6.6 per cent of the world's total (UNEP, 2010c)
- Between 2000 and 2005, approximately 64 per cent of all global forest loss took place in LAC (UNDP, 2010). However, there are some countries, like Brazil, that have already reversed deforestation rates and made a commitment to reduce deforestation by 80 per cent a year by 2020.

The main driver for deforestation is the expanding economic activity that produces higher revenue than other activities more compatible with forest conservation. Often, the same public policies that aim to foster economic growth also encourage deforestation of native forests (United Nations Department of Economic and Social Affairs, 2007). The highest rates of deforestation are found in Central America and the largest deforested land areas are in South America, mostly in the Amazon region. Deforestation rates in the region are twice as high as the global average, which is partly responsible for the region's increase of CO_2 emissions. Although greenhouse gas (GHG) emissions of the LAC region are lower than those observed in more industrially developed regions, this is a worrisome trend (United Nations Economic Commission for Latin America and the Caribbean [UNECLAC], 2009).

These challenges stressed the vital role that the promotion and adoption of sustainable consumption and production (SCP) patterns plays in LAC and globally. The LAC region has started to take action, adopting and implementing subregional and national policies on SCP, as described in the following sections.

This report gives examples of SCP policies and initiatives according to the following subregions:

- Mesoamerican subregion (Mexico, Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama)
- Caribbean subregion (Antigua and Barbuda, The Bahamas, Barbados, Cuba, Dominica, Grenada, Haiti, Jamaica, Dominican Republic, Saint Kitts and Nevis, St. Vincent and the Grenadines, Saint Lucia, Trinidad and Tobago, Guyana, Suriname)
- Andean subregion (Bolivia, Colombia, Ecuador, Peru and Venezuela)
- Southern Cone subregion (Argentina, Brazil, Paraguay, Uruguay and Chile)

6.2 SCP policies at the regional level

The LAC region was the first to host a regional consultation meeting on the international Marrakech Process on SCP in 2003. During this meeting, a regional platform was formed to respond to the Johannesburg Plan of Implementation and the Latin America and the Caribbean Initiative for Sustainable Development. A regional SCP strategy was developed, defining priorities, concrete actions and specific pilot projects to be implemented. The strategy emphasizes the importance of strengthening the capacity of government institutions as well as the importance of implementing SCP-related polices and activities in the productive and financial sectors.

Likewise, a Regional Council of Government Experts on SCP was set up in 2003 to support the implementation of the SCP regional strategy. The Regional Council has also provided inputs and advice to the LAC Forum of Ministers of the Environment (UNEP, undated, b). The LAC Forum of Minister of the Environment is the most representative and influential gathering of environmental policymakers in the region and endorsed important elements of the regional SCP strategy.

In 2005 the Fifteenth Meeting of the Forum of Ministers of the Environment of Latin America and

1. LDCs are defined by the United Nations, and others according to their gross national income per capita.

the Caribbean (Caracas, Venezuela) decided to foster the preparation of SCP policies, strategies and action plans (UNEP, 2005). The Sixteenth Meeting of the Forum (in Dominican Republic in 2008) approved the Action Plan on SCP (see UNEP, 2008b).

Since 2003, various regional meetings and capacity-building workshops on SCP have taken place at the regional, subregional and national levels. The region has identified the following four priorities on SCP[2]:

- **National Policies and Strategies:** incorporate SCP criteria in development policies, programmes and strategies; quantify regional costs and benefits of SCP policies; enhance knowledge exchange and training among the population; emphasize the importance of SCP among industries producing mass consumption goods, aiming to ameliorate undesirable environmental and social impacts
- **Small and Medium-Sized Enterprises (SMEs):** prioritize the sectors linked to environmental or ecosystem services at the subregional level; coordinate and create economic mechanisms and instruments that may facilitate an industrial conversion, including the generation of specific SCP indicators

2. In 2009, on the occasion of the fifth regional meeting on SCP, under the umbrella of the Marrakech Process, in Colombia, these four priority areas were identified (UNEP, 2009); which later were also recognized at the Regional Implementation Meeting organized by UNECLAC in 2009 and endorsed by the Forum of Ministers of Environment during its seventeenth meeting in 2010.

CASE STUDY 1

The Central American Commission for Environment and Development (CCAD) initiative on sustainable public procurement

Governments are among the largest single consumers within any given market. Recognizing public procurement as a powerful tool, the CCAD has launched an initiative to promote sustainable public procurement (SPP) at the regional level and by national governments.

The Regional Policy on Public Procurement was developed with the purpose of ensuring cost efficiency in procurement by governmental institutions, while at the same time identifying opportunities for more efficient use of materials, resources and energy, contributing to the protection of human health and fostering the development of a regional market for sustainable and innovative goods and services. This proposal was further discussed with the members of the Regional Technical Committee on Cleaner Production, who supported the organization of national consultations in the member countries of CCAD during 2010 (CCAD, 2006). Key national stakeholders were involved in consultations included representatives of the Ministries of Environment, Economy, Agriculture, Tourism, and Labour, national procurement authorities and civil society organizations (CSOs).

The policy foresees national and regional interventions addressing four specific areas:

(i) **Institutional**, ensuring that relevant information and methodologies are adapted to the specific context of the countries
(ii) **Legal**, ensuring that SPP is included in a coherent way in member country legislation and that their approaches are harmonized
(iii) **Technical**, providing support to the providers of goods and services in the shift towards more sustainable production practices
(iv) **Information and capacity-building**, developing the essential technical skills for implementing SPP in both the public and the private sectors.

The regional procurement policy builds on a number of core sustainability practices, among them, environmental responsibility, pollution prevention, extended producer liability, substitution of materials and substances using less polluting alternatives, and continuous improvement and innovation in product life cycles.

Having concentrated its efforts in 2010 on formulating this regional policy and getting it approved, CCAD is now focusing on its implementation in the Central American countries, in partnership with the United Nations and other institutions. This process will build on results already achieved in pilot projects within the subregion. Particular attention will be paid to the green procurement guidelines developed by the Centro de Gestión Tecnológica e Informática Industrial (CEGESTI, Costa Rica), and to the Marrakech Task Force approach on Sustainable Public Procurement, adapted to the Latin American context as a result of the implementation of a pilot project in a number of countries in the region, including Costa Rica (UNEP, 2008d; CEGESTI, 2008).

- **Sustainable Public Procurement:** promote high-level political leadership in national public procurement, and gradually incorporate environmental and social criteria in the purchasing processes of priority goods and services
- **Sustainable Lifestyles:** adjust and apply policies promoting the availability of sustainable goods and services at affordable prices for all segments of the population; devise communication strategies, considering language diversity of ethnic groups; encourage the inclusion of education for sustainable consumption in educational programmes; make an appeal to transnational corporations to apply the same environmental management standards applied in their countries of origin or in countries with more stringent norms in the LAC region.

CASE STUDY 2

The Mercosur Policy for Promotion and Cooperation on SCP

Agreeing on the need for a common SCP policy with a focus on eco-efficiency and the reduction of hazards for human health and the environment, Mercosur member countries (Argentina, Brazil, Paraguay and Uruguay) signed the Declaration on Cleaner Production Principles in October 2003. This led to the approval of the Mercosur Policy for Promotion and Cooperation on Sustainable Consumption and Production (Decision 26/07) in 2007 (Mercosur, 2007).

The eleven articles of the SCP policy list the principles that signatory countries should commit to implementing, such as the establishment of their own SCP plan within a year of the inception of the policy or the enforcement of the policy's principles within their own territory. Signed by one of the most important trade blocks of the world, this policy sets an important example for regional coordination on SCP. The policy is expected to substantially affect the design and production of products from South America exported worldwide.

The Mercosur SCP policy focuses primarily on the productive sector, and on small, micro, and medium-sized enterprises. Signatories commit to developing a competitiveness strategy driven by environmental performance criteria, aiming at the sustainable use of natural resources, encouraging the use of less polluting materials and minimizing residues and toxic emissions.

The Mercosur SCP policy establishes the following guidelines:

- Harmonize production and environmental policies of the Mercosur countries
- Encourage cooperation between the public and private sectors on the implementation of SCP, such as sustainable public purchases and sustainable consumption
- Stimulate innovation for design and development of product and services with lower environmental impacts
- Strengthen formal and informal education on SCP; promote capacity development and knowledge among signatories

Reports on the early effects of Mercosur's SCP policy have been developed by the Ad-Hoc Group on Competitiveness and Environment. In the case of Argentina, Mercosur's SCP policy was added into the country's legislation with a presidential decree (Decreto 1289/2010) and now serves as the national SCP policy. Uruguay has also followed up on the Mercosur policy with a participatory process to formulate its own national action plan for SCP.

Another important follow-up programme derived from this policy is the Cooperation Program on Eco-norms (ECONORMAS), which supports the economic integration of the Mercosur SCP policy within a sustainability-driven framework. This particular programme is expected to foster the incorporation of SCP practices within SMEs of the region (Mercosur, 2011a). The European Union has supported the Mercosur SCP policy (Mercosur, 2011b) in the development of cleaner production and best practices to reduce poverty. The implementation of the Mercosur SCP policy, however, faces important challenges, such as insufficient financial support, and a lack of specific goals and clear timelines for each of the commitments.

Sources: Government of Argentina (2010a, 2010b, 2010c).

Subregional SCP policies

Based on the regional SCP strategy, four subregional strategies and action plans have been developed.

Mesoamerica
The Mesoamerican Strategy for Environmental Sustainability contains a plan to establish a coordination mechanism for the follow-up on environmental cooperation. It includes concrete initiatives and goals to support: the development of national-level action plans on SCP or the inclusion of SCP in sustainable development or other strategies; the development of economic and financial instruments on SCP; and public procurement, as well as the technical and financial resources for their implementation.

Another important initiative is the Sub-Regional Policy for Sustainable Public Procurement, steered by the Central American Commission for Environment and Development (CCAD, Comisión Centroamericana de Ambiente y Desarrollo). It aims to redirect public procurement by governments in the region toward the purchase of products and services that integrate environmental and social criteria, as illustrated in Case Study 1 (see also UNEP, 2010a).

The Caribbean subregion
The Caribbean subregion has identified priority areas for SCP, such as the diversification of energy sources, food security and support to SMEs. Other areas identified as important issues during the regional consultation in 2008 include: financing, enforcement of the regulatory framework, public and private cooperation at bilateral and subregional levels and institutional strengthening (UNEP, 2008e).

Since the adoption of the conclusions and recommendations on SCP numerous actions have been carried out, including a workshop in Guyana in 2010 to strengthen the enabling environment for the development and implementation of national SCP action plans or mainstreaming SCP into national development strategies.

The technical arm of the Caribbean community, the Caribbean Institute of Environmental Health, carried out another training session. It has provided technical advice and training to stakeholders in the tourism sector. As the major driver of the economy in the region, the tourism sector has benefited from a number of initiatives to green the sector through various environmental management programmes (Caribbean Environmental Health Institute, 2011).

The Andean subregion
The Andean Environmental Agenda 2006-2010 (Secretária General, Comunidad Andina, 2011) incorporates SCP as a cross-sectoral aspect based on a recommendation from the first subregional meeting of government experts (UNEP, 2008c). The priorities of the Andean Environmental Agenda 2006-2010 are:

a) The formulation and strengthening of national and regional policies on SCP
b) To incorporate the concepts of cleaner production in the industrial sector, and work in favour of sustainable consumption
c) To support the Centre for Production and Consumption for the Andean subregion.

Little attention in the Andean Environmental Agenda is given to consumption aspects.

Building on the Colombian experience in developing an SCP strategy, the countries created an Andean Consumer Group in 2003. The group focuses on responsible investment and capacity-building, and their activities include the definition of technical standards at a subregional level for the life-cycle assessment of batteries. Bolivia, Columbia, Ecuador and Peru developed a panel on competitiveness and the environment (UNEP, 2009).

The Southern Cone subregion
In this subregion, Mercosur[3] has incorporated SCP policies in its agenda. This includes the Política de Promoción y Cooperación en Producción y Consumo Sostenibles en el MERCOSUR (Mercosur Policy for Promotion and Cooperation on SCP). The process to develop the policy started with regional consultations and included the definition of subregional priorities, the preparation of national action plans on SCP and the strengthening of international cooperation (UNEP, 2008b) (see Case Study 2).

6.3 National SCP policies

Progress on SCP has taken place at the national level as well. Most SCP initiatives in the LAC region focus on cleaner production (CP) and clean technologies, voluntary agreements between industry and government, and information instruments such as education and certification schemes.

Within the LAC region, various countries have national policies on SCP such as: Brazil, Colombia, Cuba, Dominican Republic, Ecuador, Mexico, Peru and Uruguay. Others have CP strategies/ policies including Chile, Cuba, El Salvador, Honduras and Panama.

To assess progress made on SCP towards the implementation of regional priorities and identify

3. Mercosur is a free trade agreement among the countries of Argentina, Brazil, Paraguay and Uruguay.

technical assistance needs to support the creation of SCP proposals for Latin America and the Caribbean, a survey was carried out by CEGESTI (2009). Twenty countries in the region responded.

According to this survey, 14 of the 20 countries have mechanisms in place to foster changes towards SCP. Of those mechanisms, 35 per cent are policies, 20 per cent are programmes, 10 per cent are projects and 5 per cent are developing activities to adopt SCP (CEGESTI, 2009). More than 40 per cent of the countries have included SCP policies within their National Development Plans. Only 14 per cent have maintained the policies of SCP exclusively within the realms of environmental authorities (CEGESTI, 2009).

Since the introduction of SCP to the Forum of Ministers of the Environment agenda in 2003, the formal processes of SCP have been solidified. Although not all of these actions have been embedded in coherent policy frameworks with a holistic life-cycle approach, much has been achieved in terms of concrete actions and measurable results.

The Global Outlook on SCP Policies survey (UNEP, 2010a) captured 15 government initiatives in LAC that

CASE STUDY 3

SCP policy in Colombia

Columbia's SCP policy provides guidelines for changes in production and consumption patterns that should enhance businesses' competitiveness and contribute to the well-being of the population. The significant efforts that were put into its development were recognized in the region: UNECLAC publicly acknowledged the Colombian experience as the most comprehensive SCP policy in the region (Ministry of Environment, Housing, and Territorial Development of Colombia, 2010). The fifth meeting of the Council of Experts also recognized the quality of the Colombian SCP policy.

The Colombian SCP policy builds on several national thematic policies such as: the National Cleaner Production Policy (1997), the National System of Competitiveness (enacted in 2006), the creation of an Environmental Programme for Companies and Industries (2007) and a National Policy of Logistics (established in 2008). These confirm the commitment to SCP expressed in the Colombian National Plan of Development of 2006. The principles on which a series of agreements between Colombian environmental authorities, industry, civil society and technical experts are based contribute to the success of the Colombian National Plan of Development. Among its principles are (Government of Colombia, 2010):

- Ethics
- Assistance to the enforcement of environmental regulations
- Transparency on the implementation of the policy
- Participation of public, private and social actors within a framework of collaboration and mutual engagement

Colombia's SCP policy also includes guidelines for its implementation, and instruments for evaluation and follow-up of environmental commitments. The policy targets specific sectors such as construction, agribusiness, tourism, SMEs and the public sector.

These measures have contributed to the following environmental accomplishments in Colombia:

- Recycling of 14 million gallons of used motor and industrial oil (Ministerio de Ambiente, Vivienda y Desarrollo Territorial, República de Colombia, 2009)
- Recycling and/or disposal of 3 million components of cellular phones (Catorce6, 2009)
- Refrigerators produced in Colombia are now chlorofluorocarbon-free
- Products containing halon gas cannot be imported anymore
- Ninety per cent reduction in the baseline of carbon tetrachloride (CCl4), frequently used in fire extinguishers and cleaning agents (UNECLAC, 2010)
- Reduction of toxic waste in Colombian mining processes involving mercury and other hazardous substances

are taking place in Argentina, Brazil, Colombia, Cuba, El Salvador and Nicaragua. These initiatives focus mainly on the energy, water and tourism sectors.

Cuba stands strong both in terms of its institutions and laws related to the environment and social affairs, as well as in the number of SCP-related indicators. The Cuban government developed an SCP programme with a sectoral approach in 2010. It has a strong environmental policy framework, which builds on the National Environmental Strategy (Estrategia Ambiental Nacional, 2007-2010). It regulates the protection of the environment, its conservation and its rational use, combating the causes of its deterioration, and it reduces and eliminates environmentally unsustainable modes of production and consumption. Likewise, the Ministry of Environment and other state administrations have developed specific strategies for resources and sectors such as water resources, energy, food production and construction (Ministerio de Ciencia, Tecnología y Medio Ambiente [CITMA] and Centro de Información, Gestión y Educación Ambiental, 2010).

The Cuban SCP and Resource Efficiency programme (2010-2015) addresses the problems of consumption, production and use of resources in an integrated manner in all different political areas, including national, sectoral and institutional organizations. SCP has also been integrated in Cuba's guidelines for economic and social policies.

The SCP programme is considered an essential instrument used to support the national process to actualize the Cuban Economic Model and contribute to the achievements of its goals, according to the Cuban presentation at the regional SCP meeting in Panama (November 2011).

Colombia also developed its National Sustainable Production and Consumption Policy in 2010. The SCP policy in Colombia is an extension of two earlier policies, one addressing CP and the other, green markets. The SCP policy revolves around eight priority areas of intervention, which include sustainable infrastructure, environmental regulation, responsible procurement, capacity-building and investigation, culture and self-management, supply chain management, green markets and, as an umbrella for all other priorities, management and integration of different stakeholders (Ministerio de Ambiente, Vivienda y Desarrollo Territorial, Viceministerio de Ambiente, Dirección de Desarrollo Sectorial Sostenible, República de Colombia, 2011).

The government promotes awareness and action on SCP through regulation and public policies that influence the behaviour of the population, for example, by providing information on the impact of large infrastructure projects, such as the public transportation system. Also, through taxation and regulations such as a deposit-refund scheme or favouring reuse over single-use, the state is promoting closing the loop of materials. Such economic and regulatory instruments are also the central mechanisms that assures the application of multilateral environmental agreements ratified by the Colombian government (Ministry of Environment, Housing and Territorial Development of Colombia, 2011).

By 2020 the National Sustainable Production and Consumption Policy aims to significantly curb the

CASE STUDY 4

Campaign: Plastic Bag is a Drag

To address the priority 'Education for Sustainable Consumption,' in 2009 the Ministry of Environment of Brazil, launched a campaign called Bag is a Drag (Saco é um saco!). The largest supermarket chains in Brazil supported the campaign. In March 2011, the Ministry of Environment signed a sectoral pact with the Association of Supermarkets with the objective of reducing 30 per cent of plastic bags in stores of all over country by 2013 and 40 per cent by 2015. After 18 months, the campaign achieved a reduction of five billion plastic bags in Brazil (Silva, 2011).

Photo courtesy of Ministry of Environment, Brazil

use of natural resources, while increasing the value of exports of environmental goods and services. It also focuses on strengthening institutional capacity for SCP. Columbia's Environmental Programme for Business focuses on raising awareness of sustainability among companies. The results of the SCP strategy are published annually using 15 sustainable development indicators, many of which are directly relevant to SCP, such as: efficiency in the use of resources, number of green companies, number of employees among the institutions dedicated to programmes and projects on SCP (Ministry of Environment, Housing and Territorial Development of Colombia, 2011).

Brazil is another country that has developed a National Action Plan for Sustainable Consumption and Production (2010-2013). It shows a vigorous and continuous process of coordination with other national policies and engagement of all stakeholders (state governments, private sector and civil society). The National Action Plan builds linkages with other strategic plans such as the National Plan for Climate Change and the National Plan for Solid Waste (Secretária de Articulação Institucional e Cidadania Ambiental, Ministério do Meio Ambiente, 2011).

Brazil's 1998 National Action Plan on SCP led the way in the region by being the first of its kind. Currently, the plan has already been revised and integrated with the policies for climate change and waste management. The policy foresees an implementation structure that strongly reflects the management of the Marrakech Process, with the establishment of task forces, the involvement of private sector voluntary initiatives and other activities promoted by governmental counterparts. It seeks broad inclusion of different ministries in the country. The Ministry of Environment maintains a coordination and facilitation role, but does not lead the implementation of actions in a number of thematic areas.

Under the coordination of the Ministry of Environment, the latest Brazilian National Action Plan was launched in November 2011, after a broad participatory national consultation process. This action plan is a guide to identifying, managing and coordinating actions to change the current patterns of consumption and production.

The plan will be implemented in the 2011-2013 period and identifies five main priorities:

- Education for Sustainable Consumption (see Case Study 4)
- Sustainable Buildings
- Sustainable Retail
- Green Public Procurement
- Implementing an Environmental Agenda in Public Administration
- Increased Recycling of Solid Waste

The National Action Plan has helped to raise awareness on sustainable consumption through: an initiative on SPP; policies for the disposal of solid waste; the green label Colibri, run by the Brazilian Association of Technical Standards; and sustainability initiatives in the building sector in general and more specifically in housing, like the Sustainable Urban Housing Initiative (SUSHI) project (see Case Study 5).

Uruguay has developed a 2010-2015 National Action Plan for Sustainable Consumption and Production. This plan is to be integrated and coordinated with other strategic plans such as the National Plan for Climate Change and Energy Development. The SCP action plan was developed in coordination with the Regional Action Plan of the Mercosur.

In Jamaica, the National Environmental Action Plan 2006-2009 remains the most important sustainable anchor in Jamaica's political structure. It has 16 areas, many of which are related to SCP, such as green consumption, demand management and environmental systems management, among others. It contains a set of indicators, some of which are related to the Millennium Development Goals and linked to regional and national information systems.

The Dominican Republic National Policy on Sustainable Consumption and Production 2010-2020 established 23 goals to achieve their overall objectives, and a total of 63 indicators to monitor compliance with those goals (Dominican Republic, 2011). The Domincan Republic's SCP policy has been developed on the basis of the Central American Regional Policy on Cleaner Production 2005-2010, and is promoted by the Central American Commission for Environment and Development. It incorporates guidelines associated with Environmental Management Systems into its approach to operate with the private sector, enabling businesses to reduce environmental impact and increase operating efficiency (Dominican Republic-Central America-United States Free Trade Agreement [CAFTA-DR] Environmental Cooperation, 2011).

The Dominican Republic's policy sets out to create and promote links among the public, private and academic sectors, to incorporate practices, processes and technologies for sustainable production. Current institutions that foster integration of SCP, such as the Inter-Agency Technical Committee of Cleaner Production and the National Network of Cleaner Production, will be strengthened as a matter of priority (Dominican Republic, 2011)

CASE STUDY 5

Sustainable Buildings in Brazil[†]

Developing tools and strategies for achieving the wide acceptance and adoption of sustainable building practices throughout the world is one of four key goals guiding the work of the UNEP Sustainable Buildings and Climate Initiative (UNEP-SBCI). To achieve this goal, UNEP-SBCI provides policy advice and support for achieving high-efficiency and low-GHG-emission buildings, particularly in developing countries.

The Sustainable Urban Housing Initiative (SUSHI), drawing on the research of UNEP-SBCI and its network of expert members, develops approaches for including sustainable building principles in the design and construction phases of social housing. The added value of SUSHI lies in addressing common problems in the development of affordable housing, such as employing standardized design solutions, which are often poorly adapted to local conditions, and the use of low-quality materials (Vanderley, 2010).

SUSHI it has already been piloted in Sao Paulo, Brazil, and Bangkok, Thailand (Vanderley, 2010). A range of stakeholders have been engaged in these two locations, including federal and local governments, the Federal Economic Bank, the Community Organization Development Institute, the Brazilian Chamber of Construction Industry, UNEP-SBCI members and private companies.

At the Brazilian pilot site (in Cubatão, Sao Paulo), SUSHI has resulted in improved working conditions, higher-quality construction, better waste management and reduced impact of new buildings on their surroundings.[††] It has highlighted some key design features that are easily replicable. These include: the use of natural ventilation, lighting and shading to increase energy efficiency and reduce energy demand, and the use of rainwater harvesting and water recycling techniques to minimize the production of wastewater from domestic appliances and activities (SUSHI, 2010).

In Brazil, the National Programme on Energy Efficiency provides building ratings by selecting building materials, considering the choices of lighting and air conditioning (SUSHI, 2010). Additionally, the Federal Economic Bank labels the housing projects according to the degree the developer adheres to sustainability practices. To award a Blue House Seal, the Federal Economic Bank analyzes criteria grouped in six categories: urban insertion, design and comfort, energy efficiency, conservation of material resources, good use of water and social practices. The objective is to encourage construction of housing units that respect the environment during construction and operation, while at the same time providing good comfort and health conditions for their users. The Blue House Seal is divided into Gold, Silver and Bronze categories. To receive a Gold ranking, the building must meet at least 24 of the 46 conditions. Those that meet 19 criteria will receive Silver, and those that meet at least the 14 mandatory criteria will receive Bronze. This system allows developers to properly market projects that have gone beyond the minimum building requirements.

[†] For more information on the SUHSI project, go to: http://www.cbcs.org.br/sushi/images/relatorios/Final_Brazil_reports_160511/1_Mapping_090511.pdf

[††] SUSHI (unpublished). Progress and Results, December 2010.

Policy instruments

To improve resource efficiency and promote SCP, governments use a number of policy instruments to shape consumption and production patterns (German Technical Cooperation and Centre on Sustainable Consumption and Production, 2006). According to the *Global Outlook on SCP Policies* survey and desk research in the countries of the LAC region, the most widely used policy instruments are voluntary agreements,[4] followed by information-based and economic instruments.

4. Voluntary agreements are often developed by partnerships between government and business and include voluntary reporting initiatives, setting of voluntary targets for product improvements and emissions reductions, voluntary certification schemes, etc.

Voluntary agreements

Some of the voluntary agreements in the region include certification schemes for CP, based on principles of corporate social responsibility. The two countries in Central America, where real advancements have been achieved, are El Salvador and Costa Rica. In Guatemala and in Nicaragua, technical programmes similar to the voluntary agreements have been carried out. In Honduras a voluntary agreement is being developed for the Hotel sector.

In Costa Rica, Corporación de Fomento Ganadero, which comprises around 60 per cent of total national beef production – agreed in 2008 to adopt CP practices through a voluntary agreement with

the Environmental Management Department. The agreement includes measures to reduce the use of water and electricity, to seek alternatives for the disposal of solid waste, to recycle waste, and to train their staff on CP issues. A similar agreement was signed in 2009 with 19 pig farmers. This initiative has had good results with relevant measures being applied at the slaughter plants, especially when dealing with liquid and solid waste. The Ministries of Health, Labour and Social Security, Agriculture, Environment, Energy and Telecommunication, together with representatives from livestock sectors, form part of the follow up Committee for Voluntary Agreements on CP in Costa Rica (United States Agency for International Development [USAID] and CCAD, 2009b).

In Guatemala, the Ministry of Environment and Natural Resources released a Cleaner Production Voluntary Agreement Regional Strategy promoting public-private partnerships for the application and enforcement of environmental laws. It includes collaboration with the CCAD and the Guatemalan Cleaner Production Centre. The strategy also aims to create the appropriate conditions to improve competitiveness and adoption of CP plans. Support for the programme is provided by USAID (USAID and CCAD, 2010).

In Nicaragua, the Ministry of Environment and the National Cleaner Production Centre have worked on a voluntary agreement on CP for the dairy sector. This process is part of an agreement between CCAD and USAID, to support Nicaragua in fulfilling its environmental obligations under the trade agreement between the Dominican Republic, Central America and the United States (USAID and CCAD, 2009a).

Nicaragua is a major producer of dairy products like milk and cheese. The government is determined to curb the environmental pollution resulting from these activities, and at the same time, promote industrial development of SMEs. Hence, the agreement is expected to increase companies' efficiency and their compliance with environmental legislation, as well as strengthen their environmental commitments (USAID and CCAD, 2009a).

In Colombia, the National Centre for Cleaner Production and Environmental Technologies operates the Industrial Waste and Byproducts Exchange, an electronic platform where companies voluntarily disclose information on quality and quantity of waste (Bolsa de Residuos y Subproductos Industriales, 2011). This disclosure, in turn, stimulates other firms to assess their interest in utilizing such materials within their production cycle, therefore turning waste into a resource. Costa Rica also has a waste and by-product exchange system. The concept builds on similar international experiences, such as the by-product exchange of Catalonia, Spain, and the recuperation, recycling and reintegration schemes in Switzerland. The platform concept is being expanded to other Central American countries, such as Ecuador, with the support of the CCAD (National Cleaner Production Centre Colombia and Empa, undated).

Information-based instruments

The Tourism Institute of the Government of Costa Rica provides Certification for Sustainable Tourism, which includes aspects of social and environmental responsibility such as: services and infrastructure (product use and disposal, water and energy management); social and economic impact (looking at the impact that businesses have on local communities); client orientation (looking at business actions to raise awareness for responsible tourism with their guests) (Certification for Sustainable Tourism, 2010). Although the application process is voluntary, the certification is only awarded to applicants that have met the prescribed standards.

Regulatory instruments

Since the inception of environmental policy, the predominant strategy for pollution control has been the use of regulatory instruments, where a public authority sets standards, and then monitors and enforces its compliance. These regulations may specify an environmental goal, or mandate the use of a particular technology or process (UNEP, undated, a).

With respect to policy and legal instruments, SPP schemes are commonly used in the LAC region. According to CEGESTI (2009), half the LAC countries claim to implement SPP. For example, Mexico and Brazil started implementing SPP policies in 1999 and 2006 respectively. Recently, with the support of UNEP and the Marrakech Task Force on Sustainable Public Procurement, 50 people from governmental institutions, representatives of the private sector (industrial associations), and technical experts/ consultants from 17 countries within the LAC region have been trained on SPP (CEGESTI, 2009). As a result, countries like Colombia, Costa Rica, Chile and Uruguay have started to implement pilot projects on SPP. Furthermore, institutions like the Organization of American States and the Inter-American Development Bank provide ample platforms for exchange and discussion in the field of public procurement. UNEP plans to scale up its current activities on SPP in the region from 2012 to 2014 as interest grows in more countries (Ecuador, Peru, Nicaragua, among others).

6.4 SCP initiatives for and by business

This section reviews business activity in the LAC region that helps to promote SCP. It looks at the wider corporate, social and environmental responsibility practices, examples of sustainable production processes, new business models and training activities, and identifies relevant and promising exemplary activities and practices to move towards SCP in the region. The examples explored here were selected for their relevance to the region and the importance of the SCP agenda in respective countries.

In the past, the concept of corporate social responsibility (CSR) was linked to the corporate philanthropic activities of some big companies. However, the concept has evolved to include the environmental, social and economic performance of companies (Correa and others, 2010). According to Correa and others (2004), key issues among the CSR programmes in Latin America include: community development and environmental impacts, supply chain management, and corporate governance and transparency.[5]

In the LAC region, over 95 per cent of the companies are micro enterprises or SMEs, and even though they contribute less than 50 per cent to the region's gross domestic product, they are the source of almost 70 per cent of employment (Correa and others, 2010). The increasing number of tools and instruments developed to promote better social and environmental management in SMEs serve as indicators for progress in the shift towards SCP patterns.

Some of these tools include: the guidelines for SMEs of the Global Reporting Initiative; the Indicators for CSR (IndicaRSE), developed by CentraRSE in Guatemala; the indicator tool created by the Colombian Business Council for Sustainable Development and implemented in Colombia; and the indicator systems proposed by Ethos Brazil and the Argentinean Institute of Corporate Social Responsibility (Correa and others, 2010). The

5. The countries studied in this report were Argentina, Brazil, Chile, Guatemala, Mexico, Panama and Peru.

CASE STUDY 6

Reducing GHGs by switching to solar energy for production in Guatemala

Alimentos Campestres, S.A. is a Guatemalan producer of dehydrated fruits and vegetables, and distributor of foodstuffs in general. The company has been processing dehydrated fruits and vegetables for more than 20 years. It sells its products in Guatemala and exports its products to Canada, Mexico, the United States and Central America.

To reduce its costs in fuel and independence on outsourced dried fruits, the company decided to convert its propane-based drying system to a 100 per cent solar drying system. In 2008, the project was completed with cooperation from partners including Alianza en Energía y Ambiente con Centroamérica, CONA, Austria, a producer of solar air energy technology for drying processes, and E+CO Lac of Costa Rica, a fund manager specializing in the development and management of investment portfolios in companies and projects in the sectors of clean energy, energy efficiency and cleaner production in developing countries (Eandco Investments, 2011; Revistaindustria, 2009).

This change contributed to the reduction of GHG emissions and generated employment and community development in rural areas. The conversion of the energy system prevented the combustion of 11,918 gallons of propane gas, and therefore reduced CO_2 emissions by 68 tons. In one year, the company saved almost US$87,000 on its gas bill (Alimentos Campestres S.A., 2010).

The recovery period of such an investment is estimated at approximately 5.47 years, if current trends of use at the plant continue for 150 days a year. However, if the plant is used throughout the year, the recovery period is reduced to 2.28 years. The project has attracted strong interest in the use of solar energy by other countries around the region. The company currently has about 400 m^2 of solar panels; this represents the largest area of solar energy collection in Central America (Eandco Investments, 2011).

CASE STUDY 7

Resource-efficient coffee production in Panama

Kotowa was founded in 1999 and employs about 35 people in low season and around 100 during harvest time. Exporting to specialty coffee markets in Europe, Japan and the United States, the company produces, exports and sells its coffee in retail coffee shops.

Kotowa reports that it does not use any chemical pesticides or herbicides in the cultivation of coffee. The company produces and processes about 123 tons of coffee on approximately 75 ha of land dedicated to agriculture, and has retained around 500 ha of virgin forest as a wildlife sanctuary. The company has invested in the development of new products, such as organic coffee, and in improving their systems to make them more socially and environmentally friendly. They also assist their workers' children with medical care, food and education. Their efforts have been recognized by UNICEF.

Kotowa has also invested in water efficiency systems. For example, in 2000, it switched from siphon water tanks, where good and bad coffee grains are separated using 6 litres of water/kg of dry coffee, to dry tanks and a mechanically driven transport system that uses no water at all. It changed the transport tubes for the pulp and coffee that used 2 litres of water/kg of dry coffee to systems driven by mechanical screws that use no water. Kotowa's traditional disk pulp, used for removing the cover of the grains, that had a high water consumption of 15 litres/kg of dry coffee, were replaced with systems that do not need water. To remove mucilage, Kotowa switched to a mechanical fermentation system that reduces the use of water from 1.5 litres/kg to 0.18 litres/kg, thus reducing the amount of water used by 88 per cent. The company also installed a water recirculation system for classifying the washed coffee by density, reducing water consumption from 4.2 litres/kg of dry coffee to 0.14 litres/kg of dry coffee. In total, they have been able to reduce water consumption from 30 litres/kg of dried coffee to less than 1 litre/kg of dry coffee.

The company has also been able to convert 300 tons of waste in the form of coffee pulp into organic fertilizer, hence turning waste into a resource. In 2006 Kotowa was awarded the annual prize for the cleanest industry by the National Environmental Authority in Panama.

Source: personal communication, Ricardo Koyner, 16 May 2011

Argentinean Institute of Corporate Social Responsibility was founded in 2002 with the mission to promote and disseminate the concept and practice of CSR and sustainable development in Argentina.

To encourage SMEs to incorporate and measure CSR practices, the Argentinean Institute of Corporate Social Responsibility, in partnership with Grupo Prominente, an information technology solutions company, developed the ETHOS/IARSE SMEs indicators. SMEs can use this software for self-evaluation, measuring the company's performance in seven areas of social responsibility management. The data can be uploaded to the web and companies' performances can then be compared (Pectra, 2007).

In addition to the above SME indicators, the Ethos Institute of Brazil has developed indicators in these selected sectors: mining, energy, paper and cellulose. The Institute's website (www.ethos.org.br), has become the main portal for corporate social responsibility in the country. In order to mobilize and support companies willing to manage their businesses in a socially responsible way, the institute relies on regional associates to promote CSR through periodical events and the exchange of experiences among companies.

A number of associates have already established centres and programmes for CSR promotion and implementation, including: 8 industrial federations, 33 associations and NGOs, 7 media groups and 45 third-level educational institutions. The Institute currently runs regular activities in the 12 states with the highest concentration of companies in Brazil. In Brazil and across the region, companies are increasingly taking action on environmental management. The number of companies with International Organization for

CASE STUDY 8

Recycling for energy credits

La Companhia Energetica do Ceará, Brazil, is one of the largest electricity suppliers in the country, covering 184 municipalities with a population surpassing 8 million people. In 2007, it launched a major exchange programme of recyclable products for energy credits in the state of Ceará. This programme, called Ecoelce, allows low-income consumers to exchange a number of recyclable items for credits towards their electricity bill. Considering that close to 8 per cent of the Brazilian population lives on less than a dollar a day,[†] this kind of programme can promote poverty reduction at the same time as environmental protection (Infoambiental.es, 2010). This initiative has benefited 345,000 clients, who have received the equivalent to €515,000 in credits towards their electricity bills (personal communication, Sergio Araujo, 6 October 2011).

The success of this initiative depends on factors such as: direct contact with local authorities and with the National Agency of Electric Energy, a convenient collection system and a flexible system of billing, allowing clients to exchange their credits (Compromiso RSE, 2010). The future viability of this programme will largely depend on the strengthening of these institutional agreements and the participation of CSOs in the promotion of recycling activities. Areas for improvement include the need for an increased number of strategically located recycling posts, as well as improvements to the system for accounting for waste.

Source: InfoAmbiental.es (2010); Compromiso RSE (2010)

[†] According to figures from the United Nations Millennium Development Goals of 2006 (ECLEC, 2009)

Standardization (ISO) 14001-certified environmental management systems has grown significantly in the last 5 years. Between 2000 and 2009, the number of certified companies grew extraordinarily in many countries: in Argentina, it grew almost tenfold from 114 to almost 1,000; in Brazil, it grew from 330 to 2,600; in Mexico, it grew from 159 to 550; and in Venezuela, it grew from 7 to almost 60. The increase in ISO 14001 certificates is a significant development for the LAC region (Baskin, 2006).

The National Cleaner Production Centres (NCPCs) have become key players in helping businesses adopt good environmental practices and move towards SCP in the LAC region. Funded with the support of the United Nations Industrial Development Organization (UNIDO) and UNEP, NCPCs promote the investment, development and transfer of CP technologies and equip SMEs with the necessary tools to respond to the demands of regional and global markets for environmentally sound products. Sixteen out of 45 NCPCs worldwide are located in Latin America (in Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru and Uruguay). The technical capacity established at these centres has also made them key government partners in the implementation of SCP-related activities (UNIDO, 2009b).

The NCPSs support businesses in the region in three main industrial sectors: agro-industries (food, drinks, coffee, milk); the chemical industry (chemicals, plastics, paint); and the metal-mechanical industry (UNIDO, 2009b).

At the regional level, the CPLatinNet brings together cleaner production centres that had been established under the UNIDO-UNEP programme and through other bilateral initiatives from 12 countries. The knowledge management system[6], developed with funding support from the governments of Austria and Switzerland, contributes to knowledge sharing.

On a national level, the Center for Eco-Efficiency and Social Responsibility in Peru provides technical assistance for issues such as integrated management of solid waste, development and implementation of systems for the quantification of GHGs, and the implementation of projects under the Clean Development Mechanism (Centro de Ecoeficiencia y Responsabilidad Social, 2011). The implementation of several CP options proposed to Metalexacto, a small lead foundry in Peru, by NCPCs reduced the lead content in their waste by 19 per cent and enabled the recovery of

6. Explore CPLatinNet at http://www.produccionmaslimpia-la.net.

CASE STUDY 9

The cost and benefits of implementing global sustainable tourism criteria

In 2003, the Rainforest Alliance initiated its Sustainable Tourism Best Management Practices programme, suggesting solutions and helping hotels meet the standards of their respective national certification programmes. In an effort to identify commonalities among national-level certification standards and help communication among programmes, the Rainforest Alliance helped to create a set of baseline criteria that would reflect the standards of all programmes within the network. Working with standards from Costa Rica, Ecuador, Brazil, Guatemala and the United States, along with the Green Globe International Standard, a group of consultants from Rainforest Alliance and other network members developed a database to systematically categorize the different standards (Newsom, 2008).

In 2009 the Rainforest Alliance, with the support of the Inter-American Development Bank's Multilateral Investment Fund, surveyed a group of 14 tourism business owners who had been involved in its sustainable tourism best practices programme for over two years. The businesses that participated in this study are located in five Latin American countries: Belize, Costa Rica, Ecuador, Guatemala and Nicaragua. They operate in different market segments and are of varying sizes (Rainforest Alliance, undated).

The following are some of the most notable results as reported by the Rainforest Alliance (Rainforest Alliance, undated):

- Of the hotels surveyed, 71 per cent decreased their water consumption. In monetary terms, this decrease resulted in average annual savings of $2,718 per year; one Nicaraguan hotel reported a savings of $7,900, the most of any property in the study.
- Ninety-three per cent of the businesses decreased their energy consumption, even though 15 per cent of them expanded their installations. The reduction in electricity consumption resulted in lower power costs for 64 per cent of the businesses. The average savings in this area was US$5,255 annually, with one Nicaraguan hotel saving US$17,300.
- Seventy-one per cent of the businesses reduced their solid waste production, and the remaining 29 per cent maintained stable waste levels, even though their occupancy rates increased.
- The decrease in garbage production also generated savings, with 79 per cent of the businesses repurposing discarded materials. For example, one hotel in Ecuador calculated an annual savings of US$3,600 from the repurposing of materials, which resulted in decreased waste transfer costs.
- All of the hotels utilized the services of micro and SMEs in their area. As a result, 64 per cent indicated that they had experienced savings in transportation and other costs related to goods and services.
- The connection with local development is notable in various areas; 100 per cent of participants hired local people and businesses found that their employees were more motivated after attending sustainability training sessions and seeing improvements in job quality. Ninety-three per cent of the businesses reported a decrease in staff turnover.
- Of the hotel owners surveyed, 79 per cent indicated that, as a result of hiring local people and supporting microenterprises, the local community showed them more respect and collaborated with them to a greater degree.
- The greatest investments in implementing best practices were time and the purchase of equipment and infrastructure. The range of investment reported was between 1 and 3 per cent of the hotels' operating costs.
- Of those surveyed, 83 per cent indicated that their businesses had invested in improving electrical installations, whereas 50 per cent took other steps, such as using solar energy to heat their pools, installing heat insulation, creating natural cooling systems and producing educational pamphlets. The costs of these improvements were between 1 and 10 per cent of annual operating costs.

Source: Rainforest Alliance (undated)

nearly 350 tons of lead per annum. According to UNIDO, total GHG emissions were reduced by 270 tons annually (UNIDO, 2011).

The Guatemalan Center for Cleaner Production trains business, public and private institutions. The centre offers a diploma in CP and Environmental Management Systems, and other courses on energy efficiency, and reduction and recovery of solid waste. An example of switching to renewable energy in Guatemala shows the financial benefits of adoption of such methods (see Case Study 6).

In Nicaragua, the NCPC has implemented a programme to increase the competitiveness of SMEs, while increasing decent employment on the island of Ometepe. The programme's eco-efficiency approach aims at positioning Ometepe as a 'green island'. So far, 25 tourism and agro-industry companies have incorporated eco-efficiency practices into their operations, based on assessments carried out by the NCPC, and have seen reductions of 20 per cent in water use and 15 per cent in electricity consumption (Centro de Producción más Limpia de Nicaragua, 2011).

Promising signals of cleaner production in Latin American countries can also be illustrated by way of examples in the farming sector. Sustainable land management practices used at the Rio Muchacho organic farm in Manabi, Ecuador, include a biogas system based on a simple Vietnamese design that ferments manure to create methane for cooking, lighting and heating water, and as an input for biological fertilizer. A bicycle-based manual system pumps water to the main tanks above the kitchen and all water from hand basins, showers, laundry and kitchen is recycled and reused, passing through a grease trap and a series of filters. Some electricity comes from the national grid, but an increasing proportion is provided by solar panels. Another example of cleaner production of coffee illustrates progress and potential for CP in the farming sector (see Case Study 7).

An innovative example of a business model contributing positively to the environment while expanding its core business is the exchange of items for recycling against energy bill credits in Ceará, Brazil (see Case Study 8).

One of the most important business sectors in LAC is tourism. According to the April 2011 interim update of the *United Nations World Tourism Organization Barometer*, growth in tourism was positive almost everywhere in the world, and South America and Asia were leading the growth (each at more than 15 per cent) (United Nations World Tourism Organization, 2011).

While tourism is a vital source of income for developing countries, it can also result in pollution, deforestation, inefficient energy use and cultural exploitation (Clark, 2011). Incorporating SCP processes is hence vital and increasingly taken up by the business sector. Sustainable tourism initiatives have been growing.

In 2008 Latin America reportedly had 167 businesses certified by independent sustainable tourism certification programmes (Barclay, 2008). As of October 2007 Costa Rica led among Latin American countries in certified sustainable tourism operations, with 68 certified businesses, up from 51 in 2006 (Barclay, 2008). The definition and harmonization of sustainable criteria is an ongoing global effort. To harmonize sustainable tourism criteria, a coalition of 27 organizations came together in 2007 to develop Global Sustainable Tourism Criteria. Examples of the application of harmonized standards as benchmarks, and the benefits of application, can be seen in hotels in Belize, Costa Rica, Ecuador, Guatemala and Nicaragua (see Case Study 9).

6.5 Civil society initiatives for SCP

As active promoters of sustainable practices among the different actors of society, CSOs of the LAC region are strong advocates for the adoption of SCP programmes, policies and practices. Informing, training, enabling and thus empowering citizens is a fundamental role of CSOs within the LAC region. Educational initiatives on sustainable consumption on radio, TV or in newspapers, and the generation of easily accessible information are all ways in which committed organizations promote SCP and the protection and conservation of the environment.

CSO promote fair and sustainable trade, as well as responsible consumption. Some important functions CSOs in LAC carry out consist of:

- Providing technical assistance and advice for the implementation of SCP projects and SCP-related standards to companies
- Promoting environmental education and awareness among the public and private sectors and society as a whole
- Providing advice to small entrepreneurs and producers' cooperatives interested in accessing international markets and complying with sustainability standards
- Building specialized networks on environmental policies
- Providing research and contributing to global dissemination of knowledge

CASE STUDY 10

Environmental awareness goes virtual

Public awareness and education on environmental issues is a concern of the Global Environmental Citizenship Programme of UNEP. A partnership with Consumers International gave birth to projects such as the Virtual Schools of Consumption (VSC). As part of this movement, the Colectivo Ecologista Jalisco (CEJ), an environmental NGO that has advocated for environmental education in Mexico since 1986, has implemented VSC in Mexico in 2005. These virtual schools are developed on the basis that everyone is a consumer and our habits matter. People are socially conditioned and influenced by many different factors to consume more than they need. Many have never been taught how to consume in a responsible manner. Seeking to accomplish such a purpose, VSC provides an interactive learning platform.

The VSC guides the consumer through the following six topics: i) how to become a responsible consumer, ii) toxic products at home, iii) waste management, iv) biodiversity and consumption, v) trees living in the city and vi) urban mobility. The section on toxic products at home, for example, covers subjects such as how toxic products enter the human body through cleaning and personal care products, food and insecticides. It also educates about risks particularly relevant for children and provides alternatives as well as ways to find out about the level of toxicity in daily life.

Each of the virtual schools contains a self-assessment tool allowing the consumer to assess his or her level of knowledge. The website provides a powerful education tool for teachers, community organizers and parents. The educational material can be used for free by third parties within seminars, academic courses, blogs or other formats.

Source: CEJ (2011a, 2011b)

Based on desk research, this section reviews activities by CSOs that are illustrative of the work related to SCP by CSOs in the region. Brazilian organizations have taken considerable leadership on research and action on SCP, which might be related to Brazil's economic leadership in the region and the demands for better products by its growing middle class with increased spending power.

The Brazilian Institute for Consumer Protection was founded in 1987 and has no financial links with business, government or political parties. It is a Latin American member of: Consumers International; the Brazilian Forum of Civil Society, which is designed to strengthen the consumers' movement across the country; and the Brazilian Association of Non-Governmental Organizations. The institute's work focuses on education about consumer rights and consumer protection, including work on regulating or avoiding the inappropriate advertising of unsafe and unhealthy foods and beverages for children.

Another example of SCP-related work for sustainable consumption in Brazil is the work of the Akatu Institute for Conscious Consumption. It builds partnerships with the private sector and raises awareness on education for sustainable lifestyles in Brazil. Since May 2003, with the support of the Avina Foundation and other partners, Akatu has been working on creating tools to disseminate the concepts and practices related to conscious consumption.

An example of online tools for educating civil society and promoting SCP, are the Virtual Schools of Consumption (VSC) (Escuelas Virtuales de Consumo), implemented in Mexico by the Colectivo Ecologista Jalisco (CEJ) which attempts to show the consumers the importance of their purchasing decisions (see Case Study 10).

The UNEP/UNESCO YouthXchange Initiative, which promotes sustainable lifestyles among young people aged 15 to 24 around the world, is one of the most active networks focusing on sustainable consumption regionally. This initiative has implemented national and local activities in Argentina, Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, Mexico and Peru. The YouthXchange training kit on sustainable lifestyles

has been adapted and translated into Spanish (Spanish title: *Jovenes por el cambio*). YouthXchange contains regional, national and local statistics, case studies, games, examples and useful tips on how to adapt sustainable lifestyles to a young audience. In addition, partnerships and capacity-building workshops have taken place at the regional and national levels, with governments, universities and non-governmental institutions in the region.

Influencing government is one of the core aims of CSOs. While it is difficult to measure the exact influence of CSOs over governments when it comes to SCP, their activities are important drivers. In Uruguay, for example, after the national elections of December 2009, the Uruguayan Network of Environmental Organizations established a consulting panel of environmental organizations and accredited experts from each of the political parties with representation in Congress. The purpose of the panel was to provide advice on issues such as education, energy and environment. To date, the network has issued recommendations across four strategic areas: environmental management, climate

CASE STUDY 11

Recognizing nature's rights within the Ecuadorian constitution

As a component of the Greening Public Policies project, run by Grupo FARO with the support of the CAF and in partnership with several institutions, this initiative was born out of the conviction that building new trails for Ecuador's sustainable development path requires a deliberate and proactive civil society with the capacity to effectively influence public policy on the environment. To this end, it is necessary to build bridges between citizens and decision makers, creating lasting partnerships and sharing responsibility.

To this end, in 2010, Grupo FARO called on a number of CSOs to systematize and reflect on their advocacy experiences as a way to strengthen knowledge and share lessons on their role in policy formulation for sustainable development and sound environmental management. One of the cases selected by the project was Pachamama Foundation's experience in their efforts to have the National Constitutional Assembly recognize nature's rights.

Pachamama Foundation has been working since 2009 to foment the processes of recognizing nature's rights within national legislations of the Andean communities and institutions. After a series of consultations with these groups, Pachamama Foundation formulated a proposal for granting rights to nature.

Pachamama Foundation built their advocacy plan based on their experience working with a number of indigenous peoples in the Ecuadorian Amazon who have endorsed the recognition of nature's rights as part of their strategy for territorial defence against extractive industries, especially oil exploitation.

With the help of the law and human rights policies, the communities of the Shuar, Achuar and Kichwa people of Sarayaku in the south-central Ecuadorian Amazon have managed to stop the intended conversion of the extraordinarily biodiverse forests, which constitute their ancestral territory, into oil fields.

The support of key partners, such as assembly leaders, the President of the Constitutional Assembly, and recognized leaders of CSOs, were key for the initiative's success. A campaign to explain nature's rights was carried out with the help of media, such as television, radio and newspapers, as well as alternative means such as theatre, puppetry, film and video. On 7 July 2007, four articles (71-74) that form part of the articles developed to recognize the rights of nature and their support, were finally included in the Ecuadorian constitution under chapter VII, Title II. By incorporating the rights of nature in Ecuador's constitution and approving them in a referendum, the constitution's contents were democratized. The Ecuadorian experience represents a new model for human stewardship of the environment, aimed at reconciling conservation with development and the sustainable use of resources.

Source: Grupo FARO (2008)

CASE STUDY 12

The participatory guarantee system for organic crops in Brazil

Family farms, agricultural experts and committed consumers: Ecovida brings together buyers and suppliers, assuring quality, price and sustainability in the farming sector in Brazil. Ecovida encourages the production of organic crops through consumption partnerships, where farmers commit to delivering products that meet environmentally sound standards. Farmers commit to improving production processes, from incorporating various techniques for correction of soils to controlling pests, diseases and harmful weeds without the use of agro-chemicals. Ecovida, in turn, helps farmers organize themselves better and helps them to overcome barriers in the process of commercialization and industrialization.

In order to accomplish its purpose, a key to Ecovida's viability is the organization of a decentralized system of commercialization, through 23 regional centres in more than 170 municipalities in Brazil. Over 200 groups of farmers, 20 NGOs, 10 consumers' cooperatives and several environmental fairs work together for the production, distribution and consumption of organic produce. Ecovida also produces training material on the certification of organic products and on issues associated with transgenic farming.

Seeking to ensure that producers fulfil their environmental commitment, Ecovida uses a *certificao participa* (participative certification) eco-labelling system. Farmers certify that products have been cultivated and harvested following national and international criteria for organic food production. The Ecovida label is awarded after a series of auditing and verification inspections at each regional centre. The Ministry of Agriculture recognized Ecovida in 2010, acknowledging the environmental quality of their products and their productive units.

During the International Seminar on Alternative Certification, organized jointly by the Agro-Environmental Movement of Latin America and the Caribbean and the International Federation of Organic Agriculture Movements, the case of Ecovida was highlighted as an example of good practice in collaborative programmes between farmers and consumers in the creation of functioning organic markets.

Source: Uriart and others (undated)

change, public engagement and environmental institutions. Within the area of environmental management, the network has stressed the need for the promotion of cleaner production processes and preventive environmental strategies (Grupo Asesor Consultivo Interpartidario de Medio Ambiente, undated).

In Ecuador, the Foundation for the Advance of Reforms and Opportunities (Grupo FARO) promotes the shift from an unsustainable model of economic development based on the extraction of natural resources to a sustainable model of economic and human development. One of Grupo FARO's objectives is to help draft and evaluate public policies at local, central and regional levels, through research, capacity-building and strengthening public and private institutions, bringing them into dialogue with one another for better environmental governance (Grupo FARO, 2008). Thanks to the endorsement of the Andean Corporation for Development (CAF), Grupo FARO lead a project called Greening up Public Policies, with the participation of environmental CSOs. One of the innovative public policy proposals, compiled by the initiative (an editorial series) was the recognition of nature's rights within the Ecuadorian constitution (see Case Study 11) (Grupo FARO, 2008).

Another way that CSOs contribute to SCP is to support business in producing and marketing more sustainable products. Consumers can also become agents of change by demanding better quality and more sustainable products and services. The example of Comercio Justo illustrates the work of CSOs in LAC at the interface of consumption and production.

Comercio Justo Mexico A.C. (CJM)/Fair Trade Mexico, is a CSO that regulates and promotes fairly traded products and services from small producers. It supports small producers in introducing environmentally sustainable practices, contributing to their social and economic development. CJM

was founded to create a fair trade market following examples in other countries.

CJM found that it was necessary to consolidate the many efforts to create a domestic market for products from small producers and create a logo that would allow the consumer to identify quality products from those small producers. Some of the products that are already CJM-certified are: coffee, sesame oil and seeds, and honey (CJM, 2011)

Another example that illustrates the power of partnerships for SCP is the Ecovida Initiative in Brazil, which encourages the sale of organic agricultural products. While suppliers commit to quality and environmentally conscious production practices, the buyers commit to regular purchases at pre-determined prices.

6.6 Conclusions

The promotion of SCP policies in the LAC region has greatly benefited from a strong political commitment at the regional and subregional levels. This commitment is demonstrated by the formulation of a regional SCP strategy supported by the Regional Forum of Ministers of Environment (2003), and through the engagement of the subregional institutions, such as the Andean Community, CCAD, the Caribbean Community and Mercosur among other intergovernmental processes and institutions.

These frameworks have been supporting the dissemination of national initiatives, which led to the development of numerous national SCP action plans, strategies and policies. Dedicated SCP policies exist in many countries, including Brazil, Colombia, Cuba, Dominica, Dominican Republic, Ecuador, Mexico, Peru, St. Lucia and Uruguay. Honduras has started the process of national consultation.

In the majority of the cases, the SCP policy frameworks have been established in or after 2009. For this reason, concrete results of the implementation of the respective SCP policies will be reported within time. An effort is being made in the region to ensure that a common metrics is developed to assess the regional progress in the transition towards SCP patterns.

The case studies highlighted in this report have a common characteristic: a transparent and open consultation process involving governmental bodies, business and society, as illustrated in Brazil and Colombia. Further engagement of other ministers beyond departments of the environment will be vital if SCP objectives and policies are to be effectively embedded in national policy frameworks. The vision promoted by some of the countries involved in this process actually delegates the implementation of thematic and sectoral components of the strategy to other governmental or CSO national stakeholders, leaving the environmental authority to focus more on coordination, facilitation and engagement of the relevant actors.

The policies identified in the region suggest that governments have developed significant experience in cleaner production. The first NCPCs in Brazil and Mexico were jointly established by UNEP and UNIDO in 1995, and currently 19 countries in the LAC region promote the incorporation of sustainability in production practices. This is also reflected in CP policies, which often establish the basis for the formulation of an SCP policy. In a number of countries, NCPCs have also proved instrumental in fostering public-private partnerships that furthered SCP goals.

The evolution of the incorporation of sustainability in the production agendas foresees the incorporation of tools such as eco-labels, corporate environmental and social responsibility, corporate reporting, and environmental certification and accreditation programmes. The efforts on sustainable consumption in the region are more recent and SPP projects have been important components of it.

Several countries, including Argentina, Brazil, Colombia, Costa Rica and Uruguay, have made their first steps in implementing particular parts of the SCP agenda. They have promoted markets for sustainable goods and services by: translating regional policy into national legislation, developing SCP indicators, setting up a waste exchange platform and certifying sustainable tourism organizations.

CSOs have played a significant role in ensuring that SCP remains high on the government agenda. In particular, they have been successful in drawing the attention of consumers to SCP. By focusing their efforts on creating more educated and demanding consumers, CSOs are indirectly influencing the business practices of companies and stimulating the development of a market for sustainable goods and services. To this end, CSOs can play a vital role in better understanding and communicating the current patterns of consumption in the region. They have an important role to play in the promotion of formal and informal education on sustainable consumption at different levels.

In the business sector, changes and improvements to production processes have been some of the enterprises' main goals, through clean energy (solar), reduction of pesticides, recycling, and by building competitive advantages through the development of innovative products or services, including in the tourism sector.

Despite the benefits of such practices to businesses (not only environmental benefits, but also economic and quality advantages), SMEs in the region, which represent a significant share of the production sector and employment generation, need to be better equipped to consistently promote the inclusion of sustainable practices in their core businesses. Two major constraints that SMEs face are: (1) the lack of governmental incentives for continuous environmental improvement, which should become a vital component of SCP strategies to be developed in the region and (2) poor governmental tracking of the environmental performance of companies, which does not stimulate the compliance of environmental legislation by companies (Sosa-Reyes, 2000). There is a great need for additional financial support so SMEs can continuously improve by implementing environmental management and CP processes.

Poverty and inequality are a continuing challenge in the LAC region; SCP practices can help to alleviate poverty and improve the quality of life.

The fundamental role played by consumption and production patterns in the sustainable development agenda of the region has been continuously stressed by the governments of the region, and is again reinforced as a component in the process of preparing for the 2012 United Nations Conference on Sustainable Development. As the cases cited suggest, SCP promotes the development of better and safer products, the creation of new markets, the sustainable management of resources and the preservation of ecosystems services, while fostering the creation of decent jobs and a new path for the sustainable development in the region.

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7 Global Outlook on SCP Policies: United Nations Economic Commission for Europe region

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7.1 Introduction

The United Nations Economic Commission for Europe (UNECE) region consists of 56 countries (see Annex A for a full list), including 53 in the pan-European region, two in North America (Canada and the United States) and Israel. It is a culturally and environmentally diverse group that includes countries in widely varying stages of development. The pan-European map, redrawn by the social, political and economic transitions experienced by some countries of the region during the last 20 years, spans the following political, economic or geographic subregions: European Union (EU), the European Free Trade Association (EFTA), South-Eastern Europe (SEE) and Eastern Europe, the Caucasus and Central Asia (EECCA).

The effects of current consumption and production patterns clearly indicate that the region is on a development path that will prove unsustainable. This is particularly the case in the EU and EFTA countries and in the United States and Canada. It is, however, also applicable in the other subregions, with the transition countries of SEE and EECCA following similar development patterns (Watson and others, 2009).

Current environmental challenges in Europe and North America include (but are not limited to):

- The generation of waste is a major challenge in the pan-European region. The amount of municipal waste increases by an average of 2 per cent each year, and even more in EECCA (EEA, 2007). The intensification of economic activities outweighs the effects of waste prevention initiatives.
- Overfishing is still widespread in all pan European seas. Stocks in the North and Celtic Seas are in the poorest condition. A decline in biodiversity and the loss of ecosystem services continue to be a major concern. More than 700 European species are currently under threat (EEA, 2007).
- Despite the abundance of freshwater in North America, users are not always close to water sources. Limited water supplies have led to increased competition for water in parts of western North America, the Great Plains and the Great Lakes basin. Glaciers and snowpacks, a major source of the Canadian Prairies' water, are declining (United Nations Environment Programme [UNEP], 2007).

The aim of this document is to provide a general regional analytical report of the most relevant sustainable consumption and production (SCP) policies in the UNECE region. It is not intended to be a detailed list of all SCP policies and strategies, nor is it an exhaustive comparison of all the subregions.

7.2 SCP policies at the regional level

In the first initiative of its kind across the UNECE region, the Environment for Europe (EfE) ministerial conference[1] committed to SCP at its 2003 meeting in Kiev. UNECE followed up its Kiev initiative four years later, in Belgrade in 2007, by committing the region to the "development of national programmes, strategies and implementation plans, sub-regional and regional partnerships, involving stakeholders, in order to promote sustainable use of resources and SCP patterns" (Ministers of the region of the UNECE, 2007, para. 24). Many countries have since developed and begun to implement SCP strategies and action plans in line with these commitments.

Among the subregions of the UNECE region, the EU stands out with its regional-level SCP Action Plan and a range of related policies and strategies to increase the demand for sustainable goods and production technologies and create markets for sustainable products (UNEP, 2004). There is no equivalent regional SCP strategy in the SEE, EECCA or North America.

The SCP policy framework in the EU is a key aspect of its approach to sustainable development (SD), in line with the SCP goals in the Johannesburg Plan of Implementation endorsed at the 2002 Johannesburg World Summit for Sustainable Development. Another important early driver of SCP initiatives at the EU level was the Cardiff Process (1998), which promoted the integration of environmental considerations into sectoral policies. The Sixth Environment Action Programme of the European Community (6th EAP) identified the environmental goals for the period 2002-2012 and mandated seven thematic strategies relating to air, waste prevention and recycling, the marine environment, soil, pesticides, natural resources and the urban environment.

The broader framework of the EU 2020 Strategy, entitled *EUROPE 2020: A strategy for smart, sustainable and inclusive growth* (2010), ties economic growth to sustainability and social cohesion. Its flagship initiative, 'resource-efficient Europe,' supports the shift toward a resource-efficient and low-carbon economy (European Commission, 2010). It calls for: the use of financial and economic instruments, such as the national implementation of the Small Business Act suggesting inter alia to help small and medium-

1. The EfE is a high-level platform for stakeholders representing the governments of UNECE member countries, United Nations organizations in the region, other intergovernmental organizations, regional environment centres, non-governmental organizations (NGOs), the private sector and other major groups.

sized enterprises (SMEs) face the challenges of globalization and climate change; the wider use of green public procurement to encourage greater resource and energy efficiency; a more integrated transport system; a more rapid transfer of low energy technology into buildings; and energy-intensive industry. The strategy has key relevance for SCP, although its focus is mainly on technological solutions, with little emphasis on behavioural change.

The EU Sustainable Development Strategy, adopted by the European Council in 2006, was the first EU strategy to accord full political recognition explicitly to SCP. Recognizing the need to make a gradual shift away from current unsustainable consumption and production patterns, and towards a better-integrated approach to policymaking, it identified SCP as one of seven key challenges to address.[2] It also established the need to define an action plan on SCP.

The EU Sustainable Consumption and Production and Sustainable Industrial Policy (SCP/SIP) Action Plan (COM (2008) 397/3)[3] fulfils this commitment. It builds on the European Commission's 2003 Integrated Product Policy, which focused on minimizing the environmental impact of products by examining their life cycles and taking action wherever it can be most effective. The Integrated Product Policy uses both mandatory and voluntary tools, including "economic instruments, substance bans, voluntary agreements, environmental labelling and product design guidelines" (European Commission, 2010) while favouring market-driven approaches that take account of concerns over competitiveness.

The 2008 SCP/SIP Action Plan is the major overarching SCP policy document at the EU level. It aims to foster SCP by improving the environmental performance of products throughout their life cycles and stimulating demand for more sustainable goods and production technologies (Watson and others, 2009) through:

- A revised Eco-Design Directive for Energy-Using Products. Whereas the original 2005 directive covered only products that used energy directly, the revised Directive 2009/125/EC applies to any product that "has an impact on energy consumption during use," thereby covering such things as insulation materials, windows, and taps and shower heads.
- Stronger and more far-reaching ecolabelling and energy labelling, under the EU Ecolabel regulation completed in 2009 (EC Regulation (EC) 66/2010) and the Energy Label Directive 2010/30/EU. The new EU Ecolabel regulation will include 40 to 50 product groups by 2015. It has a faster process for developing criteria and a simplified assessment procedure. Annual fees are reduced and there is more harmonization with other national and global ecolabelling initiatives (see Case Study 1).
- The policy objective of the Communication on Public Procurement for a Better Environment (COM(2008) 400/2) is raising the average level of EU green public procurement (GPP) to the standard achieved by the best performing member states in 2006 by 2010. Operational objectives include establishing a process for setting common GPP criteria in 10 priority sectors, providing information on the life-cycle costing of products, providing legal and operational guidance, and monitoring progress in terms of the percentage of public tenders that are green, aiming to reach 50 per cent by 2010. As of October 2011, the European Commission had developed EU GPP criteria for 18 product and service groups.
- The EU Retail Forum is a multi-stakeholder platform that identifies opportunities and barriers to SCP and exchanges best practices on sustainability. Recognizing the European retail industry's central role in the production/consumption chain, it seeks to leverage its potential to influence both production and consumption patterns.

The European Commission has reviewed the SCP/SIP Action Plan with the aim of extending and improving the existing policy instruments as well as designating new ones to further promote SCP within the EU and internationally. The mid-term evaluation (Ecorys, 2011b) found that of the economic, environmental and social criteria used in the evaluation, "the environmental (including energy) issues are covered most comprehensively, with economic issues receiving a reasonable coverage" (p. 77). This result can be illustrated by the objectives of promoting eco industries, making industry more efficient and encouraging it to produce goods that have a lower environmental impact. Social challenges such as the employment rights of workers and the affordability of green products are, according to Ecorys, the least clearly addressed by the action plan. The mandatory instruments (energy labelling and eco-design) were regarded as having larger impacts than the voluntary instruments in quantitative terms. To more accurately assess the effect of individual instruments, the evaluation points towards a need for more data. The evaluation gives many

2. The progress of EU Sustainable Development Strategy was reviewed twice, in October 2007 and July 2009. Both documents arrived at the same conclusion: there have been significant policy improvements and SD remains a central objective of the EU; however, in relation to SCP, unsustainable patterns persist and policy needs to be translated into concrete action.
3. As the result of the mid-term review of the EU's industrial policy, the Commission was to develop an action plan on sustainable industrial policy (SIP), parallel with the EU SCP Action Plan. During the inter-service consultation processes of these strategies, it has been decided to develop an integrated action plan that addresses both SCP and SIP.

CASE STUDY 1

The EU Ecolabel

In 1978 Germany introduced 'Blue Angel,' the first national ecolabelling scheme in the world, as a means of informing consumers of the environmentally friendly aspects of products. National schemes around the world followed. By1987 the EU introduced the idea of a supranational ecolabel during the first European Year for the Environment. In 1992 the regulation on the EU Ecolabel entered into force.

The EU Ecolabel, also called the EU-Flower for its shape, is a voluntary, market-based tool that encourages businesses to produce – and consumers to purchase – goods and services with lower environmental impacts. While in 1992 the EU Ecolabel was more of a stand-alone instrument in the field of product-related environmental policy and promotion of sustainable consumption patterns, the innovative and multi-dimensional character of ecolabelling as a policy instrument made the EU Ecolabel a catalyst for several important policies on climate change, energy efficiency, health, hazardous substances, use of natural resources, waste, recycling and eco-design. Today the EU-Flower has been awarded to more than 17,000 products in 23 product groups. SMEs from developing countries pay reduced application and licence fees.

A survey of over 26,500 randomly selected citizens conducted in April 2009 found that 55 per cent of EU citizens claimed that, when buying or using products, they were generally fully aware or knew about the most significant impacts of these products on the environment. Approximately half of EU citizens said that ecolabelling played an important role in their purchasing decisions (Gallup Organization, 2009).

recommendations including the identification of accompanying measures to the action plan, which should be a combination of existing funding programmes and new ones aimed at increasing consumer awareness and changing consumer behaviour (Ecorys, 2011b).

The EU has also developed strategies that focus on specific parts of the production-consumption life cycle:

- The Sixth Environment Action Programme includes a Thematic Strategy on the Sustainable Use of Natural Resources, addressing the beginning of the life cycle, and a Thematic Strategy on the Prevention and Recycling of Waste, addressing end-of-life issues. The former seeks to reduce the environmental impact of resource use within the context of a growing economy by developing monitoring tools, encouraging strategic approaches to resource use and raising awareness of negative environmental impacts. The latter aims to introduce life-cycle thinking into waste policy, focus on waste prevention and move Europe toward a recycling society (European Commission, 2002).
- The Raw Materials Initiative (COM(2008)699) aims to create framework conditions for sustainable use and supply of European resources, as well as improve overall resource efficiency and promote recycling (Commission of European Communities, 2008).
- The Environmental Technologies Action Plan supports the development and implementation of environmental technologies in the middle of the life cycle to improve the environment and European competitiveness (Commission of European Communities, 2004a).
- At the end of the production-consumption life cycle, the Waste Framework Directive "lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use" (Directive 2008/98/EC Article 1).

Other measures to address SCP are contained within policies targeted as specific sectors of the economy. Examples include:

a) **Food.** Agro-environmental strategies aim to address the environmental impacts of farming, including by reform of the Common Agricultural Policy. The 2004 EU Action Plan for Organic Food and Farming sets out 21 initiatives to develop the market for organic food and improve standards (Commission of European Communities, 2004b). The European Food Sustainable Consumption and Production Round Table, co-chaired by the

European Commission and partners within the food supply chain, aims to establish the food chain as a major contributor towards sustainable consumption and production in Europe.

b) **Housing and buildings.** The 2002 Energy Performance of Buildings Directive sets minimum efficiency standards for both residential and commercial buildings, while the EU Commission's 2006 Action Plan for Energy Efficiency aims to reduce energy consumption by 20 per cent by 2020, potentially reducing carbon dioxide (CO_2) emissions by 780 million tons and saving €100 billion in fuel costs (Commission of European Communities, 2006).

c) **Transport.** The EU communication *A Sustainable Future for Transport: Towards an Integrated, Technology-Led and User-Friendly System* identifies objectives for the next 10 years of European transport (European Commission, Mobility and Transport, 2009).

7.3 National SCP policies

This section provides information on the development and adoption of dedicated SCP action plans, efforts to mainstream SCP into broader policy frameworks and examples of selected policy instruments that have been used at the national level to promote a shift towards SCP patterns. It highlights examples of national SCP policy making in three geographic areas: 1) EU and EFTA, 2) SEE and EECCA and 3) United States and Canada.

EU and EFTA countries

At the national level, a large number of EU and EFTA countries have policies that explicitly address SCP. A few have developed specific SCP strategies or action plans (European Topic Centre on Resource and Waste Management and EEA, 2007; Organisation for Economic Co-operation and Development, 2008; Watson and others, 2009), namely the the Czech Republic (Framework of Programmes on Sustainable Consumption and Production in the Czech Republic, 2005), Finland (Getting More and Better from Less, 2005), Poland (Strategy of Changing Production and Consumption Patterns to Favour the Implementation of Sustainable Development Principles, 2003) and the United Kingdom (Changing Patterns: UK Government Framework for Sustainable Consumption and Production, 2003) (see Case Study 2).

Several other countries explicitly address SCP within their National Strategies for Sustainable Development (NSSD), including Austria, Belgium, Denmark, France, Germany, Greece, Hungary, Italy, Malta, the Netherlands, Norway, Romania and Sweden. Furthermore, Sweden has developed a sustainable consumption action plan, Think Twice! An Action Plan for Sustainable Household Consumption.

At the subnational level, the Basque Country, Spain (2006-2010) has adopted a Plan for Environmentally Sustainable Consumption (Adell and others, 2009).

In their national policy approaches to achieving SCP, most EU and EFTA countries – if not all – focus on improving production processes, improving product performance and increasing the demand for green products (for example, the Danish action plan promoting eco-efficient technology, the German master plan on environmental technology and the Finnish SCP programme Getting More and Better from Less). Most countries also use policy measures such as green public procurement, environmental management and eco-design. Some include SCP in their national waste management plans (e.g., the Austrian waste management plan and the 2009-2050 United Kingdom waste strategy Towards Zero Waste) and raw materials strategies (the Austrian Raw Materials Plan). Changing consumption behaviour in a sustainable direction is less widely addressed (Adell and others, 2009).

SCP targets and indicators are used in EU and EFTA countries but have initially tended to be expressed in qualitative rather than quantitative terms. In most cases, SCP targets have been included in sectoral strategies (e.g., agriculture, transport) or thematic strategies (e.g., energy efficiency, waste). They most frequently relate to GHG emissions, energy-efficiency improvements, the share of renewable energy in final energy consumption, recycling in key waste streams or the share of organic agriculture in total arable land. France and the United Kingdom have defined SCP indicators within their larger SD indicators and most countries use indicator frameworks to monitor the implementation of their SCP targets (ETC/RWM and EEA, 2007).

CASE STUDY 2

The United Kingdom comprehensive framework on SCP

Since the commitments made at the World Summit on Sustainable Development in 2002, the United Kingdom has developed a comprehensive framework to address SCP. It uses a variety of mechanisms, including regulation, market-based instruments, partnerships, voluntary and information tools and broader strategic guidelines. Since 2005, the Department of Environment, Food and Rural Affairs (Defra) has coordinated its projects and activities. The agenda is mobilized around three main themes: production, products and consumption patterns (Defra, 2011). In all three areas, programmes are developed using an evidence-based approach. This directs specific attention to life-cycle thinking by improving ways to measure the impacts of consumption and production, including, among other tools, ecological footprinting, material-flow analyses, life-cycle assessments and indicators for SCP (Defra, 2010b).

In its theme on production, the United Kingdom has published tools and frameworks that can be used by businesses and other organizations to become more sustainable, for example, environmental reporting guidelines and tools to measure greenhouse gas (GHG) emissions (Defra, 2010c). Defra also conducts projects on resource efficiency and provides economic support to businesses in this regard. Since 2010 this support has been coordinated and delivered via one single body: the Waste and Resources Action Programme (Defra, 2010d). In addition, the government set up a commission to advise them on how to maximize the potential economic benefits of the transition to a sustainable economy (Defra, 2010e).

Concerning products, Defra's Market Transformation Programme aims to lower carbon emissions and energy consumption in products such as dishwashers, refrigerators, computers and lighting, using life-cycle approaches. It thereby implements the EU's Eco-Design Directive targeting energy-using and energy-related products. It is expected that Defra's programme will save 24 $MtCO_2$ per year and result in economic savings through reduced energy bills with a net benefit of about £28 billion over the next 10 years (Defra, 2010a; Defra, 2009a). In collaboration with businesses, Defra also created more detailed, voluntary 'product roadmaps' to develop and implement voluntary action plans to address problems in 10 high-impact product groups (Defra, 2010f). Another products and services project by the government is the increase in sustainable public procurement and the setting of government buying standards for products such as computers. As a guide to decision-making and choices in public procurement and other policy areas, the government has also developed the Publicly Available Specification (PAS 2050). This is a leading carbon footprinting methodology for products and services (Defra, 2010h; BSI Group, 2010).

In terms of sustainable consumption, Defra has developed multiple projects to improve understanding and influence consumer behaviour. Governmental policy teams can draw from Defra's Centre of Expertise on Influencing Behaviours to help them develop new policies to influence consumer behaviour (Defra, 2010a).

The SEE and EECCA region

Since the 2007 Belgrade UNECE meeting, several SEE countries have included SCP as a thematic chapter of their NSSD.[4] Examples include Croatia (2009), Serbia (2008) and the Former Yugoslav Republic of Macedonia (FYR of Macedonia) (2008). Croatia is currently in the process of preparing an SCP action plan. Other countries, such as Montenegro, have included some SCP-relevant areas in their NSSD, but have not incorporated SCP as a specific theme.

The EECCA countries have generally done less to articulate SCP strategies. Kazakhstan was the only country in Central Asia to have been developing an explicit SCP model by 2009. Kazakhstan had included some SCP components in its 2006 Strategy on Sustainable Development. Its State Environmental 10 Year Programme, currently in preparation, includes a subprogramme on SCP.

4. According to Agenda 21, NSSDs should reflect SCP policies and strategies. However, several EECCA countries do not have NSSDs.

In Eastern Europe, only Moldova refers explicitly to SCP in its 2005 National Strategy of Social and Economic Development. Belarus has adopted a NSSD that includes some SCP concepts (such as the shift toward resource preservation, the necessity for 'greening' the economy and the development of the economic capacity of local ecosystems), but SCP is not named (MAMA-86, 2008). The Russian Federation does not have an SCP strategy (or a SD strategy), but it has a number of legislative directives and programmes under development and implementation that include SCP concepts, such as the document, *Main Areas of Social and Economic Development of the Russian Federation for the Long-Term*, which is currently in draft form. Ukraine makes almost no mention of SCP in any of its policies, although it has included some SD principles (such as the equal importance of economic, environmental and social aspects in the country's development) in its new Concept of National Policy until 2020.

In the Caucasus, no countries have a specific SCP policy or a NSSD where SCP concepts could have been included. However, Azerbaijan has incorporated some SCP principles into some state programmes, such as the 2005 State Programme for Development of the Fuel and Energy Complex of the Azerbaijan Republic for 2005-2015. Armenia has included SCP elements in several laws and decrees, most recently the 2007 National Programme on Energy Conservation and Renewable Sources of Energy, which, among other measures, proposes 16 categories of energy efficiency.

With respect to policies for implementing SCP across the whole product life cycle, several SEE countries have adopted national policies on cleaner production (such as Albania, Armenia and FYR of Macedonia). Policies on energy efficiency and emission reduction from the energy sector include the Albanian Energy Efficiency Law and the Armenian Renewable Energy and Energy Efficiency Programme, which has required the energy labelling of appliances since 2007 (UNEP-Copenhagen Resource Institute, forthcoming, Annex 2). Croatia has a Strategic Framework for Development (2006) on waste management, which refers throughout to "permanent sustainable development."[5] GPP is largely absent from SEE policy, with exceptions such as the public procurement laws in Bosnia and Herzegovina,[6] and Montenegro.[7]

Policies on SCP that cover the whole product life cycle are very rare in EECCA countries, although some have addressed particular themes, notably, cleaner production in Belarus, Moldova (National Declaration on Cleaner Production Policy, 2003, and National Strategy on Reducing and Neutralizing Persistent Organic Pollutants, 2004), and Ukraine, where the International Finance Corporation launched its Ukraine Cleaner Production Programme in 2010 (International Finance Corporation, 2011). Others address the energy sector (Azerbaijan's Strategy for Sustainable Development of the Energy Sector), domestic water consumption, and use of energy services and waste management policies. Few EECCA countries have addressed GPP.

In both the SEE and EECCA subregions some countries have sector-specific SCP policies addressing key areas such as transport and energy efficiency (in the housing and building sectors, for example). Sustainable agriculture is addressed in the Strategy of Agricultural Development in Serbia (UNEP and European Environment Agency [EEA], 2007) and in Croatia, which also has a specific package for promoting organic farming.[8] There is also a focus on traditional food production in Croatia, as part of the Croatia in the 21st Century: National Agriculture and Fisheries Development Strategy (2002).[9] Armenia[10] and Montenegro similarly emphasize the sustainability of traditional food production.

The use of specific SCP targets or indicators in SEE and EECCA countries has mainly been concerned with energy intensity, GHG emissions, and waste generation and management. Croatia and Serbia, for example, both have a number of SCP indicators in the Sustainable Development Indicator (SDI) sets

5. Particularly, this document stipulates "prudent space and nature management," "energy efficiency" and "recycling of secondary raw materials," as elements of sustainable consumption and production (Government of the Republic of Croatia, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries.

6. This law regulates all aspects of public procurement tendering and competitive bidding procedures for all procurement of goods, services and works by any public institution, organ and organization at all administrative levels (state, entity, canton, city or municipality), and by public utilities and government-owned companies and business entities (Bosnia and Herzegovina, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).

7. Montenegro adopted its law on public procurement in 2001, harmonized with EU standards; its commission for public procurement is responsible for managing public procurement at the national and local levels (Government of Montenegro, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).

8. The package includes the creation of a certification scheme for organic food, economic incentives for farmers to take up organic agriculture and information campaigns promoting organic products to consumers (UNEP-CRI, forthcoming, Annex 2).

9. This strategy provides long-term guidelines for food production within a rural development context and focuses on food safety and organic farming to achieve more sustainable management of land resources (UNEP-CRI, forthcoming, Annex 1).

10. One of the major sectors under the national Poverty Alleviation Strategy of Armenia is Agriculture. Several strategies and policies are also adopted by the Government of Armenia to promote development of agriculture as a sector and to respond social challenges in rural communities (UNEP, 2011).

Photo courtesy of Tomra

described in their NSSDs. In Croatia[11] the SDI sets include 21 indicators under the themes of waste, agriculture, consumption and social responsibility. The NSSD in Serbia[12] includes eight indicators under the themes of energy, waste, transport and the balance between production and consumption.

The United States and Canada

The United States and Canada have a range of SCP-related policies and programmes, at the federal, state/provincial and local levels (UNEP and others, 2008; Watson and others, 2009).

In the United States, although no specific federal, regional or state-level strategies on SCP have been endorsed, many SCP-relevant policies are nonetheless being implemented at all of these levels. Policies related to SCP at the federal level in the United States include the 2007 Energy Independence and Security Act, which sets a number of important standards, including a renewable fuels standard, energy efficiency equipment standards and a Corporate Average Fuel Economy standard. Additionally, the Executive Branch has issued a series of Executive Orders, such as the 2009 Executive Order No.13514, Federal Leadership in Environmental, Energy and Economic Performance, which requires federal agencies to set sustainability goals and to improve their environmental, energy and economic performance (Office of the Press Secretary, The White House, 2009). It mandates federal agencies to set a 2020 GHG emissions reduction target and includes a number of measures with respect to purchasing environmentally preferable products and services, such as a requirement that 95 per cent of federal purchasing contracts meet sustainability criteria. With the federal government spending approximately US$500 billion in annual purchasing contracts, this requirement has focused considerable attention on the federal purchasing process as well as the broader world of green purchasing (Office of the Press Secretary, The White House, 2009).

11. NSSD of the Republic of Croatia, adopted 2009 (UNEP-CRI, forthcoming, Annex 1).
12. NSSD for Serbia, 2008 (UNEP-CRI, forthcoming, Annex 1).

At the regional level, the Regional Greenhouse Gas Initiative is a market-based regulatory system established in ten states in the United States: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont. The Regional Greenhouse Gas Initiative sets up a cap-and-trade system that aims to reduce CO_2 emissions by 10 per cent from the participating states' power plants by 2018 (Regional Greenhouse Gas Initiative, 2011).

At the state and local levels, SCP measures include the Massachusetts State Sustainability Program (Energy and Environmental Affairs, Commonwealth of Massachusetts, undated), the City of Minneapolis Sustainability Initiative, the California Green Building Action Plan (State of California, undated) and the City of Denver Green Fleet Program (Greenprint Denver, 2009).

In Canada, the Federal Sustainable Development Act 2008 requires the development and implementation of a Federal Sustainable Development Strategy. The first strategy was released in October 2010, with required progress reports to be released at least once every three years thereafter. The first was released in June 2011. The Federal Sustainable Development Strategy includes all of Canada's federal government SCP-related activities, such as promoting the use of corporate social responsibility (CSR) management tools by industry, and providing tax relief to Canadians who use public transit regularly.

The Federal Sustainable Development Act 2008 further stipulates that each department of the federal government should produce a departmental SD strategy one year after the Federal Sustainable Development Strategy is first tabled in a House of Parliament (with updates at least every three years thereafter) (Government of Canada, 2010). Other federal SCP-related initiatives include the 2007 Regulatory Framework for Air Emissions (Environment Canada, 2007a), and the 2008 initiative Growing Forward: The New Agricultural Policy Framework (Agriculture and Agri-Food Canada, 2011). The federal government works with provinces

and territories through the Canadian Council of Ministers of the Environment, which is Canada's primary minister-led intergovernmental form for collective action on environmental issues of national and international concern. The Canadian Council of Ministers of the Environment has led a number of initiatives that contribute to SCP. Key activities include: endorsement of a National Packaging Protocol in 1990; endorsement of the Canada-wide Action Plan for Extended Producer Responsibility in 2009; completion of a country-wide standard for compostable products and packaging in 2010; and a number of standards and guidelines associated with toxic substances, pollution prevention, waste and water. At a provincial level, SCP measures include the 2003 Environmental Management Act (Ministry of Environment, Province of British Columbia, 2004), the 2007 Carbon Tax Act in Quebec (Resources Naturelles et Faune, Province of Quebec, 2007) and the 2009 Green Energy and Green Economy Act in Ontario (Province of Ontario, 2009) (Canadian Council of Ministers of the Environment, 2009).

SCP policies addressing whole life cycles of products are not common in either the United States or Canada. Both do, however, have federal policies on energy efficiency (the United States Energy Policy Act of 2005 and, in Canada, the Energy Efficiency Act, as updated in 2008), and waste management and recycling, mostly at the state/provincial and municipal levels. For example, San Fransisco has the Plastic Bag Reduction Ordinance (City of San Francisco, 2007) and seven provinces in Canada run adeposit-refund system (Environment Canada, 2007b). Cleaner production initiatives also exist at the federal, state/provincial and local levels in both countries, and throughout the private sector. Examples include United States Executive Order No. 13423 of 2007 on Strengthening Federal Environmental, Energy, and Transportation Management (President of the United States of America, 2007) and the provincial carbon tax acts of 2007 and 2008 respectively in Quebec and British Columbia.

With respect to sectoral policies in key production and consumption areas in the United States, transport and mobility have received significant attention, including funding from the American Recovery and Reinvestment Act (2009) and other government programmes. Other notable measures address energy efficiency in federal buildings and other public and private buildings (e.g., State of California, undated; California's Green Building Initiative, Executive Order S-20-04) and water conservation and energy efficiency in the agricultural sector (the Food, Conservation and Energy Act of 2008, also known as the 2008 United States Farm Bill [Harris and others, 2008]). Canada has recently developed a multi-stakeholder Green Mining Initiative under the leadership of Natural Resources Canada to improve the mining sector's environmental performance and promote innovation in mining driven by research and development (Natural Resources Canada, 2011).

Dedicated indicators for SCP have not yet been developed in the United States or Canada. However, Canada's Federal Sustainable Development Strategy[13] includes concrete goals, targets and implementation strategies, including one goal on minimizing the environmental footprint of government operations (see Case Study 3).

The governmental action in key sectors described above does not give a full picture of the situation in the United States and Canada, which both have a wide range of other initiatives focusing on different aspects of SCP. The North American Sustainable Consumption Alliance (NASCA)[14] describes a growing but decentralized sustainability movement that often addresses SCP more through a 'bottom-up' than a 'top-down' approach. Individuals, organizations and initiatives constitute different communities of practice focusing "on a particular production/consumption pattern or leverage point and involving a particular configuration of stakeholder groups and individuals" (NASCA, 2008, p. 1). As reported in the 2010 *United States National Report for CSD-18 on Transport, Chemicals, Waste Management, Mining and Sustainable Consumption and Production*, these efforts are not often coordinated within or across organizations (United States Department of State, 2010). According to NASCA (2008):

> Some initiatives and strategies focus primarily on consumption, in turn more specifically on particular aspects of consumption, such as lifestyle changes, shopping choices such as ethical shopping, green consumerism, boycotts on sweatshop labour, consumer protection rights, product use, recycling re-use, and product knowledge. Other initiatives focus primarily on changing production patterns. Some cover a wide range of processes, such as life cycle analysis (LCA), industrial ecology and clean production while others target more specific parts of a product life cycle such as product design and extended producer responsibility. … Other strategies … focus on leverage points within the consumption and production system, such as distribution or marketing of products and services. (p. 4)

13. See: www.ec.gc.ca/dd-sd/default.asp?lang=En&n=D39CB7AC-1
14. NASCA is a strategic partnership of people and organizations that are working to promote more sustainable consumption patterns in Mexico, Canada and the United States. They share the common goal of encouraging individuals, businesses, institutions and governments to reduce their impact on the environment and society by changing how they consume materials and resources. For more information see: http://nasca.icspac.net.

CASE STUDY 3

Shrinking the environmental footprint: Beginning with government

Under its greening government operations goal 11, the Canadian 2010 Federal Sustainable Development Strategy (Theme IV) includes government-wide targets, covering a variety of issues including paper use, green meetings, green procurement, electronic waste, GHG emission reductions and green buildings. The strategy establishes a new system of reporting on SD, namely through the Government of Canada core expenditure planning and reporting system by way of annual departmental reports on plans and priorities and performance reports. In addition, a Federal Sustainable Development Strategy Progress Report will be prepared at least once every three years.

The greening government operations targets build on and support other related government-wide initiatives, including the Treasury Board Secretariat-approved Policy on Green Procurement, which requires that environmental performance considerations be integrated into federal procurement decision-making processes. The Federal Electronic Waste Strategy addresses the environmentally sound disposal of all federally generated e-waste. The greening government operations targets will be monitored annually through Departmental Performance Reports.

Source: Natural Resources Canada (2011); Environment Canada (2011)

Other strategies target investment decisions, such as "procurement initiatives, socially responsible investment, subsidy reform, and financial institutional reform" (NASCA, 2008, p. 4), which ultimately shape production.

Additionally, there is a cluster of initiatives that focus on the underlying values that shape consumption, production, investment and distribution decisions. Such efforts aim to redefine conventional concepts of progress and growth, for example, or to research best practices and define frameworks for measurement (NASCA, 2008).

Policy instruments

The tools and instruments used for implementing SCP-relevant policy in the EU and EFTA countries at EU, national and local levels have been many and wide-ranging. Most commonly, they have focused on the supply side – cleaner production and sustainable products – via regulatory or economic instruments. With respect to sustainable consumption policy, on the other hand, information-based tools, and to a lesser extent economic instruments, seem more commonly used than regulatory instruments (Berg, 2007). Complementary mixes of different tools within the same package are also beginning to be used.

In most of the SEE and EECCA countries, where SCP polices have yet not been developed, such implementation tools are still in their infancy. This is in part because strategies are relatively new, especially in SEE countries, but it may also reflect a lack of earmarked resources and institutional capacity and, possibly, that SCP is not a high priority on the policy agenda. As an exception, Croatia is currently developing SCP action plans (2011-2020) that consist of a set of regulatory,[15] economic[16] and voluntary measures.

In the United States and Canada, a range of instruments are used to foster more sustainable production and consumption, some of which encourage the implementation of more sustainable production practices and some of which target products themselves. However, few policies focus on changing underlying consumption patterns (UNEP and Ministry of the Environment, Sweden, 2009).

Regulatory instruments and standards

In the EU and EFTA regions, examples of regulatory instruments and standards at the regional level include EU product performance standards (the EU EuP Directive) and the application of extended

15. Such as: Air Pollution Act (Official Gazette No. 48/1995) and Environment Protection Act (Official Gazette No. 82/1994 (Government of the Republic of Croatia, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).
16. Such as: water protection fee; pollution charges (levied on) on SO_2 and NO_2, "soft" loans and subsidies (Government of the Republic of Croatia, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).

producer responsibility in waste management policies (the Packaging Directive and the Waste Electrical and Electrical Equipment Directive). At the national level, the application of regulatory instruments to promote SCP is less common in EU and EFTA countries.

In SEE and EECCA countries, regulatory instruments historically played a key role as the main tools for policy implementation. Areas where such instruments have been developed include the phasing out of lead in petrol by eight countries in SEE and EECCA, the regulation of the application of chemicals in agriculture and food products (e.g., the 1995 Law on Pesticides and Agricultural Chemicals in Ukraine [UNEP-CRI, forthcoming] and laws and regulations on fertilizers and pesticides in Bosnia and Herzegovina[17] and Armenia[18]), building standards (e.g., Albania, the Russian Federation[19] and Tajikistan[20]) and energy labelling (Albania, Armenia,[21] Croatia[22] and Turkey[23]).

In both the United States and Canada, the number of regulatory instruments and standards relating to SCP has been increasing in recent years. Recently, President Obama announced new standards that will raise the fuel efficiency of vehicles in the United States to 54.5 miles per gallon (mpg) by 2025. This builds on earlier agreements that increase the fuel efficiency of vehicles in the United States to 35.5 mpg by 2016. These programmes are expected to reduce oil consumption by 2.2 million barrels a day by 2025 and reduce GHG emissions by more than 6 billion metric tons by 2025 (Environmental Protection Agency [EPA], 2011).

In Canada, in December 2010, new regulations requiring an average renewable fuel content of five per cent in gasoline came into effect. Furthermore, in October 2010, the Government of Canada announced final regulations that establish progressively more stringent GHG emission standards for new passenger automobiles and light trucks for the 2011-2016 model years. These are aligned with similar regulations in the United States. In the summer of 2011, the Government of Canada also announced a new 2 per cent renewable content requirement in diesel fuel and heating oil. Canadian provinces also have regulatory initiatives related to SCP such as the 2008 Greening the Building Code initiative in British Colombia (Ministry of Energy and Mines, Province of British Columbia, undated; personal communication, Holly Palen, 7 October 2011)

Economic instruments

Market interventions play a key role in EU initiatives to promote SCP (European Topic Centre on Resource and Waste Management and EEA, 2007), notably creating incentives for more sustainable behaviour with respect to energy consumption, low-energy housing, water and mobility (Watson and others, 2009). At the regional level, the best-known example is the EU Emissions Trading Scheme. This scheme is now in its second implementation phase. It covers almost half of the CO_2 emissions and around 40 per cent of the total GHG emissions of the EU, requiring the major polluters to obtain permits for each ton of CO_2 equivalent they emit. However, over-allocation of free permits and price volatility affecting those that are traded have so far limited the EU Emissions Trading Scheme's effectiveness in reducing overall emissions.

At the national level, Watson and others (2009) highlight the use of economic instruments to reduce energy use in housing. Such instruments include White Certificates in Italy and France to induce power providers to help increase energy efficiency during consumption; financial support in Austria, France and Greece for energy-efficient building construction, refurbishment and heating; and eco-loans at zero rates in France. Other examples are differentiated taxes on the registration of motor vehicles, favouring those with lower fuel consumption (United Kingdom, Denmark, Ireland and France), incentives for purchasing less polluting private cars (France) (see Case Study 4) and tax exemptions for electric cars (Denmark).

17. Law on Mineral Fertilizers (Official Gazette of BiH, No. 46/04) and Law on Plant Protection Products (Official Gazette of BiH, No.49/04) introduced general stipulations on imports, distribution and use of plant protection products. However, no explicit lists of preferred or banned pesticides have been adopted yet, except that pesticides registered under category of POP-S (Persistent Organic Pollutants) are prohibited for use in agriculture of Bosnia and Herzegovina (Government of the Federation of Bosnia and Herzegovina, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).
18. Government Regulation on Approval of Technical Procedures for Fertilizers, 18.11.2004, N 1692-H and Government Regulation on Approval of Technical Procedures for Toxic Chemicals and Fertilizers, 03.11.2005, N 1899-H (Government of the Republic of Armenia, 2006, unpublished, Questionnaire survey: Policies and Strategies on Sustainable Consumption and Production in SEE and EECCA Countries).
19. Package of codes and standards for new buildings by the State Committee on Construction, Architecture and Housing Policy, 2005. The package includes new thermal standards for new and renovated buildings to improve energy efficiency by more than 35 per cent, technical assistance to architects and contractors on meeting the codes, methodologies for energy audits, methods for identifying energy retrofits and finally an energy labelling scheme for new and renovated buildings to provide information to the buyer (Russian Federation, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).
20. The building codes of the Republic of Tajikistan were adopted on 12 December 1997, but the minimal level of thermal efficiency has not been established, except for radioactive gamma emissions, which are covered by the sanitary regulations. All other issues are avowed but no mechanisms for implementation exist (Republic of Tajikistan, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).
21. Armenia requires energy labelling of appliances under the Renewable Energy and Energy Efficiency Programme from 2007 (UNEP-CRI, forthcoming, Annex 2).
22. Regulation on Energy Efficiency Labelling (Official Gazette No. 133/2005) (Government of the Republic of Croatia, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).
23. Turkey has mandatory energy labelling for a number of appliances following closely behind EU labelling initiatives (UNEP-CRI, forthcoming, Annex 2).

CASE STUDY 4

The French ecological 'bonus-malus' system for the purchase of private cars

The bonus-malus system is a financial instrument that provides a financial reward (bonus) for purchasers of fuel-efficient new cars and a financial penalty (malus) for those buying cars emitting high levels of CO_2. The amount of the bonus or malus depends on the amount of CO_2/km emitted by the vehicle. For instance, a bonus of €200 to €1,000 is provided for vehicles emitting a maximum of 130g CO_2/km and €5,000 for those emitting no more than 60g CO_2/km. Similarly, a malus of €200 to €2,600 is applied to those vehicles emitting over 160g CO_2/km (consuming around 6.9 litres of fuel per 100km) and even more for the least fuel-efficient vehicles. A super bonus scrapping fee of up to €300 is paid to people delivering a car that is at least 15 years old to the breakers yard and buying a vehicle eligible for the a bonus (Ministère de l'Écologie, de l'Énergie, du Développement Durable et de la Mer, 2009).

The overall goal of the bonus-malus system is to reduce the average level of CO_2 emissions from new vehicles in France to 130 g/km of CO_2. The more detailed objectives of the system include the acceleration of the removal of obsolete and polluting vehicles from French roads, while encouraging manufacturers, retailers and car owners to produce, sell and purchase greener vehicles (ETC/SCP and EEA, 2010a).

The bonus-malus mechanism will be progressively tightened by lowering the thresholds of eligibility for the bonus and imposition of the malus by 5g of CO_2/km every two years, thus allowing manufacturers to adapt their production. (ETC/SCP and EEA, 2010b)

According to an assessment of the results of the bonus/malus scheme done in March 2008, just three months after the implementation of the scheme, the sales of the most polluting cars had decreased by 70 per cent and sales of less polluting cars had increased by 38 per cent. An evaluation undertaken in February 2009 showed that in just one year of implementation the bonus-malus led to a decrease in the average CO_2 emissions of new sold cars by 7g, which allowed France to reach the EU objective of 140g km. By December 2009 average emissions went down to 132.8g/km. (ETC/SCP and EEA, 2010b)

The combination of the bonus-malus scheme and the scrapping premium has had a significant effect in changing the structure of private car sales in France since 2008. Consumers and manufacturers have responded beyond expectations to the price signal (Ministère de l'Écologie, de l'Énergie, du Développement Durable et de la Mer, 2009).

Source: ETC/SCP and EEA (2009)

In SEE and EECCA countries, economic instruments have not been used on a regular basis for environmental protection. Where they do exist, they are mostly aimed at industry rather than consumers. Indeed, the subsidization of communal services, which was the standard practice of centralized political systems and continued more or less throughout the 1990s (UNEP and EEA, 2007), tended to run contrary to the internalizing of environmental costs into the price of goods and services. More recently, economic instruments have focused on gradually increasing the tariffs for communal services, to the point where consumers do pay their full operational costs.[24] Other examples of policies influencing consumption are road and fuel taxes for vehicles (Kazakhstan[25] and Belarus), economic instruments encouraging waste treatment and recycling (e.g., under the Law on Waste in

24. Subsidies to vulnerable groups may still be justified in terms of continuing high levels of poverty and social inequality, as for example with the retention of block tariffs that keep down electricity prices for basic levels of consumption in Serbia and Georgia.
25. Annual car taxes are based on engine capacity. The higher the capacity, the higher the tax (UNEP-CRI, forthcoming, Annex 2).

Armenia[26]) and pollution charges for industry (the Russian Federation,[27] Moldova[28] and Ukraine[29]).

The United States and Canada have considered a variety of economic instruments to foster SCP. In the United States, Acid Rain Program (introduced by the EPA under the 1990 amendments to the Clean Air Act) instituted a nationwide cap-and-trade system to reduce emissions of sulfur dioxide (SO_2) and oxides of nitrogen (NO_x) from electric power plants. The programme has successfully reduced such harmful pollutants; as of 2005, emission reductions were more than 7 million tons from power plants, or 41 per cent below 1980 levels (EPA, 2008).

More recently, legislative efforts have been made to enact a cap-and-trade system for GHG emissions, notably the American Clean Energy and Security Act of 2009, which proposed an economy-wide cap-and-trade system with targets for reducing 2005 GHG emissions levels by 17 per cent by 2020 and by 83 per cent by 2050.[30] The American Clean Energy and Security Act of 2009 passed the United States House of Representatives in June 2009, but failed to move forward in the United States Senate.

In Canada, as previously mentioned, the provincial governments of Quebec and British Columbia introduced carbon tax legislation in 2007 and 2008 respectively, while the Western Climate Initiative brought several American states and Canadian provinces together with the aim of creating a regional cap-and-trade programme for GHG emissions that will be fully implemented in 2015 (Western Climate Initiative, 2011). Examples at the local level include cities introducing taxes on plastic bags (New York, Toronto and Washington, D.C.).

Information-based instruments

Information-based instruments seem to be the most widely applied type of SCP-related policy instruments in EU and EFTA countries, particularly at the national level but also including significant EU-level examples, including eco-labels (the European Ecolabel and the Energy Label), carbon calculators (Mycarbonfootprint.eu), guidelines for authorities (e.g., the Buying Green Handbook) and eco-tips for citizens (the EEA's Eco-agents). A number of countries, such as Austria, the Czech Republic, Denmark, France, Germany, Italy, Switzerland and the United Kingdom, have launched GPP guidelines and portals to help buyers make sustainable choices (for example, topten.info). Civil society organizations (CSOs) can be important in promoting the development and implementation of multi-stakeholder partnerships and projects aiming at increasing consumer awareness on SCP. For example, under the Ecolaboration pact, Nespresso and the Rainforest Alliance jointly develop and implement a programme helping farmers supplying Nestlé to meet the Sustainable Agriculture Network/ Rainforest Alliance certification standard (see Case Study 5).

In SEE and EECCA countries, policies and campaigns to educate consumers have not tended to give priority to SCP issues (UNEP and EEA, 2007). Some non-governmental organizations (NGOs) have nevertheless done important work to promote sustainable development (e.g., the Green Choice for Ukraine, developed by MAMA-86) (see Case Study 6). Certification and labelling, particularly for organic food, is widespread in SEE, but not in EECCA countries. For example, Croatia has implemented much of the EU's environmental certification and labelling; Turkey has mandatory energy labelling for a number of appliances; and the Albanian Energy Efficiency Law makes energy labelling of appliances mandatory.

In the United States and Canada, there have been numerous recent initiatives and programmes to raise awareness of the critical importance of greening consumption and production patterns. In the United States, the EPA developed the Energy Star labelling programme, which provides information to consumers on energy efficiency appliances performance. The United States Green Building Council's Leadership in Energy and Environmental Design (LEED) building certification programme provides a framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions (United States Green Building Council, 2011). Another American example is the National Standards on Organic

26. (1) The Law on Waste was adopted in 2004 to introduce a state chemicals management policy including economic instruments for waste treatment and recycling (Chapter 5). (2) Armenia developed the Chemical Management National Profile (endorsed by the Government Degree No. 26, 08 July 2004), and it is considered an important milestone in achieving sustainable development in the country (Government of the Republic of Armenia, 2006, unpublished, Questionnaire survey: Policies and Strategies on Sustainable Consumption and Production in SEE and EECCA Countries).
27. To comply with Federal Environmental Protection Law No.7-FZ (2002), one of the instruments of economic regulation in the field of environmental protection is the environmental impact charge levied on market participants for pollutant emissions, effluent discharge and waste disposal. Payments are charged based on graduated rates established for a list of pollutants dependent on the hazard of their environmental impact and waste hazard class (Russian Federation, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).
28. Law on Environmental Protection, Law on Payments for Environment Pollution (1998), with subsequent addenda, have introduced charges on emissions (Republic of Moldova, 2006, unpublished, Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).
29. Such as Article 44 of Law on Environmental Protection provides that environmental pollution charges are based on de facto emissions releases, emission pollutant limits and waste disposal (Government of Ukraine, 2006, unpublished. Questionnaire survey: Policies and strategies on sustainable consumption and production in SEE and EECCA countries).
30. In addition to establishing a cap-and-trade system for GHG emissions, the American Clean Energy and Security Act of 2009 included many additional provisions, including: a mandate that, by 2025, 25 per cent of the nation's energy be produced from renewable sources; creation of new energy efficiency programmes; limits on the carbon content of motor fuels; and requirements on GHG standards for new heavy duty vehicles and engines.

CASE STUDY 5

Producing and sourcing sustainable coffee

In 2003, Nestlé Nespresso developed the AAA Sustainable Quality™ Coffee Program with the Rainforest Alliance and other partners. The programme applies the Sustainable Agriculture Network criteria and standards. In 2009 Nespresso and Rainforest Alliance collaborated again with other partners to launch Ecolaboration™ as a framework addressing the whole value chain. Nespresso publicly committed to achieving three objectives by 2013 (Nespresso, undated):

- To source 80 per cent of the coffee from the AAA Sustainable Quality™ Program, including Rainforest Alliance certification
- To put systems in place to triple the capacity to recycle used capsules to 75 per cent
- To reduce the carbon footprint per cup of Nespresso by 20 per cent

The coffee farms will apply guidelines for farming that help to ensure economic viability, environmental conservation and social justice. To this end, agronomists and ecologists from Nespresso, with the input of the Rainforest Alliance and their supply partners support more than 200 agronomists to help farmers meet the Sustainable Agriculture Network (SAN) standards while improving productivity (personal communication, Karsten Ranitzsch, 22 September 2011)

These standards and requirements include soil and water conservation, protection of wildlife and forests, and ensuring that farm workers, women and children have proper rights and benefits. For instance, the SAN standard requires that farmers conserve water by keeping track of water sources and consumption. Protecting streams ensures that mills will have clean water to process the beans and healthy soils to grow better quality coffee (Sustainable Agriculture Network, 2011). Hence, this alliance brings benefits to nature, farmers, workers, the company and consumers.

In 2010, 60 per cent of Nespresso's green coffee beans came from the AAA Programme. More than 40,000 farmers from Latin American and Asia (Brazil, Colombia, Costa Rica, Guatemala, India, Nicaragua and Mexico) benefit from it. It is estimated that a total of 80,000 farmers and their families will benefit from the programme by the end of the 2012-2013 harvest season (personal communication, Karsten Ranitzsch, 22 September 2011).

Agricultural Production and Handling, issued by the United States Department of Agriculture's Agricultural Marketing Service in 2000, which aims to regulate any farm, wild crop harvesting or handling operation that wants to sell an agricultural product marketed as organically produced (United States Department of Agriculture, 2011).

In Canada, much effort is also focused on consumer education and awareness, through web portals such as ConsumerInformation.ca and government funding and labelling programmes such as the Certified Organic Associations of British Columbia, the EcoLogo programme (see Case Study 7) and the EnerGuide Label. Due to the highly integrated nature of the Canadian and United States economies, many energy efficiency codes and standards are shared. Given Canada's relatively smaller economy, integrating programmes with a larger economy such as the United States provides economies of scale for equipment manufacturers. For example, the international Energy Star symbol is promoted and monitored in Canada, and the Canadian buildings sector promotes the LEED building certification programme (personal communication, Holly Palen, 7 October 2011).

Voluntary instruments

A wide range of voluntary instruments related to SCP are applied in several EU and EFTA countries and at the EU level. Examples include the EU Retail Forum (public-private collaboration), the Eco-Management and Audit Scheme registration system (a voluntary Environmental Management System). Voluntary agreements exist on energy efficiency for washing machines, refrigerators, freezers and dishwashers. For example, in 1999 the industry presented, through the European

CASE STUDY 6

Economic and energy-efficient housing in Ukraine

The Ukrainian National Environmental NGO MAMA-86 was founded in 1990 and registered its national status in 2001. The mission of MAMA-86 is to enhance women's and mothers' roles in education and the decision-making processes for improvement of the environment and living standards of citizens.

MAMA-86 implements advocacy and public lobbying campaigns, raising awareness and capacity-building activities, and implementing pilots on its three main areas of work on sustainable development: greening policy and practice, including the promotion of SCP patterns; access to safe drinking water and sanitation; and promoting safe management of chemicals and waste. Environmental democracy, health and environment are treated as cross-cutting themes.

Photo courtesy of MAMA-86

MAMA-86 has been working on SCP issues since 1995. Since 2005 MAMA-86 has been running lobbying and communication campaigns demanding more effective environmental policy in Ukraine, including measurable goals and objectives, a set of indicators, a monitoring and assessment mechanism, and the broad involvement of citizens and other stakeholders. In 2007 the Government of Ukraine adopted the Concept of National Environmental Strategy. Parliament adopted the New Law on State Environmental Policy Strategy at the end of 2010 and the New Environmental Action Plan for 2011-2015 in summer 2011.

One of the MAMA-86 projects, Green Choice for Ukraine, conducted between 2004 and 2007, developed a programme for economic and energy-efficient housing in the cities of Odessa and Artemivsk. The project targeted 657 local residents of multi-storey apartment buildings who participated in the campaign, along with representatives of the local authority, students, experts, local businesses and housing cooperatives. Measures that were introduced to save energy and water consumption were the installation of motion-detecting light switches, energy-saving bulbs and water meters, insulating hot water and central heating pipes and modernizing windows. Twice-monthly meetings were held to raise environmental awareness among the participants (Centre on Sustainable Consumption and Production and others, 2010). The project received financial support from Oxfam Novib, Netherlands. In Odessa, participants installed water meters and heating insulation at their own expense.

The participants saw energy efficiency improvements in their building, which significantly reduced costs. Electrical bills were reduced by 30 per cent, heating cost was reduced by 70 per cent, hot water cost was reduced by 80 per cent and overall water consumption was reduced by half.

The information and communication campaign reached up to 2.5 million of Ukrainians via mass media. In Artemivsk, cooperation among the community, government and businesses was established and lead to the development and implementation of a new municipal programme covering 35 buildings.

Source: MAMA-86 (2011)

Committee of Domestic Equipment Manufacturers (CECED), a unilateral commitment to energy saving for dishwashers to the European Commission. The overall target of the commitment was to reduce the specific energy consumption of household dishwashers by 20 per cent by 31 December 2002, related to the base case figures of 1996. This was to be achieved by reducing the consumption of the dishwashers and a gradual phase-out of less efficient appliances by stopping producing for and importing dishwashers that belong to less energy-efficient classes (European Committee of Domestic Equipment Manufacturers, 2002). Participants in this commitment represented more than 90 per cent of the European dishwasher market and close to 200 brands were affected. This initiative and other agreements have expired, mostly in the light of the EU EcoDesign directive preparations (European Committee of Domestic Equipment Manufacturers, 2002).

CASE STUDY 7

The Canadian ecolabelling program

In 1988, the Government of Canada created North America's largest environmental standard and certification mark, its EcoLogo. Managed by the green marketing group Terra Choice, the EcoLogo Program approaches certification using a life-cycle approach, rating environmentally preferable goods and services under ISO 14024.

Currently, there are more than 10,000 EcoLogo-certified products in the marketplace, across 75 categories. EcoLogo certification is known for "devising its standards in a transparent and public process, and for scrutinizing products for environmental impact throughout their life cycles, from manufacturing and use, to disposal" (UNEP, undated). For example, laundry detergents carrying the EcoLogo must not contain certain chemicals and be fully biodegradable.

ISO recognizes EcoLogo as a Type 1 ecolabel, meaning the program "compares products and services with others in the same category, develops rigorous and scientifically relevant criteria that reflect the entire lifecycle of the product, and awards the EcoLogo to those that are verified by an independent third party a complying with the criteria" (UNEP, undated).

As a founding member of the Global EcoLabelling Network (GEN), EcoLogo has been a key figure in organizing the global standardization of environmental performance labeling. Founded in 1994, GEN's mandate is to "improve, promote, and develop the eco-labelling of products and services" (UNEP, 2010). To date, "EcoLogo and the Green Seal programme in the United States are the only two North American eco-labelling programs approved by GEN as meeting internationally recognized ISO 14024 requirements" (UNEP, undated).

As a market instrument that benefits both consumers and producers, EcoLogo is also used by the Government of Canada under its green procurement policies.

Sources: UNEP (undated); Environment Canada (2011)

The update of the EcoDesign directive showed that self-regulation, including voluntary agreements offered as unilateral commitments by industry, allows for flexible adaptations to technological options and market sensitivities. This self-regulation can enable quick progress due to rapid and cost-effective implementation. It indicated that, for the assessment of self-regulation measures presented as alternatives to implementing measures, information on the following issues, among others, should be available: participation in the mechanism, representativeness, quantified and staged objectives, involvement of civil society, monitoring and reporting (Bertoldi and Rezessy, 2010). For a national voluntary agreements example, see Box 1. Such voluntary instruments are much less common in SEE and EECCA countries. However, registrations under some environmental certification schemes, such as ISO 14001,[31] have been steadily increasing (especially in SEE and the Eastern European EECCA countries), and are encouraged in particular in countries with significant export markets (e.g., Azerbaijan, Belarus, Croatia, the Russian Federation, Serbia and Ukraine) (UNEP and EEA, 2007).

In the United States, the EPA promotes Product Stewardship Partnerships, also known as extended product responsibility, whereby manufacturers, retailers, the users of products and those involved in their eventual disposal – in other words all the actors across the life cycle of products – can share responsibility for reducing their environmental impacts.[32] The Network for Sustainability, a collaborative network of federal agencies in the Western United States focuses on fostering and furthering the concept of sustainability within government.

In Canada, the Canadian Council of Ministers of the Environment have endorsed the Canada-Wide Action Plan for Extended Producer Responsibility, and established a Task Group to provide guidance

31. "The ISO 14001 standard provides a framework within which to develop plans to meet those targets, and to produce information about whether or not the targets are met" (International Institute for Sustainable Development, 2011).

32. More information is available at http://www.epa.gov/osw/partnerships/stewardship/basic.htm.

on the development and implementation of extended producer responsibility and stewardship programs in Canada. Workshops have been held and tools published to help decision makers in implementing extended producer responsibility (personal communication, Holly Palen, 7 October 2011).

Box 1: Sustainable Clothing Action Plan (United Kingdom)

The Sustainable Clothing Action Plan, a voluntary clothing industry initiative to improve the environmental and ethical performance of clothing, was launched at London Fashion Week in 2009. Coordinated by Defra, this plan sets out actions by 38 clothing and fashion companies and support organizations to improve the sustainability performance of clothing. A demonstration project is working with a range of dye houses in India that supply the United Kingdom market, including Tesco and Marks & Spencer. This project will share best practices and seek to increase the uptake of tools and metrics to improve environmental performance.

Source: Defra (2009b; 2010g; 2011)

7.4 SCP initiatives for and by business

Businesses have a key role to play in the transition towards SCP throughout the product life cycle, from raw material extraction to waste management via manufacturing and retailing. The financial sector, too, has a special role as a potential vehicle for directing investment towards sustainable solutions.

In the UNECE region, some parts of the business sector are doing much to promote more sustainable production practices and to encourage more sustainable consumption. Examples of their SCP-related initiatives are described below.

In terms of engagement on SCP issues beyond national or sectoral boundaries, CSR Europe, founded in 1995, is a leading European business network for corporate social responsibility (CSR). With a membership of some 70 multinational corporations and 27 national partner organizations, it provides a platform for them to share best practice on CSR, to develop innovative collaborative projects with stakeholders and to shape business and policy dialogue on sustainability and competitiveness.

Many sector-specific regional business associations include SCP-relevant initiatives in their working programmes; for example:

- Digitaleurope.org, the trade advocacy group of the European digital economy. Its working group on environmental policy provides support on SCP-relevant issues like the use of chemicals, waste, eco-design and energy efficiency.
- The European Crop Protection Association promotes modern agriculture in the context of SD. The association provides support for sustainable farming practices and tools such as integrated pest management to encourage efficient use of pesticides.
- The European Committee of Domestic Equipment Manufacturers works towards increased energy efficiency and responsible disposal of domestic appliances.

An example of an industry's success as a whole in using 100 per cent of its raw material is the European sugar industry. It has managed to use all of its raw material, the sugar beet. While the industry processes 110 million tons of beets on a yearly basis, sugar constitutes only 16 per cent of this amount. The industry has used the remaining components as follows (Ecorys, 2011a):

- Water (75 per cent) reused for beet washing
- Molasses (3.5 per cent) used as animal feed
- Beet pulp (5 per cent) used as animal feed
- Other material (0.5 per cent) incorporated into sugar factory lime

Businesses have also joined government-led SCP initiatives like the EU Retail Forum and the European Food SCP Roundtable. The EU Retail Forum is a multi-stakeholder platform set up in 2009 in order to exchange best practices on sustainability and to identify opportunities and barriers to SCP.[33] Membership is open to all retailers who join the 20 retailers and 7 retail associations that had signed up to the Retailers' Environmental Action Programme as of December 2010.

The European Renewable Energy Council is an umbrella organization for 11 industry, trade and research associations active in the sectors of photovoltaics, small hydropower, solar thermal, bioenergy, geothermal, ocean, concentrated solar power and wind energy. It works to influence decision makers in favour of renewable energy solutions and to promote European technologies on the global market, and acts as a forum for its members on issues related to renewable energy in Europe.

The implementation of environmental management systems such as ISO 14001 and the Eco-Management

33. For more information on the EU Retail Forum, please see: http://ec.europa.eu/environment/industry/retail/issue_papers.htm.

and Audit Scheme has become widespread in the UNECE region. As an example, the number of ISO 14001 certified organizations and companies based in the 27 countries of the EU increased from roughly 44,262 in 2005 to roughly 71,606 in 2008 (Nielsen Company, 2008).

Sustainable supply-chain management initiatives are another sign of business action in the production aspect of SCP. Highly visible examples include: the IKEA Way on Purchasing Home Furnishing Products launched in 2000; Sainsbury's Dairy Development Group (see Case Study 8); and the Walmart Supplier Sustainability Assessment, in which more than 100,000 global suppliers are asked to complete a survey to evaluate their own companies' sustainability performance (see Case Study 9).

A number of cleaner production and eco-design initiatives have also been launched by businesses in the UNECE region. Examples include Henkel's low-impact laundry detergents, Phillips' pioneering work on energy-efficient lighting and Adidas's 'Green' footwear and apparel. Procter and Gamble has focused on low-cost water purification equipment, Nokia on improving the energy efficiency of its products, and Novozymes on developing second generation biofuels and enzymes for low-temperature laundry detergents (World Business Council for Sustainable Development, 2008; 2004). Nestlé Waters has introduced a Global Environment Footprint tool (see Box 2) to reduce its products' footprint, while General Electric has devised a new business strategy on sustainable products (see Box 3).

CASE STUDY 8

Sustainable supply chain initiative in the agri-food sector

Sainsbury's Dairy Development Group (SDDG), based in the third largest chain of supermarkets in the United Kingdom, supports initiatives to help farmers and suppliers produce more sustainably. Together with an environmental consultancy, SDDG developed a carbon footprint model for its producers. The model provides farmers with individual advice on how to improve their footprint. By 2010, it had carbon footprinted over 325 SDDG farms, 98 cheese development farms, 260 beef development farms and 1,400 lamb development farms (J Sainsbury PLC, 2010). The company explains that, in SDDG farms, some of the reductions in energy and emissions have come from simple measures, such as harvesting rainwater for re-use. Other farmers have achieved higher yields per cow by using feed more efficiently, or managing their fertiliser and manure applications differently. Farmers receive additional veterinary support to improve the health and welfare of their herds, and information technology equipment and training to help monitor progress (J Sainsbury PLC, 2010).

According to Sainsbury's, the health and welfare work stream has delivered improvements in profitability for Sainsbury's dairy farmers of £1.6 million in 2009 (J Sainsbury PLC, 2010). Following the success of its SDDG, the supermarket rolled out this approach across its primary agricultural supply base, consisting of beef, lamb, pork, eggs, chicken, milk, cheese, grain and produce. Sainsbury's also won Best Retail Initiative at the BBC Radio 4 Food and Farming Awards for helping its farmers reduce their carbon footprint and achieve financial savings in 2010 (J Sainsbury PLC, 2010). In 2006 a study called *Greening Supermarkets* was carried out by the United Kingdom National Consumer Council. It looked at carbon footprint and seasonality of produce, waste and sustainable farming. In the study of eight major United Kingdom retailers Sainsbury's received the second best rating (together with Marks & Spencer). The study highlighted Sainsbury's achievements in the areas of offering Marine Stewardship Council-certified fish and organic products (Dibb, 2006).

Box 2: Global Environment Footprint (GEF) tool

This tool was specially designed to prioritize key actions to reduce the environmental footprint of Nestlé's bottled water operations. In 2008, after four years of development, Nestlé Waters officially launched it across the whole company. According to the company, between 2004 and 2009, it reduced water use per litre of product by 38 per cent between, reduced energy use by 40 per cent and cut packaging by 25 per cent. The identification of opportunities for lighter plastic bottles, for example, decreases the company's demand for plastic resin, which also helps to reduce costs.

Source: Nestlé Waters (2010)

Box 3: Resource efficiency

In 2009 General Electric invested US$1.5 billion on research and development into more resource-efficient products as part of its ecomagination™ business strategy. For example, a new gas turbine consumes less fuel and produces lower emissions than earlier models. In 2009 General Electric's ecomagination revenues grew by 6 per cent to US$18 billion, while the company reduced its water consumption by 30 per cent compared to a 2006 baseline.

Source: General Electric (2009; 2010)

Business efforts promoting the demand for sustainable products and services are scarcer, but a number of interesting initiatives are emerging. One trend is the increased use of ecolabels. Since the introduction of the EU Ecolabel in 1992, the number of companies licensed to use it has grown annually, to a total of over 1,000 at the beginning of 2010. Another growing area is corporate sustainability reporting. Response rates to the corporate carbon emission surveys of the United States-based Carbon Disclosure Project, for instance, have continued to rise, reaching 70 per cent for United States companies and 84 per cent for EU companies by 2009.

Several major retailers in the UNECE region have used their central location in the product chain between producers and consumers to launch initiatives on SCP. Marks & Spencer, for example, has declared the ultimate aim of being the world's most sustainable retailer and launched a Plan A initiative comprising 100 commitments. Meanwhile, Walmart's sustainability assessment aims to benchmark their suppliers and communicate the life-cycle impacts of its products (see Case Study 9). Two of many examples on the consumption side are Tesco's Greener Living Initiative, an online customer club providing information on green consumption, and COOP Sweden's Änglemark sustainability label. Increasingly, several retailers are using choice editing (the voluntary removal of unsustainable choices). Choice editing remains a fairly novel field to many businesses, with huge, yet still unharnessed, potential.

More comprehensive and holistic action on SCP by businesses can extend to reorienting their very business models toward sustainability by putting sustainability at the core. One possible route is for businesses to move away from the concept of selling products and instead to focus their offer on the services they provide. Examples of this so-called product-service system are the leasing of cars, photocopiers, carpets and other products. An immediate benefit of leasing is recuperation of resources: rather than letting them go to landfill, they are turning waste into a resource. DuPont, for instance, has developed a programme that enables customers such as hotels and office buildings to lease their carpets (MSA Worldwide, 2011).

Another major player in this industry, Interface Global, aims to eliminate all negative impacts on the environment by the year 2020. It has been redesigning processes and products to close the technical loop using recycled and bio-based materials. Since 1995, it has reduced its waste by a third. As of 2010, 40 per cent of Interface Global's raw materials were recycled and bio-based, reducing its dependence on oil while preserving natural resources (Interface, 2011; Business Standard, 2010). Another route to save material is to make reuse less costly than the purchase of new items ones (see Box 4).

Box 4: Shops for reused goods

The Helsinki Metropolitan Area Reuse Centre's four shops for reused goods redistribute well over a million items per year, making significant savings in life-cycle resource use and ecological footprint, when compared with the sale of equivalent quantities of new products. In 2009, based on the distribution of 1.2 million used or repaired items (mainly clothes, toys and books), the Centre estimated these savings at 14,500 tons of materials; 1,300,000 tons of water; and, according to Material Input per Service Unit calculations, 3,740 tons of CO_2 emissions.

Source: Helsinki Metropolitan Area Reuse Centre (2010)

Photo courtesy of Helsinki Metropolitan Area Reuse Centre

CASE STUDY 9

Picture courtesy of TSC

Sustainability measurement and reporting

In 2009 Walmart started a programme to help evaluate the sustainability performance of their suppliers and products. The first phase of this work included a Supplier Sustainability Assessment that evaluated the supplier's efforts in four key areas: Energy and Climate, Material Efficiency, Natural Resources and People and Community. In phase two, Walmart will use insights from The Sustainability Consortium (TSC) to scorecard and benchmark their suppliers' performances on the key issues and opportunities in the life cycle of their products.

The TSC is a global, academically led, multi-stakeholder organization conducting research and developing data, standards, systems and tools that will improve decision-making and drive sustainability in consumer goods. With offices in the United States and Europe and expansion plans in Asia and Latin America, TSC is actively working in food, beverage and agriculture; home and personal care; consumer electronics; toys, paper and forestry products; and packaging. TSC plans to continue expanding membership and sectors in other areas. The Sustainability Measurement and Reporting System under development will deliver sustainability information through product Category Sustainability Profiles, and deliver a large-scale system supporting standardization and harmonization of product life-cycle assessments over time.

A wide range of retailers and suppliers are beginning to put TSC's work to use, informing how they design products, source materials and buy merchandise. TSC's Consumer Science working group is actively researching the effective communication of sustainability information for consumers, work that will influence how retailers and brands engage consumers around these issues. TSC's work will have important global business implications by fostering, and enabling, communication and reporting of sustainability characteristics across the supply chain.

Sources: Walmart (2011a; 2011b; 2011c) TSC (2011); personal communication, Greg Thoma, 7 September 2011

The clean-tech sector (e.g., renewable energies) has been the main area for the emergence of green businesses. This sector is still growing in the UNECE region; indeed, in the EU it is the only business sector that has shown growth throughout the current economic crisis, albeit with support from deliberate economic stimulus policies. Outside the clean-tech sector there are still relatively few cases of transformation into sustainable business models in the UNECE region. One example of successful green entrepreneurship is Beacon Press, which had been the leading environmentally friendly printer in the United Kingdom until it was purchased in 2004 (Scott, 2004).

In the banking and investments sector, SCP-related changes can be observed in examples of private and public financing for energy efficiency and renewable energies. For example, in 2007, the European Investment Bank (2007) issued a €600 million Climate Awareness Bond to fund projects that provide financing in the fields of renewable energy and energy efficiency.

In 2010 the Swiss Climate Foundation, founded by global reinsurer Swiss Re and other service companies, financed 16 projects run by SMEs with contributions of over CHF1.2 million. These projects included installing a groundwater-powered heat pump for a printing company, adding a thermal energy screen to an organic food producer's greenhouse, transforming a 30-year-old metal manufacturing plant into a state-of-the-art production facility that runs without any fossil fuels, among other initiatives. Over half of all projects currently supported by the foundation aim to raise energy efficiency, while the others focus on advancing innovative technologies. Swiss Re estimates that, once fully implemented, all energy-saving initiatives combined will save approximately 26,000 tons of CO_2 emissions and 14 GWh of power over their full life cycles (Swiss Re, 2011).

In the United States, Citi announced plans in 2007 to direct US$50 billion over 10 years to activities

that mitigate climate change. These activities include internal projects, such as retrofitting existing or constructing new Citi facilities, and business initiatives, such as financing alternative energy and investing in clean technology. The company reports that it has directed US$30 billion to this initiative to date. This includes, for example, a US$1.4 billion package to finance the Shepherds Flat Wind Project in Oregon. When completed in 2012, the company expects the wind project to produce enough energy to power more than 200,000 California households, avoiding over 1 million tons of CO_2, and creating hundreds of jobs in the community (Citi, 2011).

These initiatives are prime examples of the sector's efforts on renewables and energy efficient issues. However, a survey of 16 financial institutions' interventions on energy efficiency concludes that, though private-sector financial institutions are very interested in energy efficiency, they find it difficult to get the level of scale and financing opportunity required to make specific energy-efficiency activities commercially attractive, particularly in the context of project financing (UNEP, 2009).

Further investment in clean-tech and more encouraging incentive structures for sustainable enterprises remain critical elements in the transition towards SCP in the UNECE region.

7.5 Civil society initiatives for SCP

Civil society organizations (CSOs) have a key role to play in facilitating the development and implementation of SCP strategies, as well as in encouraging governments, businesses and people to act. They are not only a channel for the expression of the needs of people and communities to policymakers, but also an avenue for the implementation of SCP strategies.

The numerous CSOs working on SCP issues in the UNECE region have a variety of approaches to tackling unsustainable consumption and production patterns. These can include publishing challenging evidence, undertaking consumer-focused campaigning, lobbying governments, engaging with communities, building coalitions, engaging in partnerships with business and convening multi-stakeholder processes to create, develop and test sustainable innovations (Action Town, 2009).[34] This section touches upon a very limited number of these organizations and platforms. Promoting partnerships is one way in which CSOs influence business. The World Wide Fund for Nature (WWF) Climate Savers initiative, for example, enables World Wildlife Fund to work with business and independent experts to set GHG emissions reduction targets. The collective reductions by Climate Savers partners were predicted to reach over 50 million tons of CO_2 equivalent by the end of 2010 (WWF, 2011). Joining in on platforms with the business sector is another way for CSOs to develop actions on SCP. For example, Forum Waschen is a dialogue platform on detergents for stakeholders in the industry.

CSOs such as NorWatch and DanWatch are 'watchdog' organizations that focus on policing businesses that are not following through with SCP commitments by naming and shaming them publicly. An innovative alternative approach is 'buycotting' (the opposite of boycotting), which mobilizes people to support sustainable businesses by purchasing its products.

Civil society traditionally influences policymakers. Several mechanisms established at the international level provide the opportunity for CSOs in the UNECE region to take part in the international governance process, as participants in meetings, consultations and expert panels. The European Environmental Bureau, for example, plays an active role as a stakeholder in the formation of European SCP policies.

Access to these international forums, however, requires a level of knowledge of international processes that medium-sized and smaller CSOs do not always possess, as well as funding for attending. Consequently, one of the conclusions of the UNECE Fourth Regional Implementation Meeting on Sustainable Development in Geneva in December 2009 was that medium-sized and small CSOs require further support and stronger networks.

At the national level, CSOs have been actively involved in promoting SCP on the political agenda in the EU and EFTA countries. In the United Kingdom,

34. Action Town conducted a survey and published a discussion paper with the objective of developing partnerships between research organizations and CSOs with the aim of increasing the effectiveness of the CSOs. It also addressed the question of what civil societies advocate for. Project partners include: Collaborating Centre on Sustainable Consumption and Production, Sustainable Europe Research Institute, Stockholm Envrionment Institute, the Northern Alliance for Sustainability and World Wide Fund for Nature United Kingdom. Action Town is a Seventh Framework Programme project funded by the European Commission. Its official name is CSOContribution2SCP. For more information, please see: http://www.scp-centre.org/fileadmin/content/files/project/civil_society_platform/NetworkOfChange.pdf.

examples include the Sustainable Consumption Roundtable, a joint initiative of the National Consumer Council and the Sustainable Development Commission, and the Sustainable Procurement Task Force.[35] A Swedish example of a CSO influencing public policy is the Stockholm congestion tax, aimed at reducing traffic congestion and improving air quality, that was implemented in August 2007 in response to CSO lobbying efforts with the support of the Green Party (Centre on Sustainable Consumption and Production and others, 2010). An example from Latvia is Green Liberty lobbying for green procurement policies. In Germany, the Federal Environment Ministry, in cooperation with the Federal Environment Agency, launched a national dialogue process on SCP. Other examples of countries of government consultations with civil society include Austria (Building our Future: A Sustainable Future for Austria), the Czech Republic (the Czech Framework of Programmes on Sustainable Consumption and Production), Finland (the Getting More and Better from Less programme), and France (the National Council for Sustainable Development).

In SEE and EECCA countries, CSOs play a very important role by putting pressure on their respective governments to address SCP issues. In Kazakhstan, for instance, the Centre for Sustainable Production and Consumption was one of the main driving forces in the development and adoption of the national SCP model in 2009. In Croatia, communication with CSOs is managed by the government's Office of Cooperation with NGOs.[36] However, the Ukrainian network of environmental NGOs called MAMA-86[37] characterizes the impact of CSOs on policy formulation in EECCA countries as weak. Despite such countries having ratified international mechanisms on allowing public participation in governmental decision making, MAMA-86 says that, in practice, these mechanisms do not work "due to an inefficiency of the mechanisms for authorities and public interaction and often public opinion is simply ignored by the government" (MAMA-86, 2008).

In Canada and the United States, a growing movement of CSOs exists at all levels, including public-interest organizations, academic researchers, individual citizens and neighbourhood groups. Initiatives to unite them include the North American

Sustainable Consumption Alliance, a partnership of NGOs and academic and government organizations that promotes SCP in Canada, Mexico and the United States; the North American Roundtable on SCP[38]; the Citizens' Network for Sustainable Development; and the Canadian Environmental Network.

Throughout the UNECE region, single CSOs and networks of organizations provide research, analysis and information on SCP. One such network, the Sustainable Consumption Research Exchanges project, established an EU-wide network of SCP experts between 2005 and 2008 that included researchers, policymakers, businesses and NGOs.[39] The Sustainable Consumption Research and Action Initiative performs a similar role in North America and globally. Other examples include Consumers International, the Partnership for Education and Research about Responsible Living and the International Coalition for Sustainable Production and Consumption. A regional example is the Northern Alliance for Sustainability, whose member organizations work to empower civil society to create and protect sustainable communities and societies worldwide.[40] The Northern Alliance for Sustainability also focuses on enabling CSOs to participate in local, national, regional and international decision-making processes on SD.

CSO information campaigns tackle issues such as where to buy sustainable products or guidance on reducing consumption often using electronic media, or working with local communities. Some

35. This task force includes government, businesses, NGOs and trade unions. The task force developed a national action plan that recommended coherent guidelines for sustainable procurement, minimum standards for agencies and budgetary mechanisms such as whole-life costing. For more information, please see: http://www.defra.gov.uk/sustainable/government/
36. For more information, please see: http://www.uzuvrh.hr/defaulteng.aspx
37. Mama-86 was established in 1990 by a group of young mothers concerned about the post-Chernobyl accident problems and their impact on children's health. Mama-86 activities aimed at supporting Ukraine's move toward sustainable development through active educational activities among the general public, focusing particularly on women through information collection and dissemination, ongoing training, as well as public and inter-sectoral debates, lobbying the government in the interests of citizens.
38. The North American Round Table on SCP is a network of networks launched in 2010 at the Eighteenth session of the United Nations Commission on Sustainable Development. Following the session, a series of workshops, outreach to other networks, and other projects aimed at expanding the overall public dialogue on SCP in the region were planned.
39. For more information, please see: http://www.score-network.org/score/score_module/index.php.
40. ANPED has quite a few of their member organizations located in the SEE and EECCA, especially in Central Asia and Caucasus. For more information please see: http://www.anped.org/index.php?part=122.

CASE STUDY 10

Transition Towns

Transition Towns is a civil society movement that joins the forces of local people, local government and local businesses in a town to overcome the threats of pollution and climate change and peak-oil challenges at a community level. It started with a small group of people in Ireland and has already spread over 300 'official' transition initiatives across the world, from Australia to the United States (Hopkins and Lipman, 2009).

The Transition Towns movement's goal is for communities to eliminate their dependence on oil, mitigate climate change and, at the same time, increase local resilience and life quality. The Transition Network was established in 2006 with the aim of supporting current and potential new Transition Towns. It performs a co-ordinating role for the national networks and produces tools on different aspects of transition such as energy and food. It has developed best practice documentation and communication material such as a movie translated into several languages, describing itself as a catalyst for the Transition model (Transition Culture, 2008).

Transition Towns have developed local systems for energy and food production, and product re-use, recycling and repair. Several local community currencies have also been developed. To 'transition together' is understood to be a group of households that come together to address key environmental challenges (e.g., energy, water, food, waste, transportation). The movement also offers training on production of sustainable goods and services, and education for businesses and local governments to explain sustainability issues and manage risks (Hopkins and Lipman, 2009).

For example, Norwich locals share a farm, an initiative that grew out of the Transition Norwich Food Group, and is supported by local NGO East Anglia Food Link. As of 2011, almost 50 vegetable shareholders share a weekly harvest and volunteer on the farm, learning new skills and sharing their knowledge (Transition Norwich, 2011).

Typically, Transition Towns develop small-scale energy companies to enable communities to take advantage of local wind, micro-hydro, or wood chip boilers or to fund the joint purchase of solar panels. For example, Transition Town Totnes is developing plans to use wind energy and an anaerobic digestion plant based on food, garden and farm waste materials to generate renewable electricity and heat for the local community (Totnes Renewable Energy Society, 2011).

Another example of an initiative is the Bristol Green Doors initiative, an open-homes event showcasing a range of no-cost to high-cost measures reducing domestic energy consumption. Over 50 homes were free to visit, where the owners demonstrated how they work in practice and share their knowledge and experience of living in homes they are making fit for the future. This was supported by information on energy efficiency advice and services in 'hubs' based in community venues in at least 10 neighborhoods of the city. This project has become an official Green Capital Momentum Group of the Bristol Partnership, which sets the long-term vision for the City of Bristol (Transition Network, 2010).

examples are the Center for a New American Dream's Cater to the Earth campaign (which makes crucial links between people's food choices, the environment, health, and social justice); the Natural Resources Defence Council's Green Living Toolkit; and, in Canada, Environmental Defence and the David Suzuki Foundation. Examples of pertinent news media include: the Northern Alliance for Sustainability newsletter, *The Switch*, which is available both in print and online; *Opcions*, the magazine of the Barcelona-based Centre de Recerca i Informació en Consum; and *EMUDE*, a digital magazine from the Sustainable Everyday Project.

A holistic approach in mobilizing entire communities in sustainable living is taken by the Transition Movement (also known as Transition Network or Transition Towns), which first emerged in Ireland, brings together local people, local government and local businesses at a community level to overcome the threats of pollution and climate change and the challenges of peak oil. It has now spread to more than 300 communities in numerous countries worldwide, including the United Kingdom, Ireland, United States, Canada, Denmark and Italy (Centre on Sustainable Consumption and Production and others, 2010) (see Case Study 10).

CSOs in the UNECE region are also engaged in more formal education and implantation of education projects. In 2008 the Move4Nature Teacher Training Project on Education for Sustainable Development started as a network of teachers and activists. It turned into a partnership for education on the sustainable management of mountains with county school inspectorates in every training location with the support of the Ministry of Education, Research and Innovation of Romania. The programme focuses on the Carpathian environment (Carpathian Convention, 2011). The One Did It initiative in Finland encourages consumers to live more sustainable lifestyles by offering an 'ecological backpack calculator' for people to work out the environmental pressures of their consumption.[41] Other relevant CSO initiatives include the European Roundtable on SCP.

It is important to highlight that the themes and modes of organization of CSOs are constantly evolving. New and informal online communities are part of this process. Not only are movements very well connected by their use of web tools and social media (blogs, Facebook, Twitter, YouTube, MySpace etc.), but in some cases, they may exist entirely online (Centre on Sustainable Consumption and Production and others and others, 2010).

7.6 **Conclusions**

The extent to which dedicated SCP policy and SCP-related policy has been implemented in different parts of the UNECE region reflects the widely divergent levels of economic development, political structure and differences in governance.

In the EU and EFTA regions, SCP is high on the political agenda. The EU added an environmental dimension to its Lisbon Strategy as far back as 2001. Its successor, the Europe 2020 Strategy, focuses on "smart, sustainable and inclusive growth," including a flagship initiative on resource efficiency. SCP was accorded full political recognition in 2006 in the EU Sustainable Development Strategy. In 2008 the EU Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan provided high-level regional leadership, strengthening eco-design, ecolabel, energy label and green public procurement activities, and establishing a multi-stakeholder platform to exchange best practice on sustainability in retail. SCP action at the EU level also relies and builds on regulatory frameworks such as the REACH regulation on chemicals and their safe use, and the Energy Efficiency in Buildings directives. At a national level, Austria, Belgium, Denmark, France, Germany, Greece, Hungary, Italy, Malta, the Netherlands, Norway, Romania and Sweden all address SCP through their NSSDs, while countries with stand-alone SCP strategies include the United Kingdom, Poland, Finland and the Czech Republic. In short, SCP-related policy, targeted at different stages of the production and consumption life cycle and at high-impact consumption activities and sectors, is common throughout the EU and EFTA regions. Further coordination of these policies through dedicated SCP strategies would be of great benefit.

EECCA and SEE countries have no regional strategy on SCP and, in general, do not place significant emphasis on SCP in national policymaking. A handful has adopted NSSD strategies, but only some of these include SCP as a key priority. Several countries have included SCP as a thematic part of their national SD strategies since 2007, including Croatia, the FYR of Macedonia and Serbia. In Central Asia, Kazakhstan alone has been developing an SCP model, and is preparing a national 10-year programme on the environment with a subsection dedicated to SCP. Regulatory tools are the most common instruments in the countries in this subregion, with policies such as standards in chemical use, construction and energy labelling. However, the use of specific mechanisms to promote SCP is generally low. Integration of SCP goals into energy, transport and agricultural policies is a key need in this subregion.

In the United States, no regional-, federal- or state-level strategies on SCP has been endorsed; many SCP-relevant policies are nonetheless being implemented at all these levels. In Canada, a Federal Sustainable Development Strategy was released in October 2010. Canada and the United States are notable for their effective use of partnerships with industry and civil society, such as the multi-stakeholder process that led to the development of the LEED certification programme for buildings. The public sector in the United States gives strong signals to the market through executive orders requiring federal agencies to acquire products that are energy and water efficient, bio-based, environmentally preferable, non-ozone depleting, non-toxic (or less toxic alternatives), and contain recycled content.

In general, the review of frameworks and policies in the UNECE region suggests an overall need for governments to shift from the more traditional role of controlling through regulation and standards to encouraging collective action and engagement by producers, consumers and civil society. Further and accelerated development of dedicated indicators and benchmarks were also identified as an important step that would enable

41. For more information, please see: http://www.onedidit.com/pdf/Onedidit_ecobackpack.pdf

continual review and improvement of SCP policy formulation and implementation. The role of the public sector in leading change, through initiatives like GPP, could be bolstered across the region.

Businesses have been making significant headway in responding to public demand for more sustainable products and greater transparency, although with their influence again diverging significantly between subregions. In particular, retailers have been driving upstream improvements not only within the UNECE region, but across global markets. The business activities identified in the UNECE region, however, could do more to promote transformational change in consumption and production patterns. Government-business initiatives in the EU and EFTA regions have been useful in forming sectoral consensus (e.g., the European Food SCP Roundtable and the EU Retail Forum) and engaging in collaborative action promoting SCP.

The activities of CSOs are diverse. They promote partnerships, create and participate in platforms with the business sector, inform and communicate on SCP and SD, build capacity, participate in naming and shaming, and set standards. One example is the Northern Alliance for Sustainability newsletter on initiatives that are making the shift to a sustainable society. Movements for sustainable living have sprouted. Transition Towns, which advocate for sustainable living and seek practical solutions to lessen dependence on oil, has spread globally, and such towns are now established in 130 countries.

Building on the collaborative action between all stakeholders as demonstrated in the above examples of initiatives, alliances and partnerships will be central to shifting towards SCP patterns.

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Annex A

List of countries in the UNECE area

The EU and EFTA (Western and Central Europe):

- The EU-27 includes the EU-15 (Western Europe): Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom, and the EU-12 (Central Europe): Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia
- The European Free Trade Association (EFTA): Iceland, Liechtenstein, Norway and Switzerland.
- Other WCE countries: Andorra, Monaco and San Marino

Eastern Europe, Caucasus and Central Asia (EECCA):

- Eastern Europe: Belarus, Republic of Moldova, Russian Federation and Ukraine
- Caucasus: Armenia, Azerbaijan and Georgia
- Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan

South-Eastern Europe (SEE):

- Western Balkans: Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, Montenegro, Serbia
- Other SEE country: Turkey

North America:

- USA
- Canada

- Israel

8 Global Outlook on SCP Policies: West Asia

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8.1 Introduction

The West Asian region consists of 12 countries: six countries in the Gulf Cooperation Council (GCC) subregion (Bahrain, Qatar, Kuwait, Oman, Saudi Arabia and United Arab Emirates [UAE]) and six countries in the Mashreq subregion (Jordan, Lebanon, Syria, Palestine, Iraq and Yemen). The region hosts a population of 128 million (World dataBank, 2011a). It has experienced rapid development in the recent years. This development has manifested itself primarily in sharply rising consumption patterns, especially in countries of lower populations such as Qatar, Kuwait, UAE and Bahrain. In fact, according to World dataBank statistics (2011a), in 2008 the average energy consumption of these four countries was 13,348 kg oil-equivalent per capita, compared to a world average of 1,835 kg oil-equivalent per capita, more than tripling the figures in European countries.

The region is highly urbanized, with 69 per cent of the population living in urban areas, but urban growth does not reflect major improvements in socio-economic conditions. The average real gross domestic product (GDP) growth across the United Nations Economic and Social Commission for Western Asia (UNESCWA) region in 2010 is estimated to have been 4.3 per cent, up from 1.7 per cent in 2009, and the forecast is an increase to 5.1 per cent for 2011 (UNESCWA, 2011).

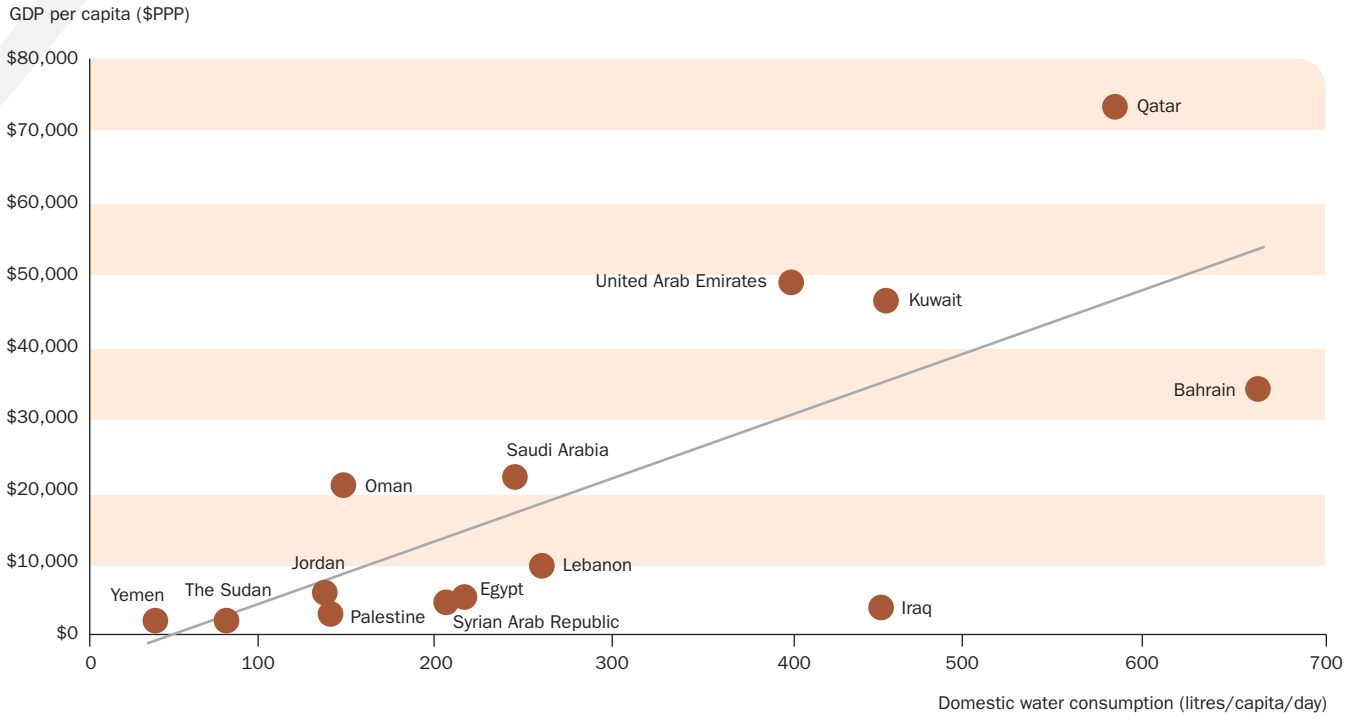
Most countries in the region are high-income countries, including Bahrain, Qatar, Kuwait, Oman, UAE and Saudi Arabia; there are also some upper-middle-income countries, namely Jordan and Lebanon. Lower-middle-income countries include Syria, Iraq and Yemen (World Bank, 2011).

The region has a dry, harsh climate and limited natural resources of water, soil and vegetation. Rainfall is erratic and droughts are frequent. Most of the West Asian countries are currently below the water scarcity limits of 1,000 m^3 per capita per year.

The main water demand stems from agriculture, households and industry. Agriculture represents 86 per cent of water demand, with exceptions in Bahrain and Palestine, who use less than 50 per cent of their water resources for agriculture and 50 per cent for domestic use (UNESCWA, 2009). Figure 1 shows that domestic water consumption per capita in West Asian countries differs according to the standard of living; the higher the GDP, the higher the consumption.

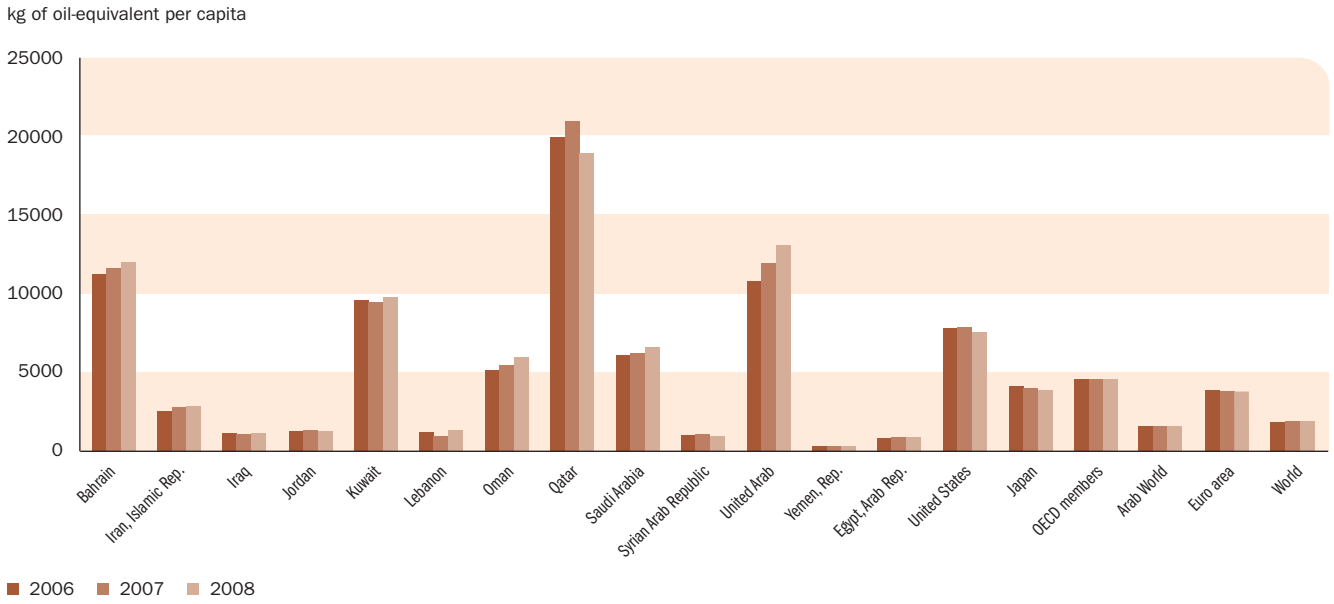
Non-conventional water resources are vital to minimizing the gap between water supply and consumption. West Asian countries have developed policies to use non-conventional water supply, especially wastewater treatment and water desalination. The total global desalinated capacity is 61 million m^3/day (UNESCWA, 2009). West Asian

Figure 1: Domestic water consumption versus GDP per capita



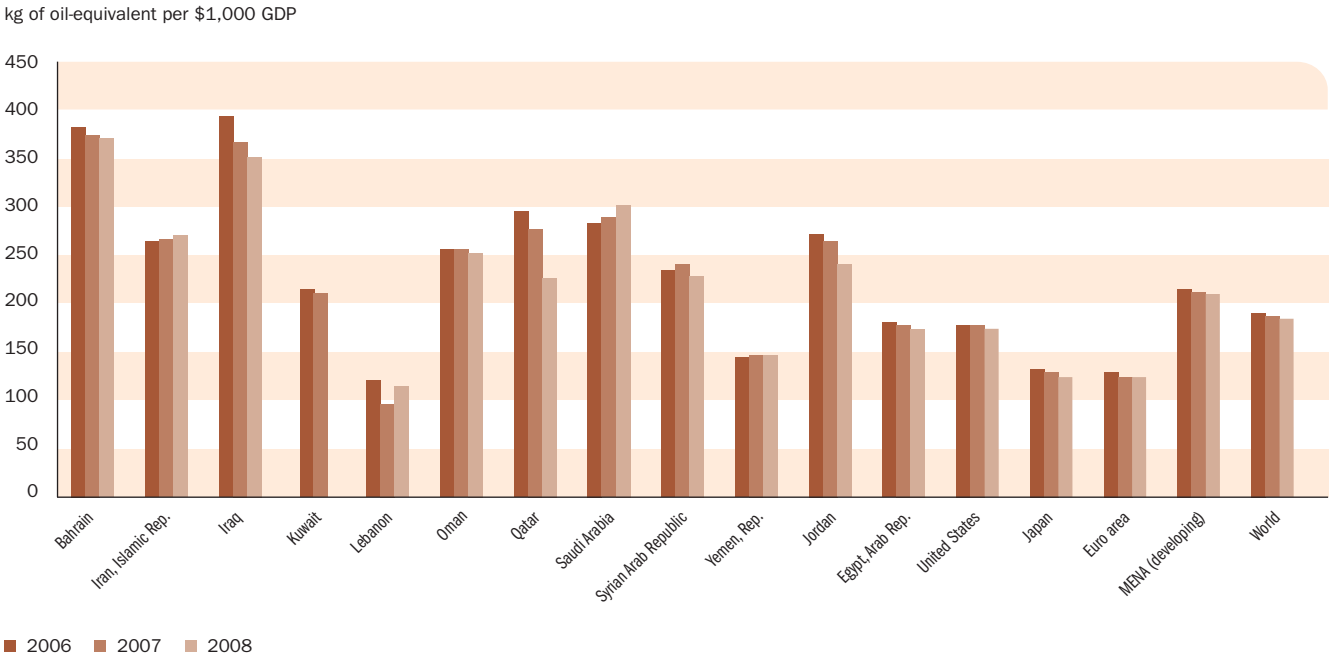
Source: UNESCWA (2009)

Figure 2: Energy consumption per capita in West Asia and other reference countries and regions



Source: World dataBank (2011b)

Figure 3: Energy intensity of GDP in kg oil equivalent per USD 1,000 (constant 2005 Purchasing Power Parity)



Source: World dataBank (2011a)

countries have an estimated capacity of 27 million m^3/day, representing 44 per cent of the global desalination capacity, and that capacity is expected to increase in the coming years (UNESCWA, 2009).

Energy generation and use represent other major challenges in the region. The majority of electricity in West Asian countries is produced in thermal power plants. Of the installed thermal plants, oil and natural gas are the main fuels. Oil meets about 53.6 per cent of the total thermal energy demand and gas about 43.9 percent. Other resources, such as coal and renewable resources, account for only about 2 per cent (Arab Monetary Fund, 2007). The proportion of renewable energy in total energy production is minor. Relatively small capacities are in place to provide wind and solar power, such as the 10 MW solar photovoltaic (PV) power plant, Masdar (Masdar

Institute, 2009). Otherwise, the renewable energy that is available is predominantly hydropower (Energy Statistics Database, 2007).

Between 1990 and 2007, energy consumption has roughly doubled in most of these countries (Energy Statistics Database, 2007), except for Iraq, which shows significant fluctuations in installed capacity over the years, likely to be due to the unstable political conditions.

Figure 2 illustrates the disparities in energy consumption per capita in West Asia and other developed countries in different regions. The West Asian region is characterized by high energy intensity (measured in kg oil-equivalent per US$1,000 GDP, see Figure 3). High energy consumption per capita implies high CO_2 emissions. The average per capita CO_2 emissions in the West Asian countries increased from 6 to 7.2 tCO_2 per capita between 1990 and 2003, compared to a world average of 3.9 tCO_2 (Joint Secretariat of the Joint Committee on Environment and Development in the Arab region [JCEDAR], 2009).

The high dependence on non-renewable fossil fuels, together with the concern over the environment, has made energy a top priority in the region. This concern is reflected in the Arab Regional Strategy for Sustainable Consumption and Production (SCP), where clear objectives and suggested policies were agreed upon. However, despite the need to improve practices in energy consumption, a study by German Technical Cooperation (GTZ, 2008) points out that most of the GCC countries, namely Bahrain, Kuwait, Qatar and Saudi Arabia provide fuels, specifically super gasoline and diesel, at prices that are below the world market price.

One of the major challenges of the intensive urbanization in the West Asian region is the increase in solid waste. The West Asian region produces about 250,000 tons/day of solid waste, of which, less than 20 per cent is properly treated or sent to landfills (Arab Forum for Environment and Development, 2008).

Other environmental challenges in the region include land desertification and degradation, management of coastal and marine environment and intensive urbanization, which affect peace and security (United Nations Environment Programme [UNEP], 2007). There is an urgent need to adopt and implement policies that lead to a shift in SCP patterns in this respect in the region.

This report illustrates effective SCP policies. It focuses on the two highest priorities in the region – energy and water – as identified by the Arab strategy for SCP. In the regional policies section, the focus is on energy policies, given their high priority and often direct relevance to the water sector. However, examples from both the energy and water sectors are illustrated in the section addressing national policies.

8.2 SCP policies at the regional level

West Asia's active involvement in global efforts to reach sustainable development (SD) is a tribute to the political commitment of governments in the region to addressing the challenges of unsustainable growth and the threat of depleting energy and water resources. At the international level, the Marrakech Process[1] on SCP has contributed to the identification of "priority implementation areas" and the development of national and regional SCP strategies towards the achievement of SD in the West Asian region.

At the regional level, during its 2009 meeting, the Council of Arab Ministers Responsible for Environment (CAMRE)[2] endorsed the Arab Regional Strategy for Sustainable Consumption and Production. West Asian countries constitute nearly half of the Arab countries. This strategy has been developed with the support of the Marrakech Process on SCP and responds to the call of the first Arab Roundtable for Sustainable Consumption and Production. Three roundtable meetings on SCP have been organized since the first in 2008 (see Table 1). A secretariat was established, which comprises the League of Arab States (LAS), UNEP's regional office for West Asia, UNESCWA, the Centre for Environment and Development in the Arab Region and Europe (CEDARE), a representative of the National Cleaner Production Centres, a regional nongovernmental organization and an investment fund (UNEP, 2011b).

The Arab SCP strategy aims to "promote the concept of sustainable consumption and production in the Arab region by encouraging the utilization of products and services that ensure environmental protection, conserve water and energy as well as other natural resources, while contributing to poverty eradication and sustainable lifestyles" (Joint Secretariat of the Joint Committee on Environment and Development in the Arab Region (JCEDAR, 2009, p. 4). It identifies six priorities, of which the highest priorities are the energy and water sectors. The priorities are listed as follows, labelled in the

1. The Marrakech Process, launched in 2003, was a global multi-stakeholder platform to support the implementation of SCP and the development of the 10-Year Framework of Programmes on Sustainable Consumption and Production (the 10YFP), as called for by the World Summit on Sustainable Development Johannesburg Plan of Implementation (2002). See Chapter 1 for details.
2. CAMRE is the major ministerial forum that develops, coordinates and follows up on the environmental programme for the region.

strategy paper as 'priority implementation areas' (JCEDAR, 2009):

1. Energy for Sustainable Development
2. Water Resources Management
3. Waste Management
4. Rural Development and Eradication of Poverty
5. Education and Sustainable Lifestyles
6. Sustainable Tourism

The focus of this study is on illustrative examples of policies and policy instruments in priority areas, the energy and water sectors, both of which are highly interrelated.

At the subregional level, the GCC has also encouraged cooperation among the six GCC countries on the environment, especially as related to the energy and water resources sectors.

Regional policies in the energy sector

The Kuwait Declaration (2009) that followed the Arab Economic Summit recognizes the need for environmental preservation and cooperation on energy issues. It emphasizes the need for Arab cooperation, in particular by increasing energy efficiency to realize SD. SD should be achieved by strengthening the existing Arab power grid

Table 1: Recent milestones of SCP in the West Asia and Arab Region

Milestones	Key Actors	Outcome
March 2008 **First Arab Roundtable Meeting on SCP, Al-Ain, UAE**	LAS and UNESCWA, CAMRE, the UNEP Regional Office for West Asia, United Nations Department of Economic and Social Affairs, UAE Federal Environmental Authority	• SCP priorities identified: energy, water, waste, rural development and poverty alleviation, and education and sustainable lifestyles. • Agreement to develop an SCP action plan • Cooperation built with the Marrakech Task Forces on Sustainable Public Procurement and on Sustainable Lifestyles, and a workshop on YouthXChange was held • The region called for the establishment of a regional network on National Cleaner Production Centers (NCPCs), to be organized in close cooperation with UNIDO • The UAE announced their interest in establishing an NCPC.
September 2009 **Second Arab Roundtable Meeting on SCP, Cairo, Egypt**	CAMRE, UNEP, LAS, UNESCWA, UNIDO, United States Environmental Protection Agency, CEDARE, United States National Pollution Prevention roundtable and the Egyptian National Cleaner Production Centre	• Agreement on the Arab Regional Strategy for SCP (JCEDAR, 2009) • Agreement on the updating of SCP priority areas (adding small and medium-sized enterprises and technology transfer) • Establishing a permanent roundtable for SCP cooperation • Establishing a temporary secretariat to formulate the mandates of the roundtable
October 2009 **Arab Regional Strategy for Sustainable Consumption and Production**	JCEDAR	• The regional SCP strategy for the Arab region, as a contribution to the Marrakech Process on SCP, was finalized. • Objectives and recommended policies for each SCP priority were included in the study.
January 2011 **Third Roundtable Meeting on Sustainable Consumption and Production in the Arab Region: Paving the Path to a Green Economy in the Arab Region, Cairo, Egypt**	UNEP, UNESCWA, LAS, CEDARE	• Reviewed progress and provided the region's inputs to the Intergovernmental Preparatory Meeting and the Nineteenth Session of the United Nations Commission for Sustainable Development (CSD19) • Identified the regional priorities to pave the path towards a Green Economy in the region, and to feed into the regional preparations for the 2012 United Nations Conference on Sustainable Development, regional success stories are also highlighted • Discussed the terms of reference to be drafted by the LAS to institutionalize the Arab Roundtable on SCP and secure its continuation for exchange of expertise and knowledge, carrying out of capacity-building for, and the overall development of, an Arab SCP network to effectively implement the 10YFP once adopted

Figure 4: GCC Interconnection Scheme

Source: GCC Interconnection Authority (2011b)

interconnections, establishing an Arab market for electricity, enhancing and widening natural gas networks, increasing the participation of the private sector in its investment and administration, and broadening the usage of renewable energy technology and nuclear energy for peaceful purposes in production processes (State of Kuwait, 2009).

The Kuwait Declaration can be viewed as a commitment to pursue further expansion in power supply in a more sustainable manner. There is, however, no mention of demand-side measures; the focus is on the supply side of energy.

The existing interconnecting electricity grid between Kuwait, Bahrain, Qatar, Saudi Arabia, UAE and Oman significantly reduces the need to construct new power plants and standby backup capacity, in case the main generators fail or there is a need for more electricity than installed generators can provide (Arab Fund for Economic and Social Development [AFESD], 2011). The temporary periods of peak load can be handled by importing the additional electricity instead of building additional local capacity only for these temporary periods. Interconnecting grids of multiple countries can balance the fluctuating energy demand. This could help Kuwait address frequent power supply crises in the summer season, such as the one faced in 2010 (Arab Times, 2010; Gulf Daily News, 2010). The challenge remains, however, to curb the increasing per capita consumption rather than only focusing on meeting demand, albeit in a more efficient manner.

Details about the GCC Power Grid Interconnection Project, the benefits it brings, and limitations, are presented in Case Study 1.

8.3 National SCP policies

This section provides an overview of national policies and strategies for SCP in the region. The regional priorities, as mentioned earlier, have been identified as energy, water, waste, rural development and poverty eradication, education and sustainable lifestyles, and sustainable tourism. This section shows to what extent these priorities have already been incorporated into the national agenda, with reference to existing plans and policies, as well as those under development. Relevant SD concepts in the respective national agendas are often cross-cutting and cannot be clearly classified into the aforementioned different sectors. Based on desk research and drawing on progress of the Millennium Development Goals and State of Environment reports, Table 2 attempts to summarize the many efforts of West Asian governments to incorporate SD into their policies.

The desk research has showed that 75 per cent of West Asian countries have adopted national short- or medium-term development plans. SCP policies, as well as green economic policy initiatives, are not identified at the national level, with the exception of Jordan's plans to adopt the Strategy for a Transition to a Green Economy by the end of 2011. Some elements of SCP policies, however, are integrated in national development plans or strategies aimed at achieving economic sustainability, as in the case of Kuwait's Medium Term Development Plan 2010-2014.

Most sectoral development policies are being developed under broad national environmental strategies, which have been elaborated to achieve environmental sustainability. Forty per cent of West Asian countries (including Bahrain, Jordan, Qatar, Syria and Yemen) have adopted policies that focus on water, waste and transport. Iraq and Yemen focus on the water and energy sectors.

Table 2 shows that all countries in the West Asian region have undertaken some activity in promoting environmental and SD considerations, at the very least, in the form of reporting on MDGs, incorporating SD into national plans or visions, or otherwise acknowledging the need to do so. Some countries show significantly more activity than others, as implied by the indicators in Table 2, but information remains scarce. There remains room for improvement as well in the monitoring and evaluation practice, which would provide much value in updating policies and tailoring them to national conditions.

Although there are few examples of clear adoption of a national overarching green economy agenda encompassing principles of SCP in the region,

CASE STUDY 1

The Gulf Cooperation Council Power Grid Interconnection Project

The The Gulf Cooperation Council (GCC) Interconnection Authority (GCC Interconnection Authority, 2011a) has developed a Common Power Grid with a cost of US$7 billion that aims at exchanging electricity among GCC countries equal to the construction of 6.5 GW local power plants (AFESD, 2011). This project is expected to reduce the needs for standby capacity and improve the economic efficiency of the electrical power systems in each of the member countries. In this context, the project would enhance energy efficiency due to the reduction of energy losses associated with fluctuations in power production, where plants would frequently operate at suboptimal loads. It would also facilitate expansion in renewable energy sources due to the wider coverage of the electrical grid. This allows more freedom to select optimal locations within the entire GCC region rather than limiting the choices to areas in proximity to national grids. It also allows export and import of renewable energy.

Nevertheless, GCC countries may not fully benefit from load sharing due to the limited time-zone differences (Kraemer, 2011). Loads in any given country vary throughout the day. For the load between any two connected countries to balance each other out effectively, the grids should ideally be in significantly different time zones so that peak hours do not hit all countries at the same time. Furthermore, lateral expansion of interconnections with other regions would optimize such load exchanges. The interconnection scheme is illustrated in Figure 4.

The GCC Power Grid Interconnection is being implemented over three phases (Arab Fund for Economic and Social Development (AFESD), 2011):

- **Phase 1:** In 2009 the northern countries of GCC (Kuwait, Saudi Arabia, Bahrain and Qatar) linked their grids.
- **Phase 2:** The southern GCC countries aim to link the grids of the UAE and Oman.
- **Phase 3:** The northern and southern GCC countries will be linked.

The most recent milestone in the project was the connection of the UAE, as part of the second phase, to Saudi Arabia, inaugurated on 20 April 2011. The completion of Oman's final connection has been postponed to 2013 (Jain, 2011).

Other countries that might potentially be linked to the GCC grid in the future are:

- Countries participating in the Eight Country Interconnection Project: Egypt and Libya were interconnected in 2008, while the rest of the grid interconnections are being implemented to connect all project countries (AFESD, 2011)

- The Maghreb Countries Interconnection Project: connecting the grids of Libya, Tunisia, Algeria and Morocco (AFESD, 2011)

Such interconnections will reduce capacity needs and increase production efficiency, as well as optimize the allocation of renewable energy projects due to the wider geographical coverage. As an example of recent progress, Saudi Arabia is exploring

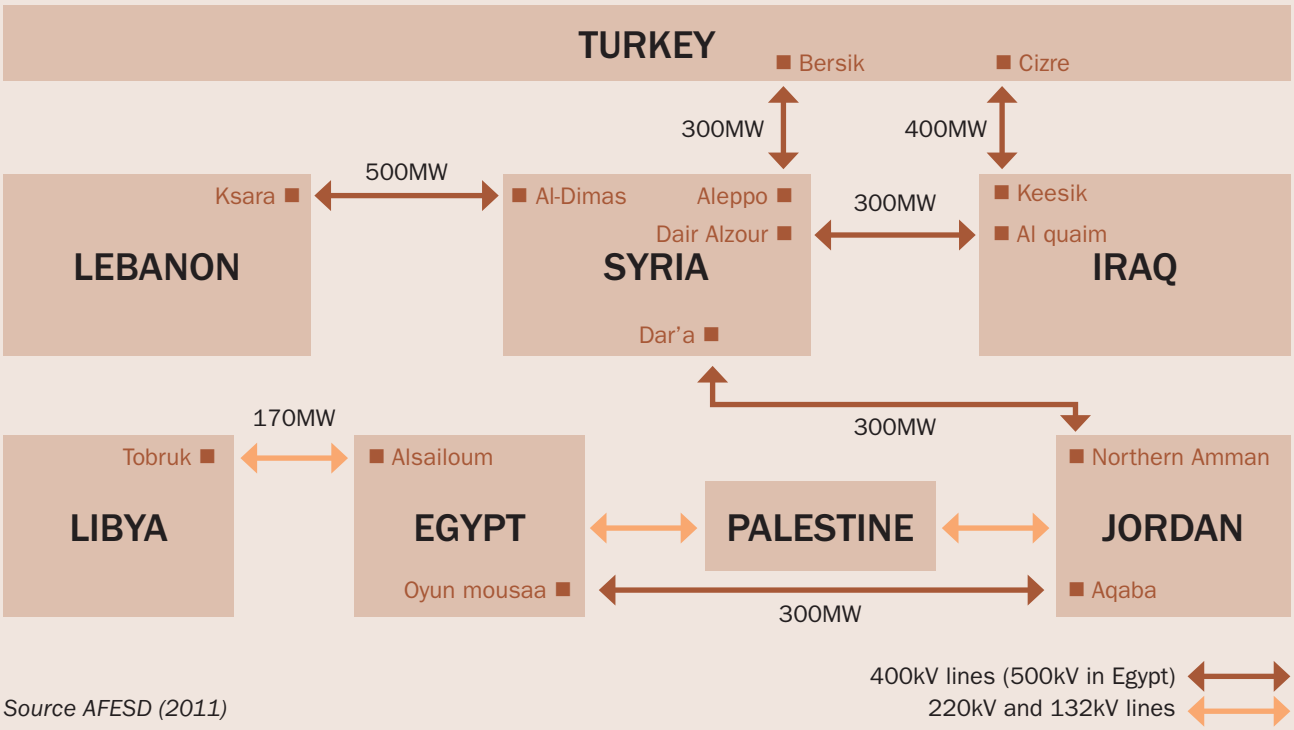
Hashemite Kingdom of Jordan displays the most plans and policies in progress. Jordan is currently adopting a leading initiative within the West Asian region by implementing the transition to a green economy in line with the Arab Strategy for SCP under the National Agenda 2006-2015.

Jordan's strategy is being prepared with the support of UNEP in partnership with national stakeholders, non-governmental organizations (NGOs) and private sector enterprises. Jordan is planning to launch a programme for green services and industries to meet the requirements for compliance with environmental standards and "turning Jordan into a regional center for 'green services' and industries" (UNEP, 2011a). An example of demonstrated commitment is the February 2010 ratification of the Renewable Energy and Energy Efficiency Law.

The National Agenda 2006-2015 (Government of Jordan, undated) recommends the following measures to address challenges in achieving environmental sustainability:

1. Developing and enforcing the regulatory and institutional framework
2. Supporting renewable energy resources and energy-efficiency programmes
3. Promoting sound waste management policies
4. Improving natural resources and land-use management
5. Promoting environmentally sound management principles

Figure 5: The Eight Country Interconnection project



Source AFESD (2011)

the option of connecting the grid to the wider DESERTEC grid (Kraemer, 2011). The DESERTEC Initiative, formed by European countries and the DESERTEC Foundation, proposes generating solar and wind energy in the Middle East and North Africa (MENA) region and deliver it to Europe (DESERTEC Foundation, 2009).

Over the past 20 years, the total investment in the various Arab interconnection projects has reached US$2 billion, including: US$556 million for the Eight Country Interconnection Project, US$1,100 million for the GCC Power Grid Interconnection Project, US$169 million for the Maghreb Countries Interconnection Project and US$86 million for the interconnection of the two electricity grids in Yemen (AFESD, 2011).

AFESD contributed US$678 million to the financing of most of these projects through loans on concessionary terms. These loans covered 34 per cent of the total costs of these projects, with the balance coming directly from the participating countries. The total capital savings accruing over a 15 year period is estimated to be approximately US$3.7 billion, attributable to the postponement and/or cancellation of the investment in a new generating capacity of around 6.5 GW (AFESD, 2011).

In the meantime, with the support of this political will, multiple integrated and supportive activities are underway. Examples include the Eco-Cities Forum, a multi-stakeholder platform for Mediterranean municipalities held in cooperation with UNIDO, and the Zarqa River Rehabilitation Project in cooperation with the International Union for Conservation of Nature, among other sustainability initiatives (Eco-Cities Forum, 2008; International Union for Conservation of Nature, 2011). Furthermore, Jordan is the first country in the region to support the promotion of low-emissions mobility, demonstrating an example of sustainable public procurement. To this end, the Government of Jordan signed a Memorandum of Understanding with Nissan Motors to introduce electric vehicles with a planned purchase of 300 units for public sector use. The programme aims to open the market for the establishment of renewable energy for electric vehicle charging, including the use of solar energy and second-life batteries.

National sectoral policies

This section discusses examples of national programmes that address SCP at different levels. The three case studies selected are related to water and energy, which are priority themes for the region: the Kuwaiti Tarsheed National Programme promoting efficiency in water and electricity consumption, water management in Qatar and the relevant policies in its national development strategy and the UAE's efforts to promote

Table 2: National and regional SCP, SD strategies and plans, and national sectoral development policies

Indicators: ● In-implementation ○ In-progress — Country / Policies	Bahrain	Iraq	Jordan	Kuwait	Lebanon	Oman	Palestine	Qatar	Saudi Arabia	Syria	UAE	Yemen	Regional
National Policies													
Development Vision/Plan	●	●	●	●	●[6]	●		●	●		●		
Short to Medium Term Development Plan		●	●	●[5]			●	●	●		●		
Sustainable Development Strategy	○[1]							●					●
SCP Strategy													●
Environmental Strategy	●		●		○			●		●		●	●
Green Economy Policy Initiatives	●[2]												
National Reporting													
MDG reporting	●		●	●	●	●	●	●	●	●	●	●	●
State of Environment Reporting	○	●	●		●				○		●		
Sectoral Development Policies (National Level)													
Energy Sector		●[3]	○[4]		○				○		●	●	
Water Management Sector	●	●[3]	○[4]		○			○	○			●	
Waste Management Sector	●		○[4]		○			○					
ICT Sector			○[4]										
Transport Sector	●		○[4]										

Notes:
1 In Bahrain, an integrated national strategy for SD has not yet been developed, although elements of the SD process are being embedded in sectoral development plans executed by various governmental bodies in the country.
2 The National Economic Strategy 2009-2014 promotes sustainability through implementing green solutions to development by addressing key priority areas and identifying actions aimed at reducing energy consumption, developing clean energy technology, enforcing pollution control laws, improving water resource management and conservation of biodiversity.
3 Sectoral policies are being developed and implemented in Iraq under the National Development Plan 2010-2014.
4 Recommendations and initiatives for addressing challenges aimed at improving the sectoral infrastructure, towards advocating environmentally sustainable economic development and environmental sustainability, are provided under the National Agenda 2006-2015.
5 The Kuwait Medium-Term Development Plan 2010-2014 includes policies aimed at targeted sectoral development, towards achieving long-term economic sustainability. Key areas include: SCP, transport, water and energy resource efficiency.
6 National planning in Lebanon is illustrated in the National Reform Program 2007 addressing post-conflict recovery and reconstruction activities, which identifies challenges to achieving environmental sustainability. "Among the major challenges identified in the MDG 2007 draft report are the decreasing national green cover, the need to adopt a comprehensive environmental strategy and mainstream environmental plans among different ministries, in addition to reducing air pollution and the better management of natural resources, including integrated water management" (United Nations Development Assistance Framework [UNDAF], 2009, p. 39).

sustainable transportation in Dubai. The case studies show the diverse nature of sectoral policies in the region and how they relate to promoting a shift towards SCP patterns.

In the case of Kuwait, frequent power outages due to the seasonal peak load on the grid seem to have spurred action and raised awareness on a national level about the sustainable consumption of energy and water. This example is further illustrated in Case Study 2. It is notable that in the implementation of the programme, it was effective to segment the market. Mosques were identified as "quick wins" and addressed in a specific manner through the Ministry of Endowments and Islamic Affairs. Meanwhile, the residential sector and office buildings were seen as a different market and approached in collaboration with NGOs, while the public at large was subject to a powerful mass media campaign.

It is noticeable, however, that, similar to other countries in the West Asia region, the government rarely resorts to coercive instruments and disincentives to promote energy and water conservation among citizens, such as taxation, reducing energy subsidies or enforcing various types of measures that restrict the end-user.

In addition to energy concerns, Qatar also faces water scarcity threats. Qatar is the second highest water consumer per capita in the West Asian region, second only to Bahrain (see Table 2). It also has the highest GDP per capita in the region. This consumerist culture is being acknowledged and addressed in the development of their national policies. Qatar has developed a strategy to address several sustainability issues, including water conservation (see Case Study 3); however, this strategy has not yet translated into a set of campaigns. The case of Kuwait's Tarsheed offers inspiration and lessons in this regard.

CASE STUDY 2

Rational use of energy in Kuwait

Kuwait is among the highest per-capita consumers of electricity and water in the region, and has been experiencing the adverse impacts of its excessive use of resources. This impact is evident in the frequent power outages that occur during the summertime peaks hours when temperatures can rise to 50°C and higher. Meanwhile, power remains heavily subsidized (Middle East Online, 2010; Gulf Daily News, 2010).

In August 2007 the Ministry of Electricity and Water (MEW) of Kuwait adopted a policy for reducing electricity and water consumption rates. MEW launched a nation-wide conservation campaign and action programme at the start of the summer season, the Tarsheed National Programme for Energy (Water and Electricity) Conservation ("Tarsheed"). The programme was implemented with the cooperation of the Kuwaiti Engineers Association.

The campaign involves short message service (SMS) messages, television and radio ads, fliers taped to car windshields and fed into mailboxes, as well as street billboards calling for energy conservation by users. Messages are delivered in all Kuwaiti languages. Much of the content is also available online (Tarsheed, 2008e), and a hotline was established so residents could report energy abuses in the country (Tarsheed, 2008d).

This initiative has been widely recognized in the region, and received the Distinction and Innovation in the Gulf award in 2008 (Tarsheed, 2008b).

In 2007 the Ministry of Endowments and Islamic Affairs formed a committee for the sustainable use of energy and water (Tarsheed, 2008a). It includes representatives from Kuwait's mosques and from MEW. It holds periodic meetings to monitor energy and water conservation in the mosques of Kuwait. Energy conservation measures included reducing the number of air conditioning units and disconnecting them between prayers in the mosques, improving the control systems of the air conditioning units, and allowing passive ventilation and outdoor lighting as much as possible. The mosques also switched to energy-efficient halogen light bulbs instead of incandescent ones (Tarsheed, 2008a).

Furthermore, NGOs assisted the residential sector and office buildings to improve their energy and water consumption. For example, an Al-Khaledeya NGO, in cooperation with the Kuwaiti Institute for Scientific Research, distributed water-conservation equipment to residents of Al-Khaledeya City (Tarsheed, 2008c). A total of 11,000 efficient water faucets and other water-saving equipment were distributed to consumers in residential and public-sector office buildings. The initiative is estimated to reduce water consumption by 30 per cent in the residential sector and conserve a total of 20 million gallons per day. The cost of the project is a reported KD1.46 million per year, yet the estimated savings are KD14 million annually (Tarsheed, 2008c).

CASE STUDY 3

Qatar National Water Policy

Qatar has one of the world's lowest levels of rainfall, while having one of the world's highest per-capita water-use rates. Qatar relies on water from three sources: desalination, groundwater and recycled water. These are all subject to technical and economic inefficiencies, posing a threat to water security. Large volumes of desalinated water are being lost in distribution, while aquifer water is extensively wasted through open field irrigation methods for crops of low value. Recycled wastewater is inadequately collected and treated.

Desalination, which accounts for about 50 per cent of water used in the country, depends on a costly and energy-intensive cogeneration process as explained in the Qatar National Development Strategy (QNDS) 2011-2016 (General Secretariat for Development and Planning, 2011). The QNDS presents several alarming facts about the challenges in the water sector including the following:

- With rapid population growth and urbanization, the use of desalinated water has tripled since 1995, reaching 312 million m^3 in 2008.
- Loss of desalinated water due to leakage is high by international standards, with estimated network losses as high as 30 to 35 per cent, compared with the Organisation for Economic Co-operation and Development average of 18 per cent.
- Leakage in the distribution system for desalinated water costs as much as QR1 billion a year.
- Fresh groundwater drawn from natural aquifers accounts for about 36 per cent of water use (an estimated 250 million m^3) and is mainly used for irrigation purposes.

Furthermore, groundwater supplies are subject to extensive losses, as they are being used for flood irrigation of open fields, which places a heavy demand on water exceeding the recharge rate of aquifers. This loss is disproportionate to the value created by the agricultural sector. The government is planning to introduce a programme of agricultural reform to improve irrigation methods, aiming at the conservation of water resources (General Secretariat for Development and Planning, 2011).

Recycled water, or treated sewage effluent, accounts for 14 per cent of water use, while about 40 per cent of treated sewage effluent is discharged into septic lagoons (General Secretariat for Development and Planning, 2011). Some wastewater, particularly from industrial sources, is not treated but is discharged or stored in tanks that cause leakages, thus contaminating the limited supplies of groundwater. There is a case for recycling more water, which is 75 per cent less expensive than to desalinate water (General Secretariat for Development and Planning, 2011). A national strategy is a fundamental prerequisite to start addressing all these challenges.

The QNDS 2011-2016 developed by the General Secretariat for Development and Planning (GSDP) was therefore developed to express commitment to a range of initiatives promoting sound environmental management to address the challenges of environmental sustainability, including water issues (General Secretariat for Development and Planning, 2011). Aligning economic growth with social development and environmental management to address environmental sustainability challenges is among the priorities identified in the strategy.

The Strategy for Environmental Management, under the QNDS, calls for advancing specific actions to conserve water, improve air quality, manage waste and protect biodiversity, through a regulatory reform approach. QNDS specifically identifies a range of initiatives in the water sector to tackle technical and economic inefficiencies in the production, distribution and use of water, with the aim of reforming unsustainable water consumption patterns through the development of an integrated approach to water management. By 2014 Qatar will enact a comprehensive National Water Act, establishing an integrated system of quality requirements, discharge controls and incentives for conservation in order to develop a set of policies and regulations for the government to align consumption and supply, while protecting water quality (General Secretariat for Development and Planning, 2011).

Addressing problems in national strategies, as illustrated in Case Study 3, can be seen as a significant step toward promoting SCP and asserting political will. Another very important theme in energy consumption and production patterns is transportation. Case Study 4 illustrates how the use and the provision of more sustainable transportation services has already drawn attention of policymakers, even in relatively young cities such as Dubai, UAE.

National policy instruments in the energy sector

Policy instruments used in the region are illustrated by examples from the energy sector, with implications for the water sector, both of which are the SCP priorities of the West Asian region. It is notable that sustainable energy policies in the region are more focused on supply-side measures than on demand-side measures. Some governments have committed more clearly than others to SCP in the energy sector. A few promising initiatives for comprehensive policies are presented in this section.

The UAE has been developing a new green building code to save energy and reduce the environmental impact of buildings. It has also developed the flagship project of Masdar City (see Case Study 6). Masdar City is a carbon-neutral, zero-waste city that began construction in 2006, with completion planned for 2016. The city aims to host 90,000 people, of which 40,000 would be residents (Reiche, 2010b). Abu Dhabi, the largest state of UAE, pledged in the World Future Energy Summit of 2009 to achieve a 7 per cent CO2 reduction by 2020 and meet 7 per cent of its energy needs from renewable energy by 2020 (Hartley, 2009).

A study on energy policies and relevant initiatives in the GCC countries, which is, to a great extent, representative of most of the West Asian region, concluded that the GCC countries have recently adopted a more proactive approach towards environmental sustainability (Reiche, 2010a).

Reiche's study (2010), however, also concludes that despite relevant initiatives, this reorientation has not yet resulted in the development of consistent strategies and policies. Nevertheless, there is a possibility that such flagship initiatives will continue to propagate throughout the region and that policy transfer from successful projects and innovative regulations will replicate throughout the GCC countries. Reiche (2010) suggests that policy transfer is likely to be successful, extrapolating from existing efforts to harmonize environmental policies and legislations. These are evident in the Environmental Cooperation chapter of the Charter of the GCC Secretariat General, which lists the common priorities and the environmental guidelines to be adopted by the member states (GCC Secretariat General, 2011). The following are examples of promising developments.

Regulatory instruments

An example of a regulatory instrument is the establishment of a green building code in Dubai to improve resource efficiency in buildings. The Dubai Green Building Code came into effect in January 2009 and was a significant step towards developing environmental policies. The code is based on the Leadership in Energy and Environmental Design (LEED) rating system, and tailored to the conditions of the UAE (Saseendran, 2010).

The development of this code started at a time when a new resolution on the implementation of green building specifications and standards in the emirate of Dubai had been issued in 2007. As per the resolution, all owners of residential and commercial buildings and properties in the emirate of Dubai must comply with the internationally recognized, environmentally friendly specifications provided by the LEED system.

By implementing this resolution, Dubai became the first city in the Middle East to adopt green building specifications (The Emirates News Agency, 2007). The move is also part of the Dubai Strategic Plan 2015. Meanwhile, the new Pacific Controls Systems LLC building became the 16th building in the world to comply with green building specifications and standards (The Emirates News Agency, 2007).

Another example of a regulatory measure is a ban on imports of inefficient lighting in Lebanon. This is part of the National Energy Efficiency Action Plan for Lebanon (2011-2015) developed by the Lebanese Center for Energy Conservation (LCEC) in September 2011 (LCEC, 2011a; LCEC, 2011b). One of its targets is the promotion of efficient lighting and replacing incandescent light bulbs with compact fluorescent lights. The key regulatory measure is the ban of the import of incandescent lamps by the end of 2012 under which supportive initiatives have already been launched, most distinctly the 3 million compact fluorescent lights project (LCEC, 2011a). With an investment of US$9 million financed directly by the government of Lebanon, this investment would result in savings of US$76 million annually over a period of four years by replacing energy-intensive incandescent lighting with 3 million compact fluorescent lights (LCEC, 2011b).

CASE STUDY 4

Dubai Sustainable Transport Project and Award

A study by the Ministry of Planning in the UAE revealed that the number of vehicles in the UAE almost doubled between 1985 and 2002, from 443,000 to 820,000. The annual increase of 9.2 per cent is remarkably more than the population growth rate of 6.5 per cent and even higher by 7.1 per cent than the annual national income growth rate (Al-Zubaidi and others, 2005).

Dubai and Abu Dhabi are the emirates with the highest vehicle rates in the UAE. Dubai's population is expected to reach 4 million in 2020, while the number of trips is expected to reach 13.1 million per day (Al-Zubaidi and others, 2005).

Recognizing the threat to the environment and sustainability, the Dubai government adopted a policy encouraging sustainable transportation in order to avoid traffic congestion and vehicle pollution. With Decree 17 (2005), it established the Roads and Transport Authority (RTA). RTA is responsible for planning and providing the requirements of transport, roads and traffic in Dubai and between Dubai and other emirates of the UAE and neighboring countries. The RTA is responsible for planning and integrating buses, taxis, and intercity transport, thereby enhancing the availability of attractive and reliable alternative modes of transportation to the personal vehicle. Mass transportation modes in Dubai serve more than 332 million passengers. On average, about 910,000 persons use daily public transportation including buses, taxis, metro and boats (Ahmed, 2011).

One RTA project is the creation and development of a metro for Dubai City (RTA, 2007). Such mass transit solutions are among the measures that address the rapid increase in private vehicle ownership and the noise and air pollution, fuel consumption, congestion and time loss incurred.

Mass transit means less environmental impact and energy consumption per passenger-kilometre travelled compared to private vehicles.

Although the established RTA serves the needs of sustainable transportation, its vision and mission statements do not explicitly mention environmental or sustainability goals. This aspiration is, however, implied in their goals and activities, such as establishing the Dubai Award for Sustainable Transport.

The award is offered under various categories that recognize initiatives addressing sustainable transport; the following are examples of award recipients in 2010 (Ahmed, 2011):

- The Dubai Electricity and Water Authority was awarded for its role in fostering positive impact in mass transportation.
- University of Wollongong in Dubai was awarded for its initiative entitled: "Why should you drive if you can ride the Dubai Metro?" The university provided buses to shuttle students between the metro station and the university in a bid to further the culture of mass transport, minimizing the number of private vehicles.

Government of Dubai awards awareness-raising about the role of transportation and sustainable mobility in development, and recognizes and encourages action-oriented initiatives and achievements.

The largest project of the RTA is the Dubai Metro, with a total investment of approximately AED15.5 billion. Today, the metro has 47 stations (nine underground) in two lines with a total length of 75 kilometers (Dubai Metro, 2011).

The stations are designed to further promote sustainable mobility and environmental awareness in the following ways (Dubai Metro, 2011):

- Upon completion, every station will have bus connections, taxi pickup and places to lock bicycles
- Other considerations of aesthetics and environmental consciousness are shown in the design of the stations: the station themes are earth (12 stations), water (13 stations), air (11 stations) and fire (11 stations), while the roof shape is inspired by the pearl diving heritage of the UAE (Dubai Metro, 2011)

The Dubai Metro was launched on 9 September 2009 as the world's longest automated driverless train system and the first metro in the Gulf region.

Economic instruments
The economic instruments being used in the West Asian region to promote sustainable energy use are limited and mainly in the form of incentives rather than disincentives. Examples of instruments used on national and regional scales are provided in this section.

In line with government directives of promoting a fiscal incentive package on renewable energy and energy-efficient equipment, the Jordan government has introduced 'green taxes' by offering a 50 per cent tax deduction on environmentally friendly hybrid cars imported into the kingdom, starting in 2011.

Another national-scale economic incentive is the promotion of energy efficiency in buildings in Lebanon under the National Energy Efficiency and Renewable Energy Action through a subsidized loan scheme accompanied by other initiatives to promote efficient lighting (LCEC, 2011a). The National Energy Efficiency and Renewable Energy Action offers an incentive to private individuals and small- and medium-sized enterprises whereby any investment in energy efficiency or renewable energy can be financed by a subsidized loan accessible through local banks. The loan requires a 0 per cent interest rate for investments up to US$1 million and 3 per cent for larger investments, to be repaid over 5-10 years (MED-ENEC, 2011). Other than credit, a partial grant is also offered in the case of solar thermal systems.

Other than national initiatives, there are also attempts to address aspects of SCP on a regional scale. In 2007, Organization of Petroleum Exporting Countries member states established a fund to combat climate change. During the Organization of Petroleum Exporting Countries Ministers' Meeting that year, member countries announced the establishment of a US$750 million fund for climate change aiming to promote cleaner petroleum technologies and developing other measures for mitigation, such as carbon capture and storage (Wardam, 2008). Saudi Arabia paid US$300 million for the fund, while Kuwait, Qatar and the UAE each pledged US$150 million (Abdel Gelil, 2010).

Although incentives such as the tax deductions on hybrid cars, subsidized loans or allocation of funds for climate action can be found in the region, the disincentives imposed on unsustainable consumption and production trends remain scarce if they exist at all. Reiche's (2010a) study of energy policies and the enabling environment in the GCC region revealed that certain environmental policies, such as energy taxes, are unlikely to materialize due to high political cost. The study suggests that less politically risky and 'top-down' measures are more likely to succeed. Such examples could include green building codes or standards for efficient vehicles, which are expected to continue to play an important role in the energy policy agenda.

Research for better business
Several projects in the region are underway to promote research on sustainable development.

Currently, Qatar is building an Energy City that aims to incorporate the latest green technology and solutions for energy efficiency and pollution reduction (Energy City, 2009). Once complete, they will invite multinational natural gas and oil companies to set up headquarters in Energy City.

Another example is a sustainable university campus being built in Saudi Arabia. The King Abdullah University of Science and Technology hosts two solar towers on the campus, which are designed to use the sunlight and prevailing winds blowing in from the Red Sea to create a continuous breeze through the shaded courtyards. Solar water heating is used on rooftops together with PV arrays for electricity. Many other green innovations are showcased in the campus (King Abdullah University of Science and Technology, 2009).

In 2009, Abu Dhabi successfully convinced members of the International Renewable Energy Agency to locate its headquarters in Masdar City. It is the first global agency based in the Middle East. Furthermore, the Abu Dhabi Fund for Development will allocate US$50 million annually for seven years to support the agency's endorsed projects in developing nations (Stanton, 2009).

8.4 SCP initiatives for and by business

NCPCs promote the implementation of cleaner production (CP) methods, practices, policies and technologies. With the support of UNIDO and UNEP, they have been established in 47 developing and transition countries. The West Asian region has four NCPCs, in Lebanon, Jordan, Syria and UAE.

NCPCs contribute to improved environmental performance and resource efficiency through the implementation of cleaner production methods by providing technical assistance to enterprises and organizations, training for national experts, information dissemination and technology transfer, policy advice, and CP technology and investment promotion.

One of the indicators of stakeholder commitments to adopting CP technology and practices is the adoption of the International Organization for Standardization (ISO) 14001 standard for

CASE STUDY 5

Energy efficiency in the aviation industry

As part of its environmental policy (Qatar Airways, 2011b), Qatar Airways implemented a five-pillar Corporate Social Responsibility Programme called The Oryx Flies Green.

The five pillars of The Oryx Flies Green are: change management, environmental management, integrated fuel management, communication and sustainable development. The environmental management system activities include (Qatar Airways, 2010):

- A dedicated Fuel Optimisation Department, to identify ways to reduce fuel burn and the dependency on fossil fuels
- Working with the International Air Transport Association (IATA) to develop a global carbon offset trading scheme
- Reducing the usage of water, paper and other material including a recycling program for onboard and airport waste

Although the airline sought the ISO 14001 certification, they elected not to go for it since other airlines experienced this ISO as more appropriate for a stationary source of emissions such as a factory, not for a mobile source such as an airline (Qatar Airways, 2011a; personal correspondence, Chris Schroeder, 12 June 2011). They are, however, working on a pilot project with the IATA to spearhead the development of an airline-specific environmental management system, called the Environment Audit Scheme-IATA, which will follow the ISO 14001 principles, including carbon offsetting, but in a more sector-specific manner (Qatar Airways, 2011).

Qatar Airways also announced its commitment to seek compliance with the European Union Emissions Trading Scheme, aimed at the reduction of carbon emissions. Qatar Airways has taken a step forward in this regard by becoming a member in the Aviation Global Deal Group (AGD). AGD Group is an industry coalition that brings together leading international airlines, aviation-sector companies and international NGOs to collaborate on climate action. The coalition aims to develop a practical, business-led solution that helps contribute to global efforts to address climate change (AGD Group, 2011). An example of how these policies are translated into actions is the development of alternative fuels for the aviation industry.

In 2007 Qatar Airways partnered with several companies, including Qatar Petroleum, Shell, Airbus, Rolls Royce, Qatar Science & Technology Park and Woqod to introduce alternative fuels to the aviation industry. Cleaner-burning alternative fuels are to be tested on commercial flights, to reduce the impact of aviation on air quality (Qatar Airways, 2010).

In 2009 Qatar Airways successfully conducted the world's first commercial flight from London to Doha powered by a gas-to-liquid (GTL) 50/50 fuel blend with kerosene. The alternative fuel emits less sulfur dioxide and particle matter, although the limited impact on CO2-reduction is still subject of further study (Middle East and North Africa Financial Network, 2011).

environmental management systems, one of the most recognized sustainability standards.

All standards organizations in the West Asian region are members of the ISO, except Palestine and Yemen, which are correspondent members lacking a fully developed national standards activity (ISO, 2009a). The number of ISO 14001 environmental management certifications in the West Asian region reached 1,137 in 2008, from 248 in 2005 (ISO, 2009b). Approximately 75 per cent of the total number of certifications were issued in the UAE, amounting to 856 certificates in 2008. The ISO Survey of Certifications 2009 shows continued growth of ISO 14001: 2,004 certificates were issued, a number that had tripled from 2005 to 2008. However, the total number of ISO 14001 certifications in the region

remains very low in comparison to a world average exceeding 200,000 certifications in 2010 (although certification only indicates the extent to which a company or organization conforms to its own stated environmental policy) (Global Environmental Outlook Data Portal, 2010).

Lebanon has been taking positive steps towards achieving environmental sustainability and enhancing its response to national environmental challenges, within its Reform Program-Paris III Conference. Several initiatives led by international organizations and national stakeholders are being developed to strengthen the capacity of Lebanese industries to adopt and implement international environmental systems and standards (UNDAF, 2009).

The initiatives aim at greening industries through sound environmental management systems, including cleaner production methods, ISO 14001 certification and implementation of pollution control measures in highly polluting industries to comply with national environmental standards. As a result, 12 industries received ISO 14001 certification in 2008, while at least 50 per cent of target industries are expected to register ISO 14001 certification in 2014 (UNDAF, 2009).

One of the important practices of CP is energy efficiency and reduction in greenhouse gasses in order to achieve sustainable production, such as using alternative fuels that are less carbon-intensive or carbon neutral. There are examples of businesses in the region that actively address this issue with a proactive approach. One example is Qatar Airways, which has set a clear environmental policy and shown tangible progress toward their goals. Qatar has the highest energy consumption per capita in the Middle East and such initiatives are very much needed. Qatar Airways invested in an experimental alternative fuel programme, among other measures to reduce emissions (see Case Study 5).

Qatar Airways intends to become the first airline to offer regular commercial flights using gas-to-liquid (GTL) jet fuel, assuming commercial agreements can be reached. The current plan is to have GTL jet fuel produced in Qatar by around 2012 (Qatar Airways, 2009). Furthermore, studies are also underway to investigate the technical and economic feasibility of using biomass-derived fuels in aviation, such as algae-based biofuel (Enviro News, 2010).

Another larger initiative that involves the promotion and testing of renewable energy and innovative environmental solutions is Abu Dhabi's government-led business venture, Masdar. For now, Masdar City (see Case Study 6) offers sustainable high-end housing in a gated community. Eventually, solutions designed for this initiative should cater to the needs of all segments of society.

8.5 Civil society initiatives for SCP

Civil society organizations (CSOs) in the West Asian region, including environmental NGOs, play a role in public awareness and advocacy campaigns on issues related to SD, including environmental conservation and sustainability. Countries in the West Asian region (especially the GCC) are fossil fuel-dependent economies, with a high environmental strain and increasing consumption patterns. They are also characterized by a lack of an enabling environment for civil society engagement, which significantly limits the role of CSOs in the policy and decision-making process (Al-Jayyousi, 2011).

Desk research could not identify CSOs that are directly engaged in SCP policies, although organizations in this region target cross-cutting issues with some impact on the development of SCP policies.

Efforts to mainstream environmental priorities on the political agenda are being advocated for by organizations such as the Arab Network for Environment and Development (with observer status to CAMRE and advisor status to the Economic and Social Council of the United Nations General Assembly) (Arab Network for Environment and Development, 2009).

The Arab Network for Environment and Development has been involved in the implementation of various environmental and developmental sustainability projects, including the YouthXChange in the Mediterranean (YXC Mediterranean) Project. YXC Mediterranean is a joint initiative of UNEP and the United Nations Educational, Scientific and Cultural Organization, and supported by the Marrakech Task Force on Sustainable Lifestyles. It aims to raise awareness among youth about sustainable lifestyles. It is implemented in Arabic-speaking Mediterranean countries, including Jordan, Lebanon, Tunisia, Syria, Egypt and Morocco (UNEP and UNDESA, 2011).

An example of a successful regional network is the League of Independent Activists (IndyAct), which is comprised of independent activists for environmental, social and cultural sustainability. IndyAct also aims to place environmental concerns on top of the regional political agenda, by adopting campaigns such as the Arab Climate Campaign and the Zero Waste Campaign, promoting a shared responsibility among member states in addressing these concerns (IndyAct, 2011a, 2011b), in cooperation with the Global Alliance for Incineration Alternatives.

CASE STUDY 6

Green City: Masdar

Established in 2006, Masdar is a commercially driven enterprise to make Abu Dhabi the pre-eminent source of renewable energy knowledge, development and implementation, and the world's benchmark for Sustainable Development (SD) (Masdar, 2011a). It aims to manage long-term, capital-intensive investments that deliver strong financial returns and tangible social benefits for the emirate (Mubadala, 2011).

Masdar has the following objectives:
- Expand the export base of products
- Encourage private-sector entrepreneurship
- Invest in education and research that stimulates innovation
- Train, attract and retain skilled workers in knowledge-based sectors
- Encourage investment in areas that generate intellectual property gains
- Grow the non-oil sector's share of the emirate's economy and decouple economic growth from fluctuating oil prices

Masdar aims to meet these objectives through its five integrated units (Masdar, 2011c):

- Masdar Institute, an independent, research-driven graduate institute developed with the ongoing support and cooperation of the Massachusetts Institute of Technology
- Masdar Capital, an investment company that seeks to build a portfolio of the world's most promising renewable energy and clean technology companies
- Masdar Power, a developer and operator of renewable power generation projects
- Masdar Carbon, which manages projects that bring reductions in carbon emissions such as energy efficiency and waste heat recovery, CO_2 recovery, as well as through carbon capture and storage
- Masdar City, which is aspiring to be one of the most sustainable cities in the world. The approximately 6-km^2 Masdar City is an emerging global clean-technology cluster that places its resident companies in the heart of the global renewable energy and clean-tech industry.

Masdar City aspires to be a zero-waste, zero-carbon city (Masdar, 2011c). It is located 17 km from downtown Abu Dhabi. It aims to host 40,000 citizens upon completion and hundreds of businesses. The majority of seed funding for this project is provided by the government of Abu Dhabi, which put up US$15 billion in seed capital (Economist, 2008).

The first six buildings and infrastructure built so far showcase several techniques to achieve the zero-carbon and zero-waste city planning. These include the following (Masdar, 2011b):

- Life-cycle considerations are integrated in the materials used, leading to substantial cuts in embodied carbon quantities: all timber is supplied from sustainably managed forests, 90 per cent recycled-content aluminum is used for the inner facades, green concrete that uses slag replaces cement, and safe water-based paints and 100 per cent recycled steel for reinforcing bars are employed.
- Passive lighting and passive ventilation through the design of narrow passageways induce soft breezes, while carefully maintaining sunlight without heat gain.

While the Arab Network for Environment and Development and IndyAct initiatives are not explicitly labeled as SCP programmes, they are directly relevant. Other examples include education and community programmes about solid waste management and recycling by the Emirates Environmental Group (EEG), an NGO established in the UAE in 1991 (EEG, 2011a) (see Case Study 7).

The examples above show cases of vibrant civil society initiatives developing in the region. Cases of regional civil society initiatives expanding and networking to address common water-related issues are illustrated in examples in the following section.

Regional cooperation on water management

The Arab Water Council (AWC) was established as non-profit organization in response to the recommendation of the Second Regional Conference on Arab Water held in Cairo, Egypt in April 2004 to address challenges to the water sector in the Arab region. It promotes regional cooperation for integrated water resource management based on a multidisciplinary and scientific approach (AWC, 2011). Regional activities by the AWC include analyzing water governance and water-use monitoring indicators, and strengthening civil

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- Transportation by clean electric busses, and in later phases, Abu Dhabi's metro and light rail will serve Masdar City.

- Energy efficiency in buildings is achieved by ensuring a low ratio of windows to walls, using passive ventilation and lighting, and incorporating other smart-building management systems. This also involves using district cooling, an infrastructure system that cools an entire city via an underground network of cooling water. It provides cooling for all the connected buildings with a more efficient central control. Results revealed that the buildings have 55 per cent less cooling demand than the average UAE building, 54 per cent less water consumption and a 51 per cent reduction in electricity demand.

- Harnessing solar energy:
  - PV arrays in the city are mounted on rooftops and on the ground with a capacity of 1 MW, meeting 30 per cent of the city's peak power demand
  - The city hosts the Middle East's largest PV farm of 10 MW, connected to the Abu Dhabi grid.
  - Evacuated-tube solar thermal collectors mounted on rooftops for water heating reduce 75 per cent of the hot-water energy needs compared to the usual building in the UAE.

- Saving water through efficient fittings and fixtures cuts building consumption, along with the use of micro irrigation and careful landscaping. Indigenous flora reduces evapotranspiration. In addition, 100 per cent of wastewater is reused.

- Waste recycling leads to 60 per cent recovery for reuse, recycling or composting. This is facilitated through implementing a sorting-at-source system in the city together with awareness campaigns. Construction waste is also being recycled for reuse in construction.

Masdar City applies principles developed under the a One Planet Living™ programme, developed by NGO Bio Regional in partnership with the World Wildlife Fund and is working on meeting the standards of sustainability to qualify it as a One Planet Community (World Wildlife Fund, 2008). The programme looks at principles of SD in the areas of energy and carbon emissions, waste, sustainable transport, sustainable materials, local and sustainable food, sustainable water, land and wildlife, culture and heritage, equity and local economy, health and happiness (One Planet Living, 2011).

society's involvement in assessing their countries' water service performance.

In 2011, the AWC compiled regional experiences with wastewater management in the region, including advanced wastewater reuse experience in Jordan, Iraq, Kuwait, Oman, Saudi Arabia and the UAE. Wastewater reuse is a particularly promising approach for agriculture expansion in arid and hyper-arid zones such as West Asia, as wastewater production is continuously increasing with a growing population (AbuZeid, 2008).

The AWC advised that regulations in Arab countries should allow for better application of wastewater reuse in edible and non-edible agriculture according to the level of wastewater treatment. It also recommended its effective enforcement and monitoring to track impacts on health and the environment. The AWC established a Wastewater Reuse Network to share experiences. Together with the establishment of its Network on Desalination the Wastewater Reuse Network, these are important steps toward formulating sustainable water consumption and production policies in the region.

Another regional initiative aimed at preparing water and wastewater utilities for regulations such as the

CASE STUDY 7

Photo courtesy of EEG

Encouraging corporate social responsibility among businesses

The Emirates Environmental Group (EEG) is ISO 14001-certified and the only organization of its kind in the UAE with accredited status to the United Nations Convention to Combat Desertification (United Nations Global Compact [UNGC], 2011a). In its capacity as a member of the Board of the UNGC, EEG became the focal point for the UNGC in the GCC states in 2007 (UNGC, 2011a).

By leading this initiative in the GCC region and establishing the UNGC Local Network, EEG adopted an established and globally recognized policy framework for the development, implementation and disclosure of environmental, social and governance policies and practices. Three of the 10 universal principles adopted by all UNGC signatories address sustainable production and consumption (UNGC, 2011b):

- Principle 7: support a precautionary approach to environmental challenges
- Principle 8: undertake initiatives to promote greater environmental responsibility
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

EEG formed the UNGC Local Network to pursue the following goals for the region (UNGC, 2011c):

- To advance the UNGC and its principles in the GCC
- To raise the standards of local corporate social responsibility (CSR) practices to international benchmarks
- To rally the support and participation of the members of the GCC Local Network for the activities of the NGO
- To create opportunities for multi-stakeholder dialogue, learning and collective actions

Integrating such goals into their policy framework gave way to many initiatives, such as:

- The Million Tree Campaign was launched as part of the UNEP Billion Tree Campaign in 2007. The EEG pledged and planted over 1.6 million indigenous trees in the UAE, significantly surpassing its original target of 1 million (EEG, 2011c). The trees were planted by EEG on behalf of contributors from all over UAE, including the Emirates Heritage Club, United Arab Emirates (UAE) Public Parks and Horticulture Department, Dubai Industrial City and Sharja Municipality, in addition to 41 schools and many individuals. Indigenous plants were chosen in consideration of the local conditions, water scarcity and salinity.

- The Arabia Corporate Social Responsibility Network is a multi-stakeholder forum that promotes CSR in the Middle East (Arabia Corporate Social Responsibility Network, 2011). Formerly named the CSR Network, five years after its launch in 2004, it grew strong and eventually spun off of EEG and is today its own entity. Among its prominent activities is the Arabia Corporate Social Responsibility Network annual award recognizing leadership in CSR in the Arab region and the creation of a database of best practices and success stories.

- The Waste Management Programme targets common waste streams, such as paper, cans, glass, plastic, toners and batteries (EEG, 2011b). A recent progress report demonstrates its achievements and wide networking with diverse stakeholders, including businesses, schools, households, hotels and industries (see Figure 1). In one month, the following quantities of waste were collected:
  - 6,710 kg of paper out of 95,868 kg from ABB Industries
  - 65 kg of cans out of 461 kg from Al Ain English Speaking School
  - 11,255 kg of glass out of 23,362 kg from Fairmont Hotel
    660kg of plastic out of 8,244 kg from Emirates Golf Club
  - 620 toners out of 1,026 from the Petroleum Institute

These activities are accompanied by education and awareness programmes in partnership with relevant stakeholders. Such programmes contribute strongly to the promotion of a circular economy and to the reduction of energy and water consumption and carbon footprint, thereby saving natural resources.

above amendments, and to meet the SCP targets for the sector, is the Arab Countries Water Utilities Association (ACWUA) (see Case Study 8).

8.6 Conclusions

The vast majority of SCP policies that exist in the West Asian region are in the form of declarations, recommendations and guidelines. They are predominantly not, however, legally or politcially binding in nature. Policies curbing consumer demand using taxes or rationalizing fuel subsidies are rarely used, as they are seen as politically risky. Instead, supply-side policies and measures, such as improving the efficiency of a grid, providing new or improved modes of transportation and improving treatment technologies, are more common, as they do not restrict the consumer. For example, policies that internalize environmental costs, taking into account a life-cycle perspective of products, or policies that establish more accurate prices, like green taxes and subsidy phase-outs, are rarely used in the region.

In terms of supply-side measures, there is a need for policies that have an impact on the behaviour and lifestyles of people, rather than focusing solely on resource efficiency and "greening" the existing practices. This challenge however is not limited to the West Asian region, although more elaborate there, but is shared with the rest of the world. The 2010 report of the World Economic Forum on global trends of sustainable consumption in fact conceded that current trends towards sustainability, although welcome, are still "rooted in a model of consumption" (WEF, 2010, p.15).

There are, however, several good examples of policies that address issues related to SCP. For instance, the gradual shift from private to public transportation in Dubai demonstrates a favourable policy mix in city planning. More progressive examples can be found in Masdar City's experimental features and other innovation hubs in the region. Often, links between these policies, plans, programmes and projects need to be strengthend. An example is the allocation of funds

CASE STUDY 8

Capacity-building for water management

The Arab Countries Water Utilities Association (ACWUA), a regional non-profit organization, was established in April 2007 (ACWUA, 2007) to help address the growing challenges in the water sector in the Arab region, such as water scarcity, weak water and environmental policies, high investment needs, lack of management and technical capacity, increasing demand due to growing populations, and conflicts (ACWUA, 2011). It receives support from the UNESCWA, the GTZ, the Arab Ministerial Water Council, the Ministry of Water and Irrigation of Jordan, the Arab-German Chamber of Commerce and Industry, among other international organizations.

As a regional centre of excellence with a permanent secretariat established in Amman in 2009, it partners with water supply and wastewater utilities in Arab countries to provide capacity-building services; promote standards of performance in managing water supply and wastewater utilities; provide of advice on water legislation, policies, and sector management and reform; and dissimenate information (ACWUA, 2011).

At present, six working groups (Management Utilities, Management of Water Resources, Benchmarking, Capacity Building & Training, Water & Health, Utility Reforms) are operational as part of the ACWUA work plan in the region (ACWUA, 2010).

The organization has gained a significant presence in the region and internationally, and is a good example of regional collaboration with a large membership base. There are currently 84 members in the association in 16 countries in the Middle East and North Africa (MENA) region, of which 10 are in West Asia.

The most recent activity of ACWUA was the third ACWUA Best Practice Conference on Non-Revenue Water in the Arab Region: Solutions for Drinking Water Loss Reduction, held in Rabat, Morocco in January 2010, where various cities in the region presented their cases (ACWUA, 2010).

for supply-side pilot projects addressing climate change issues, while on the other hand national energy consumption continues to grow unrestrictedly and fuel prices in many of the countries remain lower than the world market fuel prices.

Regional cooperation on SCP policies and initiatives exists, such as the Arab Regional Roundtable on SCP. However, more emphasis on outreach and disseminating information on success stories is needed, as well as continous monitoring and evaluation of impacts on both the demand and supply sides. Continuous monitoring and evaluation of policies is also needed to document the environmental, social and economic improvements and feedback into a balanced and feasible approach to shift towards SCP patterns.

The GCC countries' interconnection grid serves as an example of a common energy policy, whereby connections across different time zones helps balance daily energy consumption fluctuations across the countries. The abundance of solar radiation should also be seen as a unique opportunity for sustainable power generation in the region. Additional capacity for regional or national grids should be created using renewable power, rather than investing in new fossil-fuelled power plants. Energy is also directly related to water supply, which is predominantly sourced from energy-intensive desalination. With the fast rate of population growth, energy-efficient technologies and renewable energy technologies are therefore needed to ensure sustainable water supply. All measures for energy and water, however, must essentially be done in parallel with efforts to address unsustainable consumption habits.

Measures contributing to SCP are evident in the adoption of cleaner production methods, and in compliance with environmental standards (such as the ISO 14001). Although the total number of ISO certifications in the West Asian region remains below the world average rate, it is expected that increasing awareness of the need for compliance with sound environmental management systems will advance SCP policies.

CSOs in West Asia play a significant role in public awareness and advocacy campaigns on issues related to SD, including environmental conservation. However, CSOs should be further engaged for the mainstreaming of environmental considerations in the decision-making processes of key government and public institutions and push for transformative change, especially at a local level. There is great promise in this respect in the near future, especially now that the impact of civic engagement in parts of the West Asia (and Arab) region is rapidly gaining ground. This shift could promise many opportunities for positive change, with a future of empowered youth engaged in striving for better lives, freedom, social equity and sustainable development.

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9 The Way Forward

Looking at the scale of current challenges facing the world, it is clear that the need to shift toward sustainable consumption and production (SCP) has grown more urgent, since its first formal recognition at the Rio Earth Summit in 1992. Economic development over the last 30 years has done much to improve the quality of life and alleviate poverty, but it has also been accompanied by a wide array of negative environmental and social impacts. These impacts threaten to undermine, or even reverse the gains that have been achieved. Globally, resource consumption, waste and pollution continue to rise, while the untapped potential of many materials and minerals sits in landfills. At the same time, the gap between rich and poor has been growing wider. As we accumulate greater scientific understanding about our planet's biophysical constraints, so too do we come to appreciate a new the scale of the challenges before us and to be faced by future generations.

9.1 Main findings

At the **intergovernmental level**, the adoption of a SCP approach as an international commitment and goal is an important milestone in tackling these challenges. The 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, and the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg laid the global foundation for many efforts to promote SCP at the regional and national levels.

One way in which governments have promoted SCP has been through the negotiation and implementation of multilateral environmental agreements (MEAs). Although most MEAs do not explicitly refer to SCP, in practice, treaties impact and alter many stages of a product's life cycle. For example, defining and understanding ozone layer depletion were central to the speed with which the Vienna Convention and the Montreal Protocol on Substances that Deplete the Ozone were agreed upon. Governments have since reduced or controlled use of these substances in the production, consumption and disposal phases of many products. These agreements were key to identifying life-cycle stages in which ozone-depleting substances were released, as well as in developing solutions. The successful implementation of the Montreal Protocol ultimately has spurred global investment by the private sector, driving the creation of new markets for more sustainable products in a relatively short time span.

The success of international agreements also depends on national capacities and funds to implement the agreements. The Multilateral Fund for the Implementation of the Montreal Protocol is an outstanding example of supporting national implementation. The African, Caribbean and Pacific on MEAs programme is another example of a mechanism that contributes to the promotion of effective policy frameworks and implementation.

Intergovernmental efforts to promote SCP have also been developed through initiatives focused on thematic issues. For example, the **Marrakech Process on SCP**, which represents a respose to the Johannesburg Plan of Implementation (WSSD, 2002) WSSD, supported the implementation of SCP worldwide. It facilitated the establishment of seven thematic task forces, and developed expertise and tools to promote and implement SCP at regional, national and local levels. These task forces employ policy design and capacity-building activities, as well as demonstration projects on sustainable public procurement, sustainable tourism, sustainable lifestyles and education for sustainable consumption, sustainable buildings and construction, sustainable products and ecolabelling. As an example of policy design, the Task Force on Sustainable Public Procurement developed a practical methodology for designing and implementing policies on sustainable public procurement, which are now being implemented in 11 pilot projects. The Task Force on Sustainable Lifestyles has reached 43 countries through demonstration and capacity-building projects.

Other global initiatives have been seeking to identify best practices and promote knowledge transfer, bringing together a multitude of stakeholders in collaborative action. For example, the World Tourism Organization-UNEP- Hotel Energy Solutions project providing support to small and medium sized hotels to apply energy efficiency measures in 27 countries. The Food and Agriculture Organization (FAO)-UNEP Agri-Food Task Force, representing more than 330 firms and organizations, including relevant government ministries, works on integrating SCP in supply chains. In the area of resource-efficient and cleaner production, a dedicated UNIDO-UNEP programme on Resource Efficiency for Cleaner Production supports small and medium-sized enterprises (SMEs) through a network of National Cleaner Production Centres in 47 developing countries and economies in transition.

At the **regional level**, a number of intergovernmental bodies have established dedicated SCP frameworks. The European Union's (EU) SCP and Sustainable Industrial Policy (SCP/SIP) Action Plan stands out as a comprehensive plan comprising SCP policies and provisions for partnerships that aim to influence the

whole life cycle of products. Africa, the Arab region and the Latin America and Caribbean (LAC) region have developed SCP strategies or frameworks with the support of the Marrakech Process. Those strategies or frameworks have been endorsed by several regional intergovernmental bodies, including: the African Ministerial Conference on Environment and the African Union, the Council of Arab Ministers Responsible for Environment, and the Latin America and the Caribbean Regional Forum of Ministers of Environment respectively. At a subregional level, the Mercosur Policy for Promotion and Cooperation on SCP guides the harmonization of production and environmental policies of member countries and encourages the establishment of national SCP action plans. All these strategies can provide the basis for a more specific plan of policy design with implementation to be developed subsequently.

In Africa, the adoption of the African 10-Year Framework of Programmes on SCP has spurred the development and implementation of a number of subregional, national and local SCP programmes. For example, pilot projects for mainstreaming SCP in national- and city-level development policies and action plans on SCP were conducted in Tanzania, Mauritius and the cities of Maputo in Mozambique and Cairo in Egypt. Likewise, pilot projects are carried out in priority sectors such as water and energy, and cross-cutting areas such as sustainable procurement and education and information for SCP. The African 10-Year Framework of Programmes on SCP and the Task Force on Cooperation with Africa have recently launched an African Ecolabelling Mechanism (AEM). The Secretariat of the African Ecolabelling Mechanism in Nairobi, Kenya, was established under the auspices of the African Union, helping to validate and harmonize ecolabelling initiatives in the region, to better identify sustainable products and increase access for them to regional and international markets.

At the **national level**, numerous countries have adopted SCP action plans or strategies. In Africa, this includes Ghana, Mauritius, Tanzania and Zambia; and in LAC, such plans have been drawn up in Brazil, Colombia, Cuba, the Dominican Republic, Ecuador, Mexico, Peru and Uruguay. In the EU, dedicated national SCP action plans have been developed by the Czech Republic, Finland, Poland, and the United Kingdom. In some regions, SCP has been integrated into other planning processes. In South Eastern Europe (SEE), Eastern Europe, the Caucasus and Central Asia (EECCA), North America and West Asia, for example, national-level SCP planning is largely part of existing national strategies for sustainable development or other short- and medium-term development plans. In the Asia-Pacific region, national Green Growth strategies have proliferated since 2005. These strategies focus on investment in sustainable infrastructure, raising revenue and improving eco-efficiency while reducing poverty. Many governments also target policies in specific sectors, such as Serbia and Croatia, where strategies have been developed to promote sustainable agriculture.

Transparent and open consultation processes have been central to the successful elaboration and further implementation of such national SCP action plans, as has the engagement of a broad range of stakeholders. Many strategies reviewed are also based on an in-depth study of the national development situation as well as key consumption and production patterns, for example in Brazil, Ghana and Mexico.

Implementation at the national level has, in most countries, just begun. These will offer important lessons for institutional and financial frameworks to effectively support SCP. For example, in Mauritius, the Ministry of Environment and Sustainable Development, with UNEP's financial and technical support, has developed the National Programme on SCP. Twenty-five out of the 44 planned projects for the 2008-2013 period are currently being implemented with a budget of US$1 million, through joint or individual action by multiple ministries. Some projects are progressing well and energy intensity per unit of output of the economy is reportedly falling.

More generally, SCP programmes in emerging and developing countries continue to face significant funding challenges and continue to rely on international donor support. In other cases, a particular gap exists on the consumption side. For example, a review of the EU SCP/SIP Action Plan called for new programmes to be developed and funded, aiming at increasing consumer awareness and changing consumer behaviour.

Governments in every region have been applying a range of policy instruments to promote SCP. In the United Nations Economic Commission for Europe (UNECE) region, **regulatory tools** such as the EU product performance standards and the United States Presidential Directives on energy efficiency are widespread and used by most countries. In the SEE and EECCA subregions, the use of SCP-related regulatory instruments is also common. Although most countries implement regulations for minimum product standards, analyses of the Asia-Pacific and Africa regions show that complex regulations tend to be put in place in more industrialized economies, which have more human, financial and technical resources for implementation and enforcement. Consequently, regulation seems to be one of the least-preferred types of policy tools in the Asia-Pacific region. A general exception to this rule appears to be sustainable public procurement policies, which are being considered or applied as regulatory or voluntary policies in every region. For example, half of LAC countries report that they have sustainable public procurement policies.

All regions have broad experience with **voluntary instruments**. Their use has, in some cases, preceded further regulation. In the EU, this has been the case for agreements on energy efficiency for washing machines, refrigerators, freezers and dishwashers. These voluntary agreements have subsequently been phased out with the establishment of the EU EcoDesign Directive. A first evaluation of the EU SCP/SIP Action Plan shows that mandatory instruments such as energy labelling and ecodesign were regarded as having a larger impact than voluntary instruments in quantitative terms. In the United States and Canada, extended producer responsibility partnerships bring together all actors across the life cycle of products to share in the responsibility for reducing their environmental impacts. In Africa, the voluntary agreements between the Moroccan government and the cement industry have lead to cleaner and more resource-efficient production by using waste as a resource, recycling and reducing cost. In LAC, voluntary cleaner production agreements have been successful in the meat and dairy sectors, whereas the Asia-Pacific region has voluntary agreements for reducing waste in packaging.

Economic instruments such as green taxation and feed-in tariffs are also more common among more industrialized economies. Pricing instruments and tax- and obligation-related incentives are applied in EU member states, Canada, Japan and the United States. Economic instruments are also found in rapidly industrializing economies in the form of discounted lending and tax preferences for renewable energy projects in the People's Republic of China. These are often also reflected in the Asia-Pacific region's approach to Green Growth. Elsewhere, such as in the SEE and EECCA countries and much of Africa, economic instruments are generally restricted to the application of fees and charges on pollution and for communal services such as waste collection, road construction and maintenance. Exceptions, of course, do exist: Mauritius has implemented a greenhouse gas tax and Jordan provides tax deductions to promote the purchase of hybrid cars.

Information-based instruments are in use throughout every region, in more and less industrialized economies alike. In the Asia-Pacific region, for example, information-based policies are widely used, especially through ecolabels and consumer awareness-raising campaigns. Examples of government-led certification are also found in LAC and Africa, such as the Sustainable Tourism Certificate in Costa Rica and the ongoing process of developing a pan-African Eco Mark for sustainable products. In the UNECE region, ecolabels have long been a key information instrument. In Canada, there are more than 10,000 products certified under EcoLogo that are available in the marketplace. Other information tools in the UNECE regions include carbon calculators and green purchasing guidelines for local authorities and consumers. Despite their relatively broad spread, there is still much potential for further implementation of information-based tools. In some regions – the EECCA for example – sustainably certified goods are still not widely available. Yet sustainable certification can help provide more reliable and transparent information to consumers, while facilitating sustainable goods' access to new markets or increasing their market share.

Businesses are also highly dynamic actors in the promotion of SCP. Indeed, many information-based policies and schemes, as described above, are voluntary and based on principles of corporate social and environmental responsibility. Sustainability reporting, in accordance with the Global Reporting Initiative (GRI) Guidelines, is on the rise in a number of regions. This rise indicates that an increasing number of businesses have implemented resource efficiency, cleaner production and environmental management programmes. Similarly, environmental management standards have increasingly been taken up. In most countries in Asia and the Pacific, for example, the number of International Organization of Standardization (ISO) 14001 standards adopted jumped by over 130 per cent between 2006 and 2010. Businesses have also formed platforms for information-sharing on wider sustainable development issues, such as the World Business Council for Sustainable Development and the Africa Corporate Sustainability Forum.

In some cases, business initiatives also concentrate on innovation in the design, production and distribution of products that is informed by a life-cycle approach. Some businesses in the LAC region, for example, are focusing particularly on improvements to production processes through the introduction of clean energy, the reduction of environmentally harmful inputs and the recycling of waste. Some pioneering companies now aim to put sustainability at the very heart of their business model. Examples include efforts to promote low-impact laundry detergents and energy-efficient products in the UNECE region and waste re-use programmes in South Africa and Niger.

On a national level, institutions and government-funded programmes, such as the 47 National Cleaner Production Centres in developing and transition economies, have been supporting businesses by generating data on resource-efficient practices and providing technical assistance to small and medium-sized companies to implement these practices. Government strategies have recognized the need for dedicated funding, such as the Resource-Efficient Europe strategy calling for a Small Business Act that helps SMEs face the challenges of globalization and climate change. Private-sector financial institutions

have found it difficult to get sufficient scale to make specific energy-efficiency activities commercially attractive. This challenge shows that SCP has not become a core criterion in financial decision-making. Encouraging the use of metrics and the application of environmental, social and governance criteria could help investment decision-making that leads to the adoption of technologies, management practices and product development that promotes SCP.

On the interface of business, government and science, key actors are working to make the West Asia region a clean technology hub. For example, Abu Dhabi's Masdar enterprise aims to meet this objective through five different clusters: research, investment in renewable energy and clean technology companies, operating renewable energy-based power generation and carbon emission reductions projects, and setting up a clean technology cluster in a city aspiring to be free of waste and carbon emissions.

Civil society organizations (CSOs) have also played a key role in making sure that SCP remains on both government and business agendas. On an international level, CSOs with a global reach have been instrumental in developing and harmonizing some important voluntary standards. For example, the International Social and Environmental Accreditation and Labelling Alliance is advancing objective benchmarking and harmonization of certification schemes. It acts as the umbrella organization of organic, fair trade and other bodies promoting and implementing environmental and social labelling, including the Marine Stewardship Council, the Fairtrade Labelling Organization, the Forest Stewardship Council and more.

In the UNECE region, CSOs are highly active in establishing partnerships, naming and shaming companies responsible for unsustainable activities, lobbying governments and the private sector, and conducting influential research. For example, the Transition Towns project combines research and concrete implementation through pilot projects that help communities live more sustainably and become more energy resilient. Over 300 initiatives have been developed under the Transition Towns movement, ranging from developing small-scale renewable energy companies to showcasing measures to reduce domestic energy consumption.

CSO activities were also identified in LAC, Asia-Pacific and Africa, where there is an emphasis on capacity-building. In Africa in particular, CSOs seem to fill a service provision gap for sustainable products by providing seed financing for their development, offering education on sustainable development and establishing income-generating ventures. In West Asia, a number of CSO activities, while not labelled as SCP, clearly promote SCP through campaigns and education programmes related to sustainable development.

Across all sectors, **partnerships** among governments, businesses and CSOs effectively promote SCP and multiply the impacts of any intervention. Among governments, international initiatives and technical assistance are common, such as the Japanese government's Clean Asia Initiative. Businesses and CSOs also often work together to help low-income producers qualify for certification standards. Indeed, standards themselves are usually the result of an in-depth collaboration between all three types of actors. Governments, businesses and CSOs also work together to share information and to implement initiatives contributing to SCP, as in the case of West Asia's plans to become industrial hubs for green technologies.

9.2 Recommendations

The Global Outlook on SCP Policies finds that a wide range of activities has been undertaken by governments, businesses and CSOs. However, it is also apparent that much more needs to be done to bring us onto a path toward achieving the sustainable patterns of consumption and production that necessarily underpin sustainable development. While meeting basic needs and services will require increasing the use of natural resources and food intake in some countries, others might need to reduce their ecological footprint and modify their current consumption and production patterns. Countries share common but differentiated responsibilities, and developing countries will require technical and financial assistance in order to shift toward SCP patterns.

Increases in resource efficiency, although tangible, have failed to catch up with the escalating demand for resources that is fuelled by rapid economic growth and unsustainable consumption patterns. Efficiency gains are often offset by the rebound effect, whereby reductions in the costs of products due to enhanced resource efficiency lead to increased purchases of those or other products. Decoupling economic development from environmental degradation calls for a combination of supporting policies, technological innovations and important lifestyle changes.

To accelerate the shift towards SCP, more coherent policy frameworks addressing both the supply and demand side, as well as more effective implementation and enforcement of existing policies and regulations, are needed. The responsibility for achieving SCP should be extended across different sectors and institutional structures beyond Ministries of the Environment. This shared responsibility can be facilitated by providing training on how to mainstream SCP and assisting in the use of relevant tools and methodologies such as life-cycle approaches, sustainable public procurement

and ecolabelling. Economic incentives will also need to be provided to encourage demand-led reductions in resource use and increases in private investments contributing to the shift to SCP.

Enhancing cooperation and more concerted and coordinated action at all levels will be essential to achieving the necessary transformational changes in consumption and production patterns. The existing policies, tools and programmes must be continued, expanded and improved upon, and new, innovative strategies are needed addressing gaps or emerging issues. Policies, tools and programmes successful in a certain local, national and regional context need to be replicated and, where necessary, adapted in other contexts. The information presented in *Global Outlook on SCP Policies* is provided to foster such scaling up and replication, and also leads to specific recommendations for action.

Decision-makers in all arenas are encouraged to take action to:

1 Integrate SCP into policy frameworks and strategic plans: *The Global Outlook on SCP Policies* shows that in every region, governments have developed policies and/or policy frameworks to promote SCP. Many have drawn up dedicated regional or national action plans, which are usually embedded within broader development strategies, such as national sustainable development strategies and poverty reduction strategies. This report presents examples from Senegal and Thailand, among others. Often the strategies and action plans focus on specific policy areas (e.g., procurement, economic instruments) and sectors (e.g., agriculture, water, energy, etc.) that have been prioritized for action and where specific measures have been proposed. However, in many cases, SCP policies and actions are not anchored in coherent policy frameworks, thus reducing their effective contribution to sustainable development. Coherent and overarching strategies for SCP and resource efficiency are needed to fully harness the potential of SCP. In order to fully integrate SCP into policy frameworks and strategic plans, international support, domestic political commitment and inter-ministerial coordination are vital and need to be maintained over the medium-to-long term.

2 Ensure the collection of more SCP data to measure policy effectiveness and track progress: While many innovative and replicable policies exist, their effectiveness and impacts have rarely been measured. Case studies on business and CSO initiatives featured in *The Global Outlook on SCP Policies* have shown that measures to monitor progress achieved by applying specific *technologies or management practices* are available. For example, the reduction in energy consumption resulting from the installation of energy-saving and insulating devices in apartment buildings in Ukraine, the reductions in landfill emissions due to composting in Indonesia, and the conservation of water due to switching to a different coffee-producing technology in Panama have been quantified. In these cases, success can often be attributed to one specific measure. However, it is generally more difficult to establish causal links between policy implementation and a change on the ground. Most survey respondents did not provide information related to SCP policies, such as targets, indicators, or monitoring and evaluation systems to measure outcomes. In many instances, this omission is due to the relatively recent development of SCP policies and the lack of clear indicators of their success. This gap in research underlines the urgent need to develop SCP indicators, clear monitoring systems and build capacity to track progress.

3 Learn from experience to develop an optimal policy mix: There is no one-size-fits-all policy that is appropriate for SCP. Its cross-cutting nature means that specific priorities and needs are determined to a large extent by the local context. Policy mixes must also be used to shift all stages of product life cycles toward sustainable patterns. One example from *The Global Outlook on SCP Policies* is the policy on sustainable transport in Dubai. A dedicated authority was set up to develop an enabling infrastructure for a variety of transportation modalities and activities on communications. Award-winning awareness campaigns such as “Why drive, when you can ride the metro?” encourage citizens to make changes in their transportation choices. In Kenya, a policy mix for reducing plastic bag use includes a ban on certain bags and a levy on others to create a recycling system. The policy mix can be further strengthened by including communication policies for consumer information on alternative carrier bags and opportunities for recycling. However, in practice, policies are often developed in isolation. Coherent frameworks ensuring the linkages between different types of instruments need to be developed. This requires cross-sectoral cooperation between ministries and stakeholders to establish effective policies along the life cycle.

4 Provide enabling policy frameworks to encourage business investments on SCP: More appropriate incentives that allow businesses to succeed when they invest in sustainable business practices need to be created. Such incentives exist, for example, in the form of loans and financial assistance for the implementation of wastewater treatment and waste recovery in Turkey. SMEs have a crucial role to play in fostering SCP, but often face more challenges than larger companies in making this shift. The International Social and Environmental Accreditation and Labelling (ISEAL) Alliance’s Code of Good

Practice for Assessing the Impacts of Standards, for example, aims at making sure that small-scale enterprises can afford to enter into certification programmes and, hence, better access markets. Supporting the shift to SCP patterns by SMEs also requires targeted government policies that level the playing field using a clear policy framework that includes regulations and financial incentives. Technical and financial assistance may also be required for transferring technology conducive to moving toward SCP patterns. In *The Global Outlook on SCP Policies*, we see an example of cooperation between governments, development agencies, a producer of solar energy technology and an investment fund for converting a propane-based fruit drying system to a solar one in Guatemala. Such cross-sectoral cooperation is particularly important in developing countries, which often rely on external funds to acquire and apply more resource-efficient and sustainable technologies. Cooperation with business and industry on the design of enabling policies can also help to harness market forces to drive the shift to SCP, for example, through sustainable procurement and incentives for long-term investment.

5 Adopt and apply alternative measures of progress beyond GDP: The reliance on growing consumption and production levels as an indicator of economic success at the national, enterprise and individual levels fails to reflect the imperative of sustainable development. Multidimensional measurements such as the Organisation for Economic Co-operation and Development's Better Life Index, which includes social, environmental and economic indicators, and the Multidimensional Poverty Index can provide alternatives. Tools such as environmental footprints, social life cycle and life-cycle sustainability assessments can help construct indices, stimulate research on sustainable living and crucially guide the design of policies and actions needed to promote the shift to SCP. Clear methodologies to measure and disclose ecological footprints need to be provided or elaborated in collaboration with the scientific and business communities, thus helping to raise the bar through benchmarking and identifying leverage points. For example, the Carbon Disclosure project provides information on greenhouse gas emissions data to over 551 institutional investors.

While much information on environmental impacts of economic activity is becoming available, more sustainable businesses, such as those based on renewable energy technology, often do not attract enough investment. The Investor Network on Climate Risk, for example, works with government policymakers to increase financing for low-carbon energy technologies. Encouraging the use of metrics and the application of environmental, social and governance criteria could play a much more important role in investment decision-making in the future, leading to the adoption of technologies, management practices and product development that promote SCP.

6 Give more emphasis to the demand side to promote sustainable lifestyles: *The Global Outlook on SCP Policies* found that policies aimed at changing consumption behaviour in a sustainable direction are less common and generally more poorly implemented than supply-side policies for SCP. However, behavioural change and social innovation are as crucial as technological innovation and economic policy instruments aiming to stimulate sustainable production. On the policy side, there is a need to understand how consumer behaviour is changing, identify tools and policy mixes that are most effective in directing that change toward sustainable consumption, and counteract the important and pervasive rebound effect.

The Global Outlook on SCP Policies provides an illustration for the need for more demand side policies on waste management. Waste is one of the major challenges of urbanization in West Asia. The Emirates Environmental Group's Waste Management Programme collects paper, cans, glass and plastic from businesses and schools for recycling. While its focus is on promoting a circular economy, accompanying policies are needed to curb consumption. Academia and CSOs have created a range of supporting education and awareness programmes to demonstrate the need and solutions for locally and globally sustainable lifestyles using play stories, printed materials for youth and educators and virtual information tools. To move beyond choice editing and toward making sustainable products the default choice in the market place, we must partner with businesses to reward sustainable consumption. Academia and CSOs, in cooperation with governments and the private section, require continuous support to develop innovative approaches and help disseminate them.

7 Enhance responsible marketing and media through policies and campaigns: Marketing and media are powerful channels to influence consumer choices. There is an urgent need to work with these industries and tools, in order to encourage people to move toward more sustainable behaviours in addition or in coordination with public and civil society information campaigns. SCP programmes and projects such as those in Brazil (recycling for energy credits), Ghana (instructions for eco-efficient driving), Japan (information on Eco Mark), South Africa (public relations activities on an energy Demand Side Management programme) and Kuwait (short messaging services for water and electricity conservation) can be scaled up with the cooperation of marketing and mass media.

8 Draw on and further develop partnerships among all actors and regions: Partnerships with business, governments and other stakeholders have proven practical in inspiring innovation and allowing for the exchange of experience. Examples of such partnerships include the United States Environmental Protection Agency's partnerships in nine thematic areas, including affordable housing and transportation, the European Food Roundtable and the international SEED initiative supporting small-scale and locally driven entrepreneurship that integrates social and environmental benefits into business models. Successful partnerships will need to be scaled up to have broader impact, and new actors, such as financial institutions, will need to be brought in. Enhancing information and knowledge-sharing would also facilitate cooperation by building synergies and partnerships.

The Way Forward

As we look forward to the 2012 United Nations Conference on Sustainable Development (Rio+20), it is clear that enhancing existing policies, expanding capacity-building activities and sharing experiences in promoting SCP patterns around the world, are required. The establishment of a 10-Year Framework of Programmes on SCP (10YFP) -responding to the JPOI and, as elaborated at the 19th Session of the Commission on Sustainable Development- could make a crucial contribution in this regard.

The Global Outlook on SCP Policies is one step forward in gathering information on SCP policies supporting the transition to sustainable development. Building on this effort, as well as on the work achieved by the Marrakech Process on SCP, UNEP will continue to collect good initiatives and practices on SCP. This will be done in close cooperation with all stakeholders and UN agencies, with the objective of sharing information and experience among all regions and all actors. In the future, these efforts could contribute to the establishment of a more structured and dynamic global clearinghouse on SCP, facilitating exchange of information, knowledge on effective policies, and disseminating capacity-building tools. Such a clearinghouse could play an important role in facilitating dialogue and encouraging cooperation and partnerships that are needed to inspire and accelerate the shift towards SCP patterns.

We continue to welcome contributions at: http://web2.unep.fr/globaloutlook/Login.aspx

Glossary

Benchmarking	A process by which a company or organisation compares its products and methods with those of the most successful in its field, in order to judge its own performance, or that of other companies of the same type.
Byproducts	Output other than the principal product(s) of an industrial process. Byproducts have low value in comparison with the principal product(s) and may be discarded or sold either in their original state, or after further processing.
Carbon Footprint (CF)	The total set of greenhouse gas (GHG) emissions caused by an organisation, event or product. For simplicity of reporting, it is often expressed in terms of the amount of carbon dioxide, or its equivalent of other GHGs, emitted.
Capacity Building	Means by which skills, experience, technical and management capacity are developed within an organisational structure, often through the provision of technical assistance, short/long-term training, and specialist inputs. The process may involve the development of human, material and financial resources.
Carrying Capacity of Ecosystems	Capacity of an ecosystem to support healthy organisms while maintaining its productivity, adaptability and capability for renewal. Carrying capacity is a quantitative concept: key factors for human populations include numbers and density, affluence and technology. Concerns focus on depletion rates of renewable and non-renewable resources and the build up of hazardous wastes in the environment.
Choice Editing / Choice Influencing	Choice editing is the term used to describe instances where governments and/or businesses influence the choices made by consumers. For example, a decision by a government to remove all non-energy efficient light bulbs removes the choice for consumers to buy light bulbs that are not energy efficient.
Cleaner Production	The continuous application of an integrated preventive environmental strategy to processes, goods, and services to increase overall efficiency, and reduce risks to humans and the environment. Cleaner Production can be applied to the processes used in any industry, to goods themselves, and to various services provided in society.
CO_2 Equivalent	The concentration of CO_2 that would cause the same amount of radiative forcing as the given mixture of CO_2 and other greenhouse gases. Carbon dioxide equivalents (CO_2 eq) provide a universal standard of measurement against which the impacts of releasing (or avoiding the release of) different greenhouse gases can be evaluated.
Consumer Protection	This refers to mechanisms (legal, quasi-legal, moral and institutional) to protect consumers or users in their transactions with producers (e.g. safeguards against unfair contract terms) and in their use of goods or services (e.g. product safety standards). The UN guidelines on consumer protection (1999) “recognise that consumers, particularly in developing countries, often face imbalances in economic terms, educational levels and bargaining power”; and that they “should have the right of access to non-hazardous products, as well as the right to promote just, equitable and sustainable economic and social development and environmental protection.” The guidelines also state that governments’ role is crucial to maintain adequate infrastructure to develop, implement and monitor consumer protection policies. Special care should be taken to ensure that measures for consumer protection are implemented for the benefit of all sectors of the population, particularly the rural population and people living in poverty. In applying any procedures or regulations for consumer protection, due regard should be given to ensuring that they do not become barriers to international trade and that they are consistent with international trade obligations.
Corporate Social and Environmental Responsibility (CSER)	A values-based way of conducting business in a manner that advances sustainable development, seeking positive impact between business operations and society, aware of the close interrelation between business and society as well as of (companies, like citizens, having basic rights and duties wherever they operate.

Decoupling Economic Growth from Environmental Degradation

Decoupling refers to the relationship between (1) economic variables, such as Gross Domestic Product (GDP) or the Human Development Index (HDI), and (2) environmental variables, such as resource use or environmental indicators. There is a distinction between decoupling economic growth from resource use and from environmental impacts.

– *Impact decoupling* refers to reducing the relationship between economic growth and environmental impacts such as climate change, biodiversity loss and degradation of human health.

There is also a distinction between absolute and relative decoupling.

– In *relative decoupling*, the growth rate of the environmentally relevant parameter is less than the economic parameter, but is still positive.
– In *absolute decoupling*, the growth rate of the environmental parameter is zero or negative.

Demand Side Management (DSM)

Implementation of policies or measures that serve to reduce or otherwise influence the demand (by users or consumers) instead of supply.

Eco-efficiency

Eco-efficiency is a management philosophy that encourages business to search for environmental improvements that yield parallel economic benefits. It focuses on business opportunities and allows companies to become more environmentally responsible and more profitable. It is a key business contribution to sustainable societies. Eco-efficiency is achieved by the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life-cycle to a level at least in line with the earth's estimated carrying capacity.

Ecodesign

Ecodesign aims at reducing the environmental impact of products (including energy consumption) throughout their entire life cycle.

Ecosystem Services

Ecological processes or functions that have value or benefits to individuals or society. These include:

– *Provisioning services* – the products obtained from ecosystems, including, for example, genetic resources, food and fibre, and freshwater.
– *Regulating services* – the benefits obtained from the regulation of ecosystem processes, including, for example, the regulation of climate, water and some human diseases.
– *Cultural services* – the non-material benefits people obtain from ecosystems through spiritual enrichment, reflection, recreation and aesthetic experience, including, for example, knowledge systems, social relations and aesthetic values.
– *Supporting services* – the services necessary for the production of all other ecosystem services, including, for example, biomass production, production of atmospheric oxygen, soil formation and retention, nutrient cycling, water cycling and provision of habitat.

Emissions Trading (ET)

A market-based approach to achieving environmental objectives that allows those reducing greenhouse gas emissions below what is required, to use or trade the excess reductions to offset emissions at another source inside or outside the country. In general, trading can occur at the intra-company, domestic and international levels.

Energy Efficiency

Energy Efficiency (EE) encompasses all changes that result in a reduction in the energy used for a given energy service (heating, lighting...) or level of activity. This reduction in energy consumption is not necessarily associated with technical changes, since it can also result from a better organisation and management or improved economic efficiency in the sector (e.g. overall gains of productivity).

Environmental Labelling and Certification

Voluntary procedure of ensuring that a product (refers to both goods and services, including their production processes) meets certain specified criteria.

– *Environmental label* – claim that indicates the environmental aspects of a good or service.
– *Ecolabel* is awarded by an impartial third-party in relation to certain products that meet environmental leadership criteria based on life cycle considerations.
– *Certification* is awarded to those products that comply absolutely with a set of baseline standards.

Extended Producer Responsibility

Extended Producer Responsibility means that the producers take responsibility for their products from cradle to grave, and therefore, should develop products that have improved performance throughout all stages of the product life cycle.

At each stage of the life cycle, opportunities for improved performance exist.

Externalities	Byproducts of activities that affect the well-being of people or damage the environment, where those impacts are not reflected in market prices. The costs (or benefits) associated with externalities do not enter standard cost accounting schemes.
Greenwashing	Greenwashing is the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service. Companies are notably accused of greenwashing when they spend more time and money claiming to be "green" through advertising and marketing than actually implementing business practices that minimise their environmental impact.
Indicators for SCP	Indicators are an important tool for measuring change and for focusing attention on key priorities. The primary focus of SCP indicators is on measuring progress towards more sustainable patterns of production and consumption. Recognising that what goes unmeasured is often ignored, indicators are an important tool both for indicating progress – or the lack of it – towards the specific objectives of a particular programme, and for prompting appropriate response strategies. In the context of SCP, indicators can also indicate whether a society's consumption and production patterns are bringing about more socially equitable and environmentally sustainable development.
Integrated Product Policies	Integrated product policies is an approach that begins by asking how the environmental performance of products can be improved most cost-effectively. It is founded on the consideration of the impacts of products throughout their life-cycle, from the natural resources from which they come, through their use and marketing, to their eventual disposal as waste. It is also a relatively new approach to environmental policy.
Internalisation of Environmental and Social Costs	Internalisation of external costs aims to provide producers, manufacturers and consumers with correct signals as to the true scarcity of resources, including environmental resources, so that private production and consumption decisions are more in line with the social costs and benefits. Internalisation can increase competitiveness in at least three ways: first, by increasing resource efficiency and/or reducing resource use; second, by limiting waste and pollution and thereby lowering abatement costs; and third, by reducing resource depletion and thereby related environmental costs. It is important in this respect though to harness the synergies between company interests in enhancing resource efficiency and government interests in allocative efficiency, resource conservation and improvement in environmental quality.
Low Carbon Technologies	Existing and emerging industrial technologies, which aim to deliver low or zero carbon emissions when fully developed and implemented.
Planetary Boundaries	Planetary boundaries define the safe operating space for humanity planet's biophysical subsystems or processes. Nine such processes correspond to planetary boundaries: climate change; rate of biodiversity loss (terrestrial and marine); interference with the nitrogen and phosphorus cycles; stratospheric ozone depletion; ocean acidification; global freshwater use; change in land use; chemical pollution; and atmospheric aerosol loading.
Precautionary Approach	Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.
Product Standards	A product standard sets out specific characteristics of a product, such as its size, shape, design, functions and performance, or the way it is labelled or packaged before it is put on sale. In certain cases, the way a product is produced can affect these characteristics, and it may then prove more appropriate to draft technical regulations and standards in terms of a product's process and production methods rather than its characteristics *per se*.
Rebound Effect	The increase in consumption that occurs as a side-effect of the introduction of a more eco-efficient technology which leads to lower cost of products, hence increased demand.
Reduce – Reuse – Recycle (3Rs)	The 3R Initiative aims to promote the "3 Rs" (reduce, reuse andrecycle) globally so as to build a sound-material-cycle society through the effective use of resources and materials. Agreed upon at the G8 Sea Island Summit in June 2004, it was formally launched at a ministerial meeting in Japan in the spring of 2005. Reducing means choosing to use things with care to reduce the amount of waste generated. Reusing involves the repeated use of items or parts of items which still have usable aspects. Recycling means the use of waste itself as resources. Waste minimisation can be achieved in an efficient way by focusing primarily on the first of the 3Rs, "reduce," followed by "reuse" and then "recycle".

Renewable Energy	Energy sources that are, within a short time frame relative to the earth's natural cycles, sustainable, and include non-carbon technologies such as solar energy, hydropower, and wind, as well as carbon-neutral technologies such as biomass.
Resource Efficiency	Resource efficiency is about ensuring that natural resources are produced, processed, and consumed in a more sustainable way, reducing the environmental impact from the consumption and production of products over their full life cycles. By producing more wellbeing with less material consumption, resource efficiency enhances the means to meet human needs while respecting the ecological carrying capacity of the earth.
Technology Transfer	Technology transfer is the flow of knowledge, techniques, experience, and innovation among different stakeholders through assistance, investment, licensing, trade or training. It comprises the process of learning to understand, utilise, and replicate the technology, including the capacity to choose it, adapt it to local conditions, and integrate it with indigenous technologies.
Water Footprint	The water footprint is a measure of the impacts of the direct and indirect water consumption associated with all activities in a product's life cycle. This is especially relevant for water-intensive processes and at locations where water scarcity is a serious problem.

Source: United Nations Environment Programme (2010). ABC of SCP. Clarifying Concepts on Sustainable Consumption and Production. Available from http://www.unep.fr/scp/marrakech/pdf/ABC%20of%20SCP%20-%20Clarifying%20Concepts%20on%20SCP.pdf

Notes

About the UNEP Division of Technology, Industry and Economics

Set up in 1975, three years after UNEP was created, the Division of Technology, Economics (DTIE) provides solutions to policy-makers and helps change the business environment by offering platforms for dialogue and co-operation, innovative policy options, pilot projects and creative market mechanisms.

DTIE plays a leading role in three of the six UNEP strategic priorities: **climate change, harmful substances and hazardous waste, resource efficiency.**

DTIE is also actively contributing to the **Green Economy Initiative** launched by UNEP in 2008. This aims to shift national and world economies on to a new path, in which jobs and output growth are driven by increased investment in green sectors, and by a switch of consumers' preferences towards environmentally friendly goods and services.

Moreover, DTIE is responsible for **fulfilling UNEP's mandate as an implementing agency for the Montreal Protocol Multilateral Fund** and plays an executing role for a number of UNEP projects financed by the Global Environment Facility.

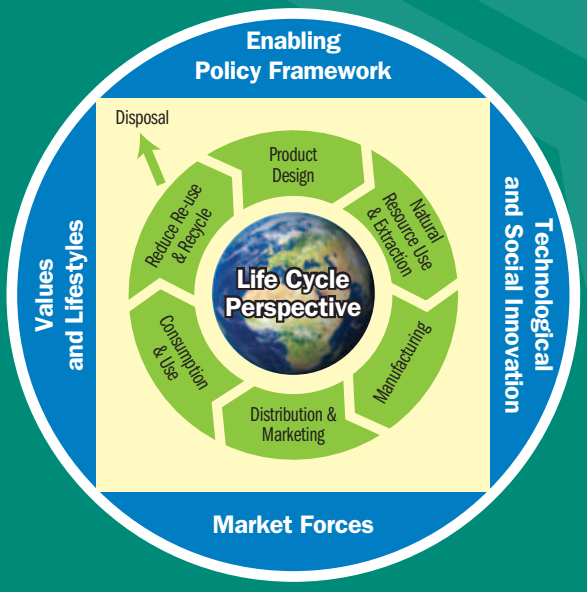
The Office of the Director, located in Paris, coordinates activities through:

- **The International Environmental Technology Centre** – IETC (Osaka), which implements integrated waste, water and disaster management programmes, focusing in particular on Asia.
- **Sustainable Consumption and Production** (Paris), which promotes sustainable consumption and production patterns as a contribution to human development through global markets.
- **Chemicals** (Geneva), which catalyses global actions to bring about the sound management of chemicals and the improvement of chemical safety worldwide.
- **Energy** (Paris and Nairobi), which fosters energy and transport policies for sustainable development and encourages investment in renewable energy and energy efficiency.
- **OzonAction** (Paris), which supports the phase-out of ozone depleting substances in developing countries and countries with economies in transition to ensure implementation of the Montreal Protocol.
- **Economics and Trade** (Geneva), which helps countries to integrate environmental considerations into economic and trade policies, and works with the finance sector to incorporate sustainable development policies. This branch is also charged with producing green economy reports.

DTIE works with many partners (other UN agencies and programmes, international organizations, governments, non-governmental organizations, business, industry, the media and the public) to raise awareness, improve the transfer of knowledge and information, foster technological cooperation and implement international conventions and agreements.

For more information,
www.unep.org/dtie

***The Global Outlook on Sustainable Consumption and Production (SCP) Policies*, developed by the United Nations Environment Programme (UNEP) with the financial support of the European Commission, provides a non-exhaustive review of government policies and business and civil society initiatives to shift towards SCP patterns. Broad in scope and worldwide in coverage, this *Global Outlook* includes a wide number of SCP policies and initiatives, illustrated by 56 case studies ranging from global multilateral agreements and regional strategies to specific policies and initiatives being implemented in all regions. It also reviews policy tools such as regulatory, economic, voluntary and information-based instruments while examining key economic sectors including energy, transport and food, and integrated approaches such as waste management. This report provides inspiring information about action and progress in promoting SCP. It highlights best practices and offers recommendations to scale up and replicate these important efforts around the world. The Global Outlook on SCP Policies will contribute to the dialogue and analysis in the preparations for Rio+20.**



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