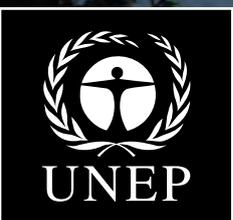




SUSTAINABLE CONSUMPTION AND PRODUCTION POLICIES AND INITIATIVES IN EASTERN EUROPE AND THE CAUCASUS: REVIEW OF PROGRESS AND WAY FORWARD



Copyright© United Nations Environment Programme, 2015
ISBN: 978-92-807-3451-5

Citation:

UNEP, 2015, Sustainable Consumption and Production Policies and Initiatives in Eastern Europe and the Caucasus: Review of Progress and Way Forward

This publication may be reproduced in whole or in part and in any form for educational or non-profit services without special permission from the copyright holder, provided acknowledgment of the source is made. UNEP would appreciate receiving a copy of any publication that uses this publication as a source.

No use of this publication may be made for resale or any other commercial purpose whatsoever without prior permission in writing from UNEP. Applications for such permission, with a statement of the purpose and extent of the reproduction, should be addressed to the Director, DCPI, UNEP, P.O. Box 30552, Nairobi 00100, Kenya.

Disclaimers

This publication, including the translation, has been prepared in the context of the EaP GREEN Programme which is financed by the European Union and other donors and is jointly implemented by the Organization for Economic Cooperation and Development (OECD), the United Nations Economic Commission for Europe (UNECE), the United Nations Environment Program (UNEP) and the United Nations Industrial Development Organization (UNIDO). The contents of this publication are the sole responsibility of UNEP and can in no way be taken to reflect the official views of the European Union or any of the other implementing organisations. www.green-economies-eap.org

Mention of a commercial company or product in this document does not imply endorsement by UNEP or the authors. The use of information from this document for publicity or advertising is not permitted. Trademark names and symbols are used in an editorial fashion with no intention on infringement of trademark or copyright laws.

© Images and illustrations as specified.

Cover credits:

School 25 © Vinnytsia city council

Thermic plant © Victor Mello

Plum tree © Viorel Gherciu

Borjomi-Kharagauli national park © Peter Prokosch

UNEP promotes environmentally sound practices globally and its own activities. This report is printed on paper from sustainable forests including recycled fibre. The paper is chlorine-free, and the inks vegetable-based. Our distribution policy aims to reduce UNEP's carbon footprint. www.unep.org

SUSTAINABLE CONSUMPTION AND PRODUCTION POLICIES AND INITIATIVES IN EASTERN EUROPE AND THE CAUCASUS:

REVIEW OF PROGRESS AND WAY FORWARD

ACKNOWLEDGEMENTS

This report has been developed under the “Greening Economies in the Eastern Neighbourhood” (EaP GREEN) programme. It is a review of the sustainable consumption and production policies in the European Neighbourhood and Partnership Instrument (ENPI) East region.

The UNEP coordination team was led by Rie Tsutsumi. UNEP would like to thank in particular Anna Golubovska-Onisimova and Zoriana Mischuk from the Ukrainian National Environmental NGO MAMA 86, Ievgen Khlobystovlevgen as an invited expert, and David McKinnon from the Copenhagen Resource Institute for developing this report.

UNEP would further like to thank all EaP GREEN national focal points from Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine, as well as the civil societies for their contribution to and reviewing of the report.

UNEP is also grateful to GRID Arendal for editing the report, including the layout.

ACRONYMS

AAUs	Assigned Amount Units	MES	Disaster Monitoring Constellation
ADS	Armenia Development Strategy	MOH	Public Health Monitoring
AEAI	Advanced Engineering Associates International	MoREFF	Moldovan Residential Energy Efficiency Financing Facility
AGBC	American-Georgian Business consulate	MoSEFF II	Moldovan Sustainable Energy Efficiency Financing Facility II
BAT	Best Available Technology	MSW	Municipal Solid Waste
CHP	Combined generation of heat and power	MoU	Memorandum of Understanding
CNRS	National Centre for Scientific Research	NEA	National Environment Agency
CoMO	Covenant of Mayors Office	NEAP	National Environmental Action Plan
DAkKS	German Accreditation Organization	NERC	National Energy Regulation Commission
E5P	Eastern Europe Energy Efficiency and Environmental Partnership	NGO	non-governmental organization
EAFRD	European Agricultural Fund for Rural Development	OECD	Organisation for Economic Co-operation and Development
EaP	Eastern Partnership	Oschadbank	Public Joint Stock Company State Savings Bank of Ukraine
EaP GREEN	Greening Economies in the Eastern Neighbourhood	PEFC	Pan-European Council of Forest Certification
EBRD	European Bank for Reconstruction and Development	PET	polyethylene terephthalate
EC	European Commission	POPs	Persistent Organic Pollutants
EECCA	Eastern Europe, Caucasus and Central Asia	PPP	Policies, plans, programs
EIA	Environmental Impact Assessment	SEIS	Shared Environment Information System
EMEP	European Monitoring and Evaluation Programme	SCP	Sustainable Consumption and Production
ENPI	European Neighbourhood and Partnership Instrument	SDI	Sustainable Development Indicator
EU	European Union	SDP	Sustainable Development Priority
FP7	Seventh Framework Programme for Research	SHW	Solid Household Waste
FSC	Forest Stewardship Council	Sida	Swedish International Development Cooperation Agency
GAW	Green Action Week	SPARE	School project on the use of energy and resources
GDP	Gross Domestic Product	STB	Standard of Respublika Belarus
GE	Green Economy	STCU	Science and Technology Centre Ukraine
GEF	Global Environment Facility	SWOT	Strengths, weaknesses, opportunities and threats
GHG	Greenhouse Gas	TFSD	Task Force on measuring Sustainable Development
GEOSTAT	National Statistical Office of Georgia	TSG	Tbilisi Service Group
GRDF	Georgian Research and Development Fund	TUBITAK	Scientific and Technological Research Council of Turkey
GWh	Gigawatt hours	UAAN	National Academy of Agrarian Sciences of Ukraine
HACCP	Hazard Analysis and Critical Control Points	UNDP	United Nations Development Programme
HDI	Human Development Index	UNECE	United Nations Economic Commission for Europe
ISTC	International Science and Technology Centre	UNEP	United Nations Environment Programme
IncoNet EaP	Science Technology and Innovation International Cooperation Network for Eastern Partnership countries	UNIDO	United Nations Industrial Development Organization
kWh	kilowatt-hour	USAID	United States Agency for International Development
LED	Light Emitting Diode	VAT	Value-added Tax
MINER	Ministry of Ecology and Natural Resources of Ukraine		

CONTENTS

Acknowledgements	4
Acronyms	5
Executive summary	7
1. INTRODUCTION	8
2. SUMMARY OF FINDINGS	10
3. AZERBAIJAN	12
3.1. GE and SCP framework conditions	12
3.2. Along the life cycle	13
3.3. Key consumption sectors	14
3.4. Instruments	15
4. ARMENIA	16
4.1. GE and SCP framework conditions	16
4.2. Along the life cycle	17
4.3. Key consumption sectors	18
4.4. Instruments	19
5. BELARUS	20
5.1. GE and SCP framework conditions	20
5.2. Along the life cycle	21
5.3. Key consumption sectors	22
5.4. Instruments	23
6. GEORGIA	25
6.1. GE and SCP Framework conditions	25
6.2. Along the life cycle	26
6.3. Key consumption sectors	27
6.4. Instruments	28
7. REPUBLIC OF MOLDOVA	29
7.1. GE and SCP framework conditions	29
7.2. Along the life cycle	30
7.3. Key consumption sectors	30
7.4. Instruments	31
8. UKRAINE	32
8.1. GE and SCP Framework conditions	32
8.2. Along the life cycle	34
8.3. Key consumption sectors	35
8.4. Instruments	37
ANNEXES	39
Notes	44

EXECUTIVE SUMMARY

Mainstreaming sustainable consumption and production (SCP) policy into national development plans, legislation and regulatory frameworks is a key component of the “Greening Economies in the Eastern Neighbourhood” (EaP GREEN) programme. Its core objective is to support six countries in Eastern Europe and the Caucasus (Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine) in their transition towards a green economy (GE) by decoupling economic growth from environmental degradation and resource depletion.

This report takes a holistic approach to reviewing existing SCP-related policies, which contributes to the shift towards green economy in these six countries. This approach allows for the identification of policies that address economy as a whole, and that are aimed at specific stages of the production-consumption lifecycle, or that are related to the three key consumption sectors of food, housing and transport.

It is reassuring to see that SCP policies in Eastern Europe and the Caucasus countries are emerging from existing sustainable development and environmental protection policy frameworks. However, there is still a significant effort required to ensure that the drive for economic growth and improved quality of life in these countries does not come at the expense of unsustainable consumption and production patterns.

All six countries have national policies and/or strategies that support the implementation of SCP, that is: GE and SCP concepts and objectives are integrated and prioritised in formally approved strategies for environmental and sustainable development.

However, none of the six countries had yet adopted, nor indeed developed, dedicated GE and SCP strategies that could have spurred the transition to a greener economy.

Given the broad remit of GE and SCP policies, it is not surprising that the responsibility for their implementation is currently spread over multiple central executive bodies covering economic management, the use of natural resources and the environment, and housing and communal services and transport. As such, all countries currently lack a central coordinating body or focal point for GE and SCP issues. The establishment of such an entity in each country could smooth the transition to green economy and help avoid and resolve conflicting legislation, incentives and areas of authority.

On the local level, Local Agenda-21 actions often include SCP related components. In Armenia and Belarus, SCP components also appear in local environmental protection action plans. All six countries also actively participate in international programmes on specific aspects of SCP implementation, for example, on the issues of food safety or air quality.

Only a few economic incentives are currently in place that encourage sustainable consumption and production which limits progress towards GE and SCP goals in many sectors. There also appears to be a difficulty in coordinating efforts between different levels of government – with weak enforcement of the participation of local authorities in the implementation of GE and SCP policy. These problems could also be addressed during the development of dedicated action plans and strategies.

1. INTRODUCTION

This report presents the findings of a study that aimed to identify the Sustainable Consumption and Production (SCP) policies and initiatives in Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine that support a transition to a Green Economy (GE).

The six countries of the European Neighbourhood and Partnership Instrument (ENPI) possess a bounty of natural resources, unique eco-systems and natural capital. These countries also, however, have a lasting industrial legacy from the Soviet era, as well as aspirations towards increased development, both of which must be managed in a way that can protect and preserve – but also capitalise on and utilise – the natural environment. A transition to a green economy involves the recognition that fostering the growth of green sectors and greening the brown sectors provide significant opportunities for economic growth and jobs. One of the key approaches to support this is to transform the way we produce and consume goods whilst protecting the environment, and creating and increasing the economic and social value of the system as a whole.

This report has been developed under the “Greening Economies in the Eastern Neighbourhood” (EaP GREEN) programme. The EaP GREEN programme runs from 2013 to 2016 and is being implemented by the Organisation for Economic Co-operation and Development (OECD), in cooperation with the

United Nations Economic Commission for Europe (UNECE), the United Nations Environment Programme (UNEP), and the United Nations Industrial Development Organization (UNIDO). The programme is designed to assist the six European Union’s (EU) Eastern Partnership (EaP) countries in their transition to a green economy. The programme is financed by the European Commission (EC), the four aforementioned implementing organisations and other donors.

The information contained in this report comes primarily from questionnaires sent to representatives in each country and non-governmental organizations, as well as from extensive desk research. The questionnaire survey focused on SCP policy development, while elements of green economy specific policies are addressed in the context of cross-cutting and overarching policy framework. Based on the information gathered, the project team has undertaken a SWOT and a gap analysis to enable a more thorough understanding of the status of SCP policy making in the region, and to identify where future effort is best focused.

1.1. A FRAMEWORK FOR SCP POLICY ANALYSES

Policies and initiatives that foster SCP, which lead to the transition to a green economy, can be found in a wide range of policy domains – environmental, social and economic – and can also target specific utilities and sectors, or specific parts of the

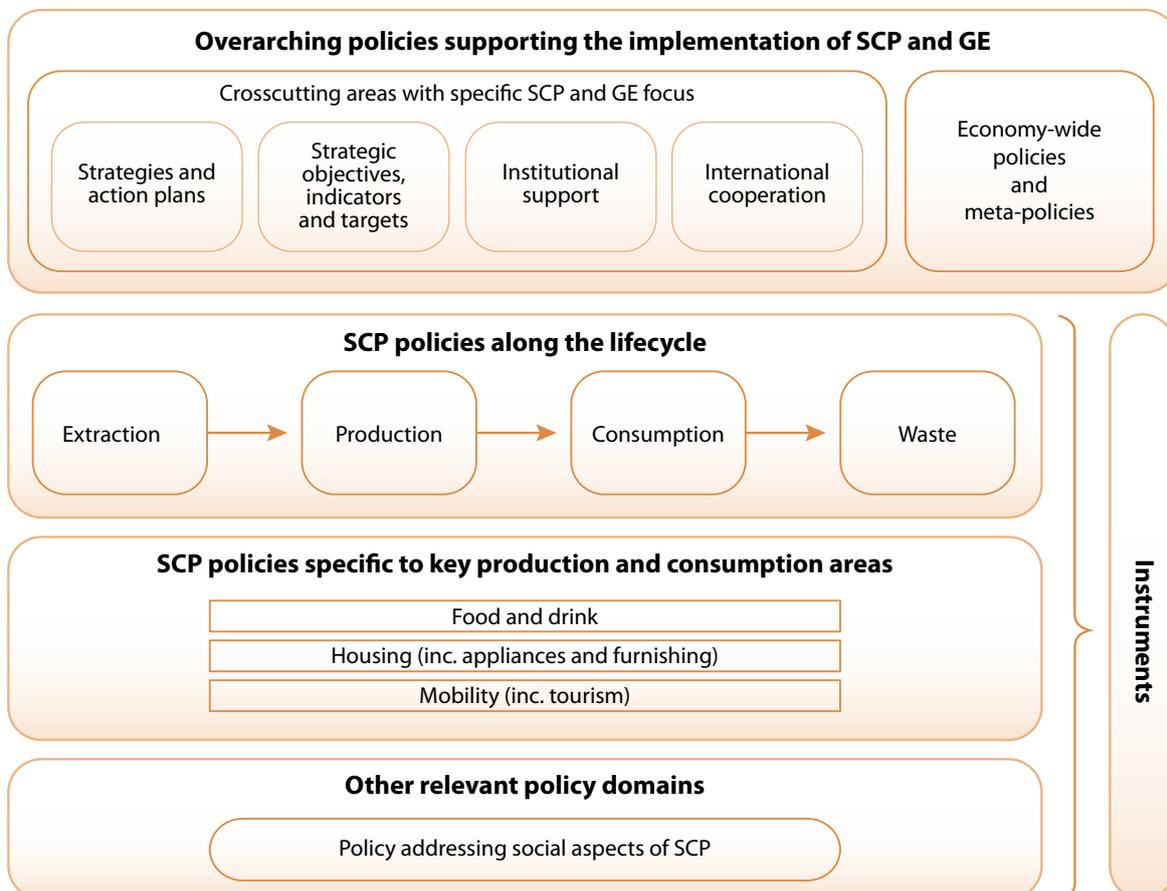


Figure 1: Broad SCP policy framework

production-consumption lifecycle. The instruments employed are also varied, ranging from soft information measures, to outright bans on materials, products or activities.

The scoping and research for this report follows the SCP policy framework that incorporates policy domains and policy tools. This framework takes as its point of departure the overarching, economy-wide policies, plans and programmes that set the scene for SCP with view of transition towards GE, including the stated aims, objectives and targets contained therein, and the institutional structures that support these policies and actions. The framework also identifies SCP policies addressing specific phases of the production-consumption lifecycle, and the types of instruments that can be used to effect change. Food production and consumption, and the use of housing and transportation generate a majority of the environmental impacts from economic activity, and so policies directly addressing these sectors are important for GE and SCP.

While such a framework is useful for managing the scoping of SCP policies, it is neither prescriptive nor exclusive. The following diagram provides a useful overview of the policy areas for SCP, not all of which are covered in this report.

GE AND SCP FRAMEWORK SETTINGS

Overarching strategies and action plans, together with their implementing policy documents, provide the economy-wide GE and SCP framework conditions. These include plans for sustainable development, SCP or GE action plans and strategies, and environmental protection plans. These strategies and plans often contain goals and objectives, and may be supported by specific quantitative or qualitative targets.

In addition, the institutions that develop and support these strategies and plans and that are responsible for overseeing its implementation and revision, as well as developing other forward looking strategies, play a vital role in the transition to GE and SCP.

ALONG THE LIFECYCLE

Policies and action plans promoting SCP can address specific parts of the product lifecycle. These should be directed at: the use and management of raw materials; the production process itself; public or private consumption; and waste management. Raw material extraction, production processes and waste management are relatively mature policy areas, where there are clear environmental and human safety drivers for policy development. Policies surrounding consumption and, to a lesser extent, production, tend to be less mature and less common.

KEY CONSUMPTION SECTORS

Food consumption, and the provision and use of housing and transport services are key activities that are responsible for a significant share of overall environmental impact. They also have well-developed policies that can directly influence their sustainability. In the food sector, there are overarching strategies and action plans, as well as policies specifically targeting agriculture, retail and consumer oriented actions. In housing and transport, sustainable consumption policy tends to focus on energy use and energy efficiency, but may also cover construction activities (for the provision of housing), and air pollution (in the case of transport).

INSTRUMENTS

A variety of implementing mechanisms are available to policy makers, although the efficacy, suitability and often the political acceptability of these mechanisms depend strongly on the context. This report looks at economic mechanisms such as taxes and levies, regulatory instruments such as bans, information-based instruments such as product labelling, investments in sustainable infrastructure and business (primarily in terms of energy infrastructure), and support for research in the areas of GE and SCP. Additional tools, including voluntary agreements within sectors or between cross-sector actors, can also be useful where tougher regulatory or financial mechanisms may be less acceptable.

2. SUMMARY OF FINDINGS

The key findings presented below are drawn from a SWOT and a gap analysis that were conducted based on information gathered during the scoping process, country questionnaires and desk research. As such, they are not exhaustive, and reflect the information that was available at the time. The full SWOT analysis and gap analysis tables can be found in Annex 1 and Annex 2.

STRENGTHS

Despite a comparatively late start to policy making in the region aimed at bringing about a green economy and fostering SCP, all six countries had policies and/or strategies addressing GE/SCP elements. These strategies tend to be included within formally approved environmental and sustainable development strategies, and include defined objectives together with robust statements placing the implementation of GE and SCP as a top priority within national policy objectives. Further, responsibility for implementing GE and SCP policies, has, to varying degrees, been placed within the competence of the central executive bodies responsible for economic management, the use of natural resources, housing and communal services.

The statistical bodies in each of the six countries are being strengthened, and further integration of information systems in policy making and policy evaluation is also ongoing; enabling assessment of the success of a policy. Simultaneously, active development of a set of specific sustainable development indicators is underway in all six countries albeit to varying degrees (See the tables in Annex 3 for further information on availability of a national statistical system for TFSD Sustainable Development Indicators in the six countries).

Most states incorporate SCP tasks in their Local Agenda-21 actions and, in the case of Armenia and Belarus, in local action plans for environmental protection. All six countries have local Aarhus Centres that provide information to support SCP activities. All six countries also actively participate in international programmes on the specific aspects of the implementation of SCP, such as on food safety and air quality. Participation and involvement of NGOs in the SCP policy planning process is also assessed to be a strength in the region.

WEAKNESSES

None of the countries in question yet has a comprehensive policy document defining the strategy for green growth and/or sustainable consumption. Where these issues are addressed, it is within the context of wider environmental or sustainable development strategies. Similarly, while responsibility has been designated for specific actions related to SCP, none of the six countries has a coordinating body to act as a focal point for action and implementation. While there is often a strategic objective to shift toward the GE and SCP, the elaboration of economic mechanisms and incentives for SCP is often lacking,

which limits successful implementation of these strategic objectives. This is also compounded by the lack of effective regulation to ensure the engagement of local authorities in policy implementation.

Apart from Armenia and Belarus, the countries also lack a set of specific sustainable development indicators that measure the success of a green policy. Despite the presence of Aarhus Centres in this region, there is still inadequate provision of information, largely because there is no unified system providing information on state and regional policies, and on best practices for achieving sustainable production and consumption and green economy. There is also a significant lack of funding for and investment in research and development in the fields of environmental protection, eco-innovation, progressive waste management, etc. At a broader social level, there is still insufficient public involvement in resource management and the implementation of policies and strategies for sustainable consumption and production.

THREATS

Because the GE and SCP are currently addressed through disparate policy documents, existing policy in different policy domains can be contradictory in nature, making current legislation potentially counterproductive. Similarly, a lack of coordination between responsible bodies can lead to contradictions and wasted time and effort. It is difficult to adequately assess the success of GE and SCP policy elements, or the current state of environmental, social and economic factors that GE and SCP policy would seek to change. There is little economic interest from businesses or consumers for sustainable consumption and production, and little opportunity for public participation in decision making.

OPPORTUNITIES (WAYS FORWARD)

The absence of dedicated policy documents and institutional bodies means that there is plenty of scope for development, and implementing both a system for more robust institutional focal points and developing dedicated GE and SCP policies that can be mutually reinforcing. The development and approval of the state systems of sustainable development indicators can also incorporate indicators on the success of SCP policy. These actions should also be linked to the establishment of government portals providing information on state and regional SCP policies, and best practices in implementation.

Tightening of the legislative regulation to ensure participation of local authorities in the implementation of SCP policy can also potentially go hand in hand with the development and implementation of economic mechanisms and incentives for SCP. Similarly, there is also scope within these actions for integrating mechanisms to ensure public participation in resource management and decision-making.



Photo © iStock/Berezko

KEY GAPS TO BE ADDRESSED IN THE IMPLEMENTATION OF SCP POLICY

- Lack of dedicated policy
- Lack of dedicated institutions or coordinating bodies for SCP
- Lack of indicators and lack of integration of the indicators into national policy
- Lack of implementing tools, particularly economic incentives
- Lack of information to support businesses and consumers
- Lack of broad participation in the decision-making process
- Lack of funding and investment in research, development and implementation

KEY ACTIONS TO BE TAKEN IN THE IMPLEMENTATION OF GE AND SCP POLICY

- Develop dedicated strategies and action plans
- Establish government focal points
- Develop, approve and monitor indicators
- Develop regulation and/or other tools to ensure participation of local authorities in policy implementation
- Develop, implement and consolidate economic incentives
- Develop and implement information portals
- Develop formal procedures for public participation in decision-making
- Earmark public funds for environmental protection, eco-innovation and progressive waste management.

3. AZERBAIJAN

3.1. GE AND SCP FRAMEWORK CONDITIONS

GREEN ECONOMY AND SUSTAINABLE CONSUMPTION AND PRODUCTION POLICIES, PLANS AND PROGRAMMES

The beginning of the present phase of the implementation of sustainable development principles was established by the Decree of the President of Azerbaijan, dated 29th of November 2011, "On the preparation of the concept "Azerbaijan 2020: a vision of the future – for the period until 2020". This envisages Azerbaijan will build its economy on sustainable development principles and involves a comprehensive unification of economic, social and environmental components.¹

The main legal documents for the implementation of GE and SCP are:

- The National Strategy for sustainable socio-economic development of Azerbaijan for the period until 2020.
- State programmes defining activities of national executive bodies (ministries, agencies, local authorities) and the target indicators for their effectiveness. Currently, the following programmes are active:²
 - State programme of sustainable development and poverty reduction for the period 2008 to 2015;
 - State programme to provide the population with food products and food security;
 - State Programme of development of small and medium enterprises in the Republic of Azerbaijan (2014-2018);
 - State Programme for development of machine-building industry in the Republic of Azerbaijan (2014-2018);
 - State Programme of development of agrarian sector in Azerbaijan (2014-2018);
 - The Concept of the demographic development of Azerbaijan;
 - State Programme for development of tourism for the period of 2014 to 2018 in Azerbaijan;
 - State Programme for socio-economic development of Azerbaijan (2014-2018)³
 - National programme socio-economic development with a sustainable environmental situation;⁴
 - State programme for the "Restoration and augmentation of forests in Azerbaijan";
 - The programme for the conservation and sustainable use of biological diversity for the period of 2014 to 2020;
 - Implementation Strategy for implementation of the United Nations Convention to Combat Desertification / Land Degradation;
 - Strategic Plan for the Implementation of the Cartagena Protocol on Biosafety for the period of 2014 to 2025;
 - State programme for the sustainable use of winter and summer pastures and hayfields in Azerbaijan;⁵
 - The Programme for the use of renewable and alternative energy sources and strengthening the technological capacity of the national economy is at the agreement⁶ stage.

Currently the country implements over 60 state programmes that envisage solutions to social and environmental issues.

Azerbaijan also has a comprehensive set of policies linked to development, sustainable development and economy-wide and sector specific environmental protection. However, they do not appear to address SCP or GE issues directly.

MAIN OBJECTIVES, GOALS AND TARGETS IN RELEVANT PLANS, PROGRAMMES AND POLICIES

The main objectives of the implementation of green economy and sustainable consumption and production policies are defined in the Concept for Development: "Azerbaijan – 2020: View for the Future".

The **long-term goals** of the **Concept for Development** are:

- formation of an economic model based on the effective state regulation and market relations;
- achievement of sustainable socio-economic development;
- improvement of the structure of the economy
- the development of the oil sector;
- support scientific capacity and innovation;
- improvement of transport infrastructure, especially of transit and logistics;
- balanced regional development;
- environmental protection.

The **short-term targets**, indicated in chapter 11 "Protection of the environment and environmental issues" of the **Concept for Development** are:

- protection of biodiversity;
- neutralization of the negative impacts of the energy sector on the environment;
- elimination of pollution of the sea and its waters;
- increase in forest area as a share of the total land area;
- introduction of national standards, consistent with European standards for the emission of pollutants;
- re-use of waste, decontamination, disposal, and the introduction of low-waste and waste-free technologies;
- prevention of desertification, rehabilitation of lands made unusable as a result of large-scale industrial and mining facilities, improvement in agricultural land use;
- installation of wastewater treatment plants in residential areas.

Azerbaijan has not yet developed a system for measuring sustainable development. Thus, in the concept "Azerbaijan – 2020", specific quantitative targets and quantitative indicators of a general nature are used. Specific quantitative targets are, for example, the achievement of GDP per capita of US\$ 13,000 by 2020, the volume of exports of the oil sector per capita (US\$ 1,000), an average annual real GDP growth rate of oil (7 per cent per year) population growth (1.1 per cent per year).

Quantitative indicators of a general nature can, however, be devised: for example, the amount of energy and emitted carbon dioxide used to produce one unit of GDP in Azerbaijan should be equal to the corresponding figure for OECD countries.

The sustainable development indicators (SDIs) proposed by the Joint Task Force of the UNECE/Eurostat/OECD for measuring sustainable development are being used.⁷ Data for using these indicators is available within the national statistical system.

- Themes covered in full (all of the indicators in these themes are measured) are: "Health", "Housing", "Labour Activity", "Energy Resources", "Water" and "Physical capital"
- Themes with more than half of the indicators measured are: "Consumption and Income", "Air Quality", "Education" and "Institutions"
- Themes with 50 per cent or fewer indicators measured

are: "Physical Security", "Non-energy resources", "Land and ecosystems", "Climate", "Knowledge Capital" and "Financial capital"

INSTITUTIONAL SUPPORT/RESPONSIBILITY

No special institutional structure to develop and ensure the implementation of green economy policies and the preparation of measures to strengthen the technological capacity of the national economy has been created. Rather these issues are covered by the following institutions:

- Ministry of Economic Development;
- Ministry of Ecology and Natural Resources;
- State Agency for the use of renewable and alternative energy sources.

3.2. ALONG THE LIFE CYCLE

EXTRACTION OF RAW MATERIALS

Nature resource management in Azerbaijan is carried out on the basis of permits (including permits for emissions of pollutants into the air, integrated environmental permits, permits for storage and disposal of waste products, and permits for special water use). Consistent work on the application of international standards in a timely manner allows the country to participate in the global market, and to ensure the reduction of the burden on the environment and a more efficient use of natural resources.

PRODUCTION

Azerbaijan uses a system of permits for activities that are approved by the Department of State Ecological Expert Studies

SUSTAINABLE PRODUCTION IN THE REGION

The Surakhan solar power plant is based on six hectares and consists of 8,000 solar cells with the capacity of 12,000 Kilowatt-hour per day, and with another 4,000 solar panels to be added in the future. It should be noted that up to now existing stations operating on alternative energy sources will have produced more than 4 million kilowatt / hours of electricity, which is equal to a saving of approximately 1.3 million m³ of natural gas. The station was designed to use local raw materials and technological equipment produced in Azerbaijan. Azerbaijan is planning to develop the use of alternative and renewable sources by 2020, and to increase the capacity of the power station up to 2,500 megawatts. This will enable an output of more than 11 billion cubic meters of natural gas.

In addition, a number of projects to boost the renewable energy sector in Azerbaijan are planned. These include the Buzovna ecovillage project which will see the installation of solar panels in the village of Buzovna which are designed to improve energy access and their environmental situation.

Furthermore, a pilot project, Qobustan 2020, envisages the creation of a "smart grid" that unites all settlements within the Qobustan district (212 km of transmission lines and 94 transformers) to provide uninterrupted and high-quality distribution of electricity with the reduction of losses and an increase in energy efficiency. This project will also provide an opportunity to put into operation a conduit for irrigating 50,000 hectares of land.

of the Ministry of Ecology and Natural Resources. At the same time, authorization for large projects is based on internationally recognised methodology and procedures for conducting environmental impact assessments (EIA), and is integrated into the national regulatory system for decision-making.

The country is currently developing environmental criteria for products and services that are available on and produced by the market. A working Group was established under the State Committee for Standardization. The basis for developing such criteria is provided through a European Union Directive, and support from the United Nations Development Programme (UNDP) to establish environmental criteria for products and services.

CONSUMPTION

There has been widespread discussion in Azerbaijan on state procurement of "green" goods, works and services, and priority purchase by the national power suppliers of renewable energy via the respective "green tariffs". Azerbaijan is also considering the implementation of incentive-based measures (financial, credit, depreciation, etc.) for the introduction of new technologies aimed at maintaining and improving environmental quality and to attract domestic and foreign investment. It is also seeking international technical assistance to strengthen the technological capacity and "green" principles of the national economy. However, specific decisions are still pending.

In accordance with the state programme for sustainable regional development for 2014–2018, technical regulations are being developed that address the requirements for the production and labelling of organic products. At the same time, financial and fiscal support mechanisms (e.g. subsidies) for entities involved in the production of organic products are being developed.

WASTE

In 2012–2014, with the support of the World Bank, the Ministry of Economic Development approved the Development of strategies and policies for waste management project. Its respective background documents are currently being prepared. Key goals and objectives of the project include: the development of the state programme for collection (salvaging) and processing of secondary raw materials; creation of additional facilities for processing of tyres and other rubber materials; creation of facilities for processing of complex household appliances and other mechanisms; creation of a network of regional landfills for solid household waste disposal and a network of platforms for their initial separation.

Regulations are currently being developed to establish new (non-tax) mechanisms for implementing the principle of extended producer responsibility for waste that is convertible into consumer goods (complex household appliances, waste oil, etc.), and the costs that manufacturers incur for their collection and use.

In 2012–2014, the Ministry of Emergency Situations implemented a project to clean land heavily contaminated with waste from iodine-bromine production (16.2 hectares of land is contaminated with radionuclides). The entire amount of contaminated radioactive waste and earth (262.9 tonnes) was

buried in hazardous industrial waste landfills. The cleaned area was remediated and planted (bio-remediation method).

The government has designated waste management as a priority. In addition to actions taking place in Baku, there are waste management projects in the cities of Sumgait (development of a landfill for hazardous waste), Ganja (reconstruction of a water supply and waste water treatment plant), including identification of areas of waste and nearby sites as sources of pollution.

In Azerbaijan, the centralized collection of municipal solid waste only takes place in the big cities – Baku, Ganja, Sumgait, Ali Bayramli and Nakhchivan – and partly in the regional centres. Municipal waste management in Baku is undertaken by the companies Kasko and UP Azerbaijan and the local authorities. The Baku plant for incineration of municipal solid waste has a capacity of 500,000 tonnes per year and is capable of generating around 27 MW of electricity. The Balakhan plant for sorting of municipal solid waste has a capacity of 200,000 tonnes of household waste. These projects were financed by the Azerbaijani government.

Following the Decree of the President of Azerbaijan, December 28, 2011, aimed at developing a “green economy” and recycling of household waste, the Balakhani industrial park was established in Baku. It fosters entrepreneurship by offering companies tax incentives for a period of seven years.

The company Tamiz Shahar Ltd was created in 2009 to improve the ecological state of the city of Baku, in accordance with the Decree of the President of Azerbaijan on the “Improvement of Solid Household Waste in Baku city”. The company is working to organize the waste management system, and to dispose of waste in accordance with modern standards. The enterprise’s production capacity is the highest of its type in Eastern Europe and the Union of Independent States.

Tamiz Shahar Ltd also manages and operates the Balakhani industrial park. In December 2013 Tamiz Shahar signed a memorandum of understanding (MoU) on the establishment of a venture with the Turkish company Metem Turizm Tekstil İnşaat Ticaret Yatırım A.Ş. to obtain oils derived from waste-tire pyrolysis. It has also engaged a company that recycles plastic bags, KSC Qrup, and Az.Ekol, a company that recycles PET bottles. Overall it has signed agreements with six companies wishing to establish a business in the industrial park. The park provides for a variety of processing services for packaging, electrical and electronic waste and industrial batteries⁸

CLEAN CITY

The main objective of the Tamiz Shahar – “Clean City” – company⁹ is to address the problem of ecological solid waste management in Baku and the Absheron peninsula, which has a population of over 4 million. Since its inception, the company has cleaned and restored the main core dump in Balakhani. A modern solid household waste (SHW) landfill that meets all the environmental requirements was built in the area, and a plant for the separation of solid waste and municipal solid waste, as well as an incinerator plant with a gas turbine power plant were commissioned. Since 2010, 17 illegal SHW landfills were closed down in the region of Absheron. Following a clean-up, technical specifications for construction of another two modern landfills and sites for pre-separation of solid waste in several areas of the peninsula were prepared. Work has begun on building the infrastructure necessary for separating recycled waste.

Tamiz Shahar Ltd is a joint venture with the state agency for the provision of services to citizens and social innovation under the President of Azerbaijan. On December 23, 2013 an agreement on mutual cooperation between Tamiz Shahar and Service ASAN was signed, with the aim of creating a unified system of solid waste management, separate collection and disposal of paper, plastic and food waste in all offices of Service ASAN.¹⁰

3.3. KEY CONSUMPTION SECTORS

FOOD

In line with the law “On environmentally clean agricultural production” (“On organic farming”) (2013), a number of activities are being carried out to “green” food production. These include the creation of innovative agricultural pilot facilities – modern “green greenhouses” – and the use of drip irrigation and other modern technologies. From 2012 to 2014, three modern commercial dairy and meat farms were commissioned. In addition, quality control procedures for animal feed production have been introduced to ensure that only feed substances permitted by the Ministry of Agriculture and in accordance with the established procedures are used. The above law also calls for the establishment of a network of specialized farmer stores and “green” shops, which will operate in Baku’s districts and Azerbaijan’s main cities on a permanent basis.

HOUSING

In terms of housing, power systems in Azerbaijan are being restructured. 90 per cent of the population and other consumers are being provided with modern meters, allowing for an 8–12 per cent reduction in power consumption. Losses in transmission of electricity have been significantly reduced and fuel use for the generation of 1 kilowatt-hour (kWh) of electricity has decreased by 35 per cent.

The urban development sector has adopted new standards for energy efficiency and insulation of buildings and complexes. Modern residential complexes use motion sensors and light sensors, and lighting in public recreation and traffic lights are powered by solar panels.

In the cement industry, efforts have been made to modernise and improve plant efficiency. Since 2010, this has included the active promotion of the “dry” method of cement production, and the promotion of advanced technological solutions based on international best practice. This has been accompanied by the modernization of existing cement plants and the commissioning of three new modern ones (the JSC Garadasky Cement Plant, JSC «Holcim Azerbaijan», JSC «AkkordKazakh»). The introduction of new technologies has led to generalized energy costs per tonne of cement produced that are 5.7 per cent; 9.4 per cent lower than that achieved by previous production methods.

Several factories for the production of construction materials that meet the new environmental standards for energy consumption and are close to meeting “green” industry standards have also been built. For example, a recently commissioned factory for flat glass production has reached an energy consumption level during its operation comparable to that of its global peers (less than 1,300 kcal/kg of glass, with the minimal consumption at similar facilities being 1250 kcal/kg).

To promote the use of alternative and renewable sources of thermal energy for heating and hot water supply, technical solutions for geothermal heating of residential and public buildings using heat pumps were developed. Along with heating buildings during the cold season, these solutions provide the ability to use the heat pumps to provide cooling in the summer as well hot water. Another innovation in energy efficiency is the use of energy piles, which are incorporated into a building's foundations, to gather and store heat from the underlying soil, which can then be used to both heat and cool buildings.

TRANSPORT AND TOURISM

The country has adopted the Euro-2 standard (2010), concerning the import and domestic production of cars and trucks. In 2014, a final decision was taken on an expedited transition to the Euro-4 standard. Vehicle fleets are being upgraded, and the proportion of vehicles that meet the latest environmental standards is increasing. In terms of noise pollution, noise-reduction screens and protection grilles are being installed during the construction and renovation of road barriers. During the period 2010–2014, all highways were equipped with noise-reduction fencing, barriers to prevent animals from straying on to roads, and animal migration corridors. To reduce air pollution, plants are being planted alongside roads.

By Presidential Decree, 2011 was declared "The Year of Tourism", which provided a powerful impetus to the development of the industry. The state programme for tourism development in Azerbaijan in 2010–2014¹¹ envisages an intensive development of "green tourism", and highlights that one of the key elements of conserving protected areas is the development of environmental tourism. Within the framework of that programme, the Ministry of Ecology and Natural Resources has approved special routes and services for tourists for all protected areas, primarily for the National Parks. In addition, in order to manage the impact of tourism and recreational activities in protected areas in 2012, standards of permissible load were approved.

3.4. INSTRUMENTS

ECONOMIC

Encouraging the introduction of renewable energy sources is based on the 2009 Law of Azerbaijan's "Renewable Energy Sources".¹² In 2012, the government set up a company, GKIIV, to manage the sources of alternative and renewable energy. GKIIV participates in the: development of public policy, legislation and legal documents on the development of the relevant area and infrastructure; puts forward proposals on regulatory mechanisms for use in the relevant fields of energy generation, design, construction, operation of facilities, as well as activities related to the production of the equipment required for the above purposes; and monitors the implementation of activities in the respective sphere.

Tariffs for energy produced from renewable energy sources and purchased by state energy suppliers are established at the same level as those of electricity tariffs for industrial and similar consumers with a connected load capacity of up to 750 kVA with an application of increasing coefficients, differentiated according to the type of renewable energy source during the first ten years from the date of commissioning of the plant for the use of renewable sources.¹³ Also an environmental tax and a tax on the extraction (removal) of resources are applicable.

To encourage the use of renewable energy, its purchase price for ten subsequent years of operation is at a discounted price established in accordance with the law.¹⁴

The National Commission for the State Energy Regulation (NERC) decided to reduce tariffs on energy produced from alternative sources – "green tariffs" – in December 2014 by 1.3 per cent to 122.77 – 505.09 cop. /KWh (excluding VAT).

REGULATORY

Nature resources management in Azerbaijan is carried out on the basis of permits (including permits for emissions of air pollutants, integrated environmental permits, permits for storage and disposal of waste products, and permits for special water use). Consistent work on the application of international standards in a timely manner has allowed the country to meet the general baseline rules applicable in the global market, and to ensure reduction of the burden on the environment and a more efficient use of natural resources.

In terms of environmental protection, Azerbaijan has 44 national standards in effect, of which more than 30 are in the process of being harmonized with international standards. In line with the government's 2012-2014 standardization plan for the environment, eight national standards were developed, including five standards identical to ISO standards.

A legal and regulatory framework has been established, and integrated environmental permits are being introduced as an integral part of the system of state regulation of the harmful effects on the environment in order to simplify administrative procedures, and promote the application of best available practice for integrated prevention and control of environmental pollution.

INFORMATION

The National Environmental Monitoring System provides for the collection, generalization and analysis of systematic data on the state of environmental components. Cross-border monitoring and exchange of information, especially within the framework of cross-border organizational cooperation, is being carried out.¹⁵ The system comprises 12 organizationally independent types of monitoring. They operate on the same principles and are based on an ordered system of collection, processing, analysis and evaluation of information. The national monitoring system has an extensive, scientifically substantiated observation network consisting of more than 1,000 components included in the National Register of observation points of the National Environment Monitoring System.¹⁶

The monitoring system includes eight specialized laboratories equipped with modern analytical equipment. Air quality monitoring is based on the nine automatic observing systems located in industrial cities. The exchange of environmental information is carried out on a mandatory and free of charge basis between the environmental monitoring system, public health monitoring (MOH) and the Disaster Monitoring Constellation (MES).

RESEARCH

A number of scientific (research and development programmes) are carried out within institutes focused on ecology and natural resource research, as well as in plans of academic institutions under the National Academy of Sciences based on the State's comprehensive, target-oriented research-and-development Natural Resources and the Environment programme.

4. ARMENIA

4.1. GE AND SCP FRAMEWORK CONDITIONS

GREEN ECONOMY AND SUSTAINABLE CONSUMPTION AND PRODUCTION POLICIES, PLANS AND PROGRAMMES

The main documents that reflect the plans and programmes for the implementation of the green economy and sustainable consumption and production in Armenia are:

- “Armenia Strategic Programme for 2014-2025 Prospective Development”.¹⁷ (or Armenia Development Strategy, ADS). This document reflects basic strategic development agenda of the country and incorporates strategic vision and policy framework for environment and natural development.
- National Action Plan for Environmental Protection (NEAP). Armenia has completed the NEAP-2, envisaged for 2008 to 2012, and is currently preparing the NEAP-3.
- Local Agenda for the 21st century and local action plans for the protection of the environment. Those documents have been adopted in four cities in Armenia.
- National Water Programme (“Water” Program): This sets out 31 steps towards the effective management and maintenance of water resources and systems in Armenia. The time frames of the national water policy implementation are short-term (2001 to 2010) medium-term (2010 to 2015); Long-term (2015 and later) - for the purposes of water resources and management and servicing systems. The following legislation has been adopted:
 - Water Code of Armenia (June 4, 2002)
 - The Law “On the fundamentals of the national water policy” (June 3, 2005)
- National Programme for Energy Conservation and Renewable Energy, resolution by the government of Armenia “On the Strategy of development of the energy sector in the context of economic development in Armenia” (adopted in 2005).
- The Action Plan of the Ministry of Energy, developed on the basis of the provisions of the national security strategy of Armenia.
- Seven standards for energy consumption and energy efficiency in apartment buildings and public buildings, harmonized with the recommendations of the European Committee for Standardization and synchronized with the Strategic Development Programme of hydropower engineering in Armenia.
- At present, a course “Energy and use of resources” is included in the list of academic curricula for training of specialists in the respective areas, beginning from the 2010-2011 academic year.
- The National Action Plan for adaptation to climate change has been prepared.
- The Clean Development Mechanism, designed to promote economic development and the reduction of greenhouse gas concentrations is reflected in the following documents:
 - Action Plan to reduce pollutant emissions from motor vehicles
 - Strategy for the sustainable development of agriculture of Armenia for years 2010 to 2020
 - The National Strategy and Action Programme for the development of protected areas in Armenia (NSAP)

Armenia does not have a special programme for the implementation of GE and SCP policies. However, the environmental section of the Armenian Development Strategy¹⁸ calls for financial instruments to be used to transition to green economy. Policy priorities in this area are the effective

management of water resources, energy conservation and renewable energy, and reduce pollutant emissions from motor vehicles. Local action plans for the protection of the environment can be noted as a positive experience.

MAIN OBJECTIVES, GOALS AND TARGETS IN RELEVANT POLICIES, PLANS AND PROGRAMMES

The main strategic development goals, targets and indicators are defined in the respective chapters of the **Armenian Development Strategy**. The ADS clearly states that the main long-run development issue is the increase of the population’s material and non-material welfare. The strategy outlines four priorities:

- Expansion of employment
- Human capital development
- Social protection system improvement
- Institutional modernization of public administration.

A list of environment-related goals outlined in the ADS include:

- Development of inbound tourism
- Improvement of water supply and irrigation systems
- Further development of nuclear energy, the development of small hydro power plants use of renewable energy sources
- Protection of biodiversity
- Improving the electronic accounting system for emissions, ranking companies by their impact on the environment
- The creation of a flexible system of financial and economic incentives that promote the implementation of “green” technologies and ecological principles of corporate governance
- Introduction of a differentiated tax system to encourage agriculture to prevent land degradation

Armenia has the most developed system of measuring sustainable development in the region. Its national policies use the SDI/SDP indicators proposed by the joint UNECE/Eurostat/OECD Task Force on measuring Sustainable Development (TFSD).

The system of indicators for monitoring and control of the success of the policy has been defined in the Strategic Plan. The main criteria for evaluating the success of a (draft) policy for clean development are the following:

- Environmental criteria:
 - Improvement of the quality of air and water
 - Effective use of natural resources
 - Preservation of biodiversity
- Economic criteria:
 - Development of renewable energy sources
 - Energy conservation.

The Sustainable Human Development Index has been adopted, which includes an environmental index for the Human Development Index (HDI). Indicators that make up the environmental index are divided into two groups:

- Group A indicators describe the state of the environment
- Group B indicators measure the impact of human activities on the environment

According to information obtained from the United Nations Economic Commission for Europe questionnaire, the statistical system of Armenia has data for 50 out of the 80 indicators proposed by the TFSD.

- Themes covered in full (all of the indicators in these groups are measured): "Consumption and Income", "Housing", "Air Quality";
- Themes with more than half of the indicators measured: "Health", "Education", "Labour Activities", "Institutions", "Energy Resources", "Water", "Climate" and "Financial capital";
- Themes with 50 per cent or fewer indicators measured: "Physical Security", "Non-energy resources", "Land and Ecosystems" and "Knowledge Capital";
- Themes not represented in the statistical system: "Leisure", "Trust" and "Physical capital".

INSTITUTIONAL SUPPORT/RESPONSIBILITY

No special body for the implementation of policies to ensure the implementation of the green economy and sustainable production and consumption has been created. The said activities are within the competence of the:

- Ministry of Nature Protection
- Inspectorate for Hygienic and Anti-Epidemic surveillance
- Ministry of Economy
- Ministry of Energy and Natural Resources
- Ministry of Agriculture

In 2014 the Inter-agency Steering Committee was established by the government to elaborate the "Post-Rio +20 national plan of actions". This is a multi-stakeholder body with relevant state bodies and NGOs represented in it, and is comprised of eleven thematic sub-committees.

4.2. ALONG THE LIFE CYCLE

EXTRACTION OF RAW MATERIALS

In the area of environmental awareness, Armenia attaches great importance to educational programmes. Since 2001, a school project on the use of energy and resources (SPARE) has been active. Since 2010 the programme has been on the list of school subjects and is taught as a separate subject.

PRODUCTION

Between 2007 and 2010, a number of government decisions were taken to make the management of air quality more specific and transparent, in particular, to regulate relations between the organizations with stationary sources of air pollution and the agency in the field of atmospheric air protection with respect to registration of business entities. This was reinforced by the introduction of an information system for air quality management in 2008. Business entities can now submit information electronically via the Ministry of Nature Protection website and find out their maximum permissible emissions.¹⁹

CONSUMPTION

The law and regulations on green agriculture determine how: products are assessed for conformity, how organic products are branded and labelled, who is responsible for managing the different areas, the procedures for conformity certification and to regulate other relations within the industry.²⁰

REGIONAL PROJECT: THE LUSAKERT BIOGAS PLANT

The goal of this project is to mitigate the animal waste related greenhouse gas (GHG) emissions from the Lusakert pedigree poultry plant, and to improve the management practices of animal waste in the farm. The impact on the environment due to the development of this project can be summarized as additional benefits:

- reduction of emissions of volatile organic compounds that cause odour;
- use of biogas collected as energetic resource for electricity production;
- reducing the risk of disease transmission by issuing vectors and airborne pathogens.

WASTE

Municipal Solid Waste (MSW) management is carried out on the basis of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the laws "On Waste" (2004);²¹ "On garbage collection and sanitation" (2011)²² and the Waste Management Strategy (2012).²³

WASTE MANAGEMENT – ENPI EAST

Armenia has implemented a project, Waste Management – ENPI East,²⁴ to develop practical recommendations to improve the operation of landfills by bringing existing operational practices in line with international best practice; including taking into account the principles and provisions of the relevant directives of the European Commission. Aspects such as the practice of co-disposal of waste, waste cover, cell design, site control, leachate and landfill gas control, etc., are being considered.

Waste management policy focuses on both municipal and industrial waste. Waste treatment is within the competence of the municipal authorities, with recovery and recycling of industrial waste being handled by separate companies. The Ministry of Health sets the standards for the collection of municipal solid waste. In the waste management area the responsibilities of the government, different ministries (Ministry of Nature Protection, Ministry of Health, Ministry of Territorial Administration) and the local authorities are clearly defined in the law "On waste" and other national laws.

In Armenia there are about 30 by-laws approved by the government to regulate the usage of chemicals and waste management.

Within the framework of the economic mechanisms of the Kyoto Protocol, five projects are at the coordination stage, and eight have been approved. Examples include the Noubarashen (absorption of fugitive emissions from landfills) and Lusakert (utilization of waste poultry from farms) projects, which were the first in the region that focused on reducing the negative impact of hazardous waste on the environment within the framework of private-public partnerships.

GREEN TECHNOLOGIES

In order to minimize harmful emissions in the Nubrashen landfill (which has a total area of 52.3 hectares), a joint Armenian-Japanese programme is being implemented for the processing of biogas and electricity production. The official parties representing the project are the Yerevan Municipality and the Japanese corporation, Shimizu. This will see the installation of a power generator with a 1.4 MW capacity gas engine, for processing the methane emanating from waste dumps.²⁵

In autumn 2008, the Lusakert biogas plant was opened – the first in Armenia and the Caucasus implemented within the framework of the Kyoto programme project for the production of biogas from organic animal waste. Biogas will contain up to 70 per cent of the methane produced by the fermentation of liquid waste from the production of poultry farms. The volume of electricity produced per year is forecast to be 16 Gigawatt hours (GWh).²⁶

4.3. KEY CONSUMPTION SECTORS

FOOD

In accordance with the Strategy for Sustainable Development of Agriculture of Armenia for 2010-2020 (2009), key priorities are:

- The development of organic farming
- introduction of advanced agricultural technologies, development of breeding and seed production
- ensuring the genetic diversity of agricultural crops
- ensuring food security and a minimum level of self-sufficiency in basic food commodities
- increasing the competitiveness of local agricultural production
- improving efficiency and effectiveness in the use of land.

Organic farming is regulated by the Law on Organic Agriculture (2008). The country has increased the number of certified organic farms, and the area of certified land expanded from 70 hectares in 2003, to 850-1000 hectares in 2010. Armenia also started exporting organic agricultural products in 2008.²⁷

ORGANIC CERTIFICATION: ECOGLOBE

A local private and independent body of organic certification, the ECOGLOBE company [<http://www.ecoglobe.am>], has received an international accreditation certificate by the German Accreditation Organization (DAkkS, former DAP). In 2009, the company was accredited by the National Organic Programme of the United States Department of Agriculture. Currently, manufacturers certified by ECOGLOBE may sell their products on the EU and the United States markets.

HOUSING

An urgent issue is bringing urban development technical standards in line with European standards, within the framework of the “Concept of urban development technical standards system” (2010) and the corresponding “Action Plan” (2010).

HOUSING AND ENERGY EFFICIENCY

In Armenia, a number of projects are being implemented to reduce the energy consumption and related greenhouse gas emissions from housing. These include:

- The “Improving energy efficiency in buildings” project (under the guidance of UNDP-GEF (Global Environment Facility), a global framework for the promotion of low-rise buildings which focuses on two thematic approaches: a) promotion and increased consumption of high-quality building codes and standards; and b) development and promotion of energy efficient technologies in construction, building materials and construction practices.
- The “Municipal Heating” project, which aim it is to reduce emissions from current heating and hot water supply practices in Armenian cities, laying the foundation for sustainable development of heat and hot water supply in those cities and a reduction in greenhouse gases.
- The “Greening the urban lighting” project, which recognizes that lighting is the second largest source of municipal greenhouse gas (following water heating), and accounts for about one third of municipality greenhouse gas emissions and 50 per cent of their electricity bill.
- In a number of Armenian villages, REC Caucasus organized the solar drying of agricultural products.

TRANSPORT AND TOURISM

In 2011, Armenia adopted an “Action plan to ensure the food security of Armenia for 2012-2014” which included a series of measures aimed at: strengthening the transport network through targeted and sustained investment in road construction; the provision of uninterrupted power supply solution at relatively low prices; the optimal use of solar, wind, and subsurface water in rural communities located in mountainous areas or near the border; and the creation of small enterprises for the processing, packaging, freezing and storage of agricultural products, etc.

In order to reduce emissions from motor vehicles, the government adopted a Programme of Action that bans the use of leaded petrol and the import of cars without catalytic emission converters. Since 2004, efforts have been made to introduce the principles of territorial and technological regulation of emissions of harmful substances. Principles for calculating the proportion of emissions from vehicles and background air pollution in residential areas have also been developed.

The Ministry of Transport and Communications is also coordinating the implementation of the investment programme for the construction of the “North-South Road Corridor” (decision of the government of Armenia № 446, dated 11.03.2010).

4.4. INSTRUMENTS

REGULATORY

Regulatory tools are based on: the resource codes, the Law on Concession of Subsoil for Surveying and Mining for the Purpose of Exploiting Useful Ores (2002), the Law on Amendments and Changes to the Code of Administrative Offences (Section for

conservation and use of natural resources) (2002), the Law on Waste (2004), Law on Environmental Impact Assessment (2005), the National Water Programme of Armenia (2006), etc.

INFORMATION

The National Environmental Monitoring System compiles a set of systematic data on the condition of environmental components, including surface and groundwater, air, relevant information about the status of flora and fauna, the ozone layer, land, forests, acquired through research and implementation of funded programmes. Armenia is a partner in the implementation of EU co-operation on development of the Shared Environment Information System (SEIS). Analytical and informational materials about the state of the environment on a monthly and annual basis are available on the website of the Ministry of Nature Protection (www.mnp.am), in news releases and in bulletins of the State Statistics Service of Armenia.

INVESTMENTS IN SUSTAINABLE INFRASTRUCTURE AND BUSINESS

Sustainable infrastructure and private sector-led projects are being implemented within donor-support initiatives and programmes predominantly within the spheres of energy efficiency and small and medium size enterprise promotion. The main multilateral partners in this field of cooperation are the European Bank for Reconstruction and Development, the World Bank, UNDP and UNIDO, and the European Investment Bank via its Eastern Neighbourhood Facility.

RESEARCH

It has not been possible to find any information on mechanisms to promote research in Armenia.



5. BELARUS

5.1. GE AND SCP FRAMEWORK CONDITIONS

GREEN ECONOMY AND SUSTAINABLE CONSUMPTION AND PRODUCTION POLICIES, PLANS AND PROGRAMMES

The strategic documents that set targets for sustainable development and actions to achieve them, including introduction of a green economy, and promotion of sustainable consumption and production are the following:

- National Strategy for Sustainable Socio-Economic Development of Belarus for the period until 2020²⁸
- Environmental Protection Strategy for Belarus for the period until 2025²⁹
- Water Strategy of Belarus for the period until 2020³⁰
- Strategy for reduction of the harmful effects of transport on the atmospheric air of the Republic of Belarus for the period until the year 2020³¹
- Strategy for the Conservation and Sustainable Use of Biodiversity for 2011–2020
- Strategy for Implementation of the UN Convention to Combat Desertification / Land Degradation, Strategic Plan for the implementation of the Cartagena Protocol on Biosafety for 2013-2020, etc.³²
- Programme for socio-economic development of the Republic of Belarus for 2011-2015

Belarus has implemented a range of systematic measures to strengthen the technological capacity of the national economy to enable its functioning on environmental (“green”) principles (approved on 10 July 2012).

Despite the absence of a specific document on the implementation of green economy principles, Belarus has established a system of regulations defining the strategic goals of sustainable development, which mirror a wide range of GE and SCP implementation aspects.

MAIN OBJECTIVES, GOALS AND TARGETS IN RELEVANT POLICIES, PLANS AND PROGRAMMES

Key targets and indicators are defined in the “National Strategy for sustainable socio-economic development of Belarus for the period until 2020” and “Strategy in the sphere of environmental protection in Belarus for the period until 2025”.

The **long-term goals** of the “National Strategy for sustainable socio-economic development of Belarus for the period until 2020” are:

- Transition to innovative development;
- Gradual transition to cleaner production;
- Achieving a developed social market economy with developed institutions of entrepreneurship and market infrastructure;
- Reducing the negative impact on, and the quality of, the environment and restoring ecological balance.

The **short-term objectives**, indicated in the National Strategy, are:

- Reduce emissions of pollutants from stationary and mobile sources and improve air quality;
- Increase water recycling and consistent re-use;
- Create in cities with populations of 100 000 people or more, systems for disposal and treatment of runoff water from urban areas;

- Reduce the discharge of pollutants;
- Reduce the rate of waste generation.

The SDP system has been designed. The statistical system of Belarus has data on 65 out of the 80 indicators proposed by the TFSD.

A set of indicators for monitoring and assessing policy success has been defined for each strategy³³ The system includes system-wide indicators and indicators that reflect the patterns and processes of sustainable development. There are three system-wide indicators:

- An integral component of sustainable development, based on the Human Development Index;
- Gross Domestic Product (GDP) per capita;
- Anthropogenic environmental load.

The latter indicator represents the **amount of fuel and energy resources (in tonnes of fuel equivalent) per square kilometre**.

An integral component of sustainable development has been designed on the basis of the HDI.

- Themes covered in full: “Housing”, “Air Quality”, “Leisure”, “Energy Resources”, “Water”, “Climate” and “Physical capital”;
- Themes with more than half of the indicators measured: “Consumption and income”, “Health”, “Education”, “Labour Activity”, “Institutions”, “Non-energy resources”, “Land and ecosystems”, “Knowledge Capital”;
- Themes with 50 per cent or fewer indicators measured: “Physical Security”, “Trust” and “Financial capital”.

Data for the indicators are regularly published in the Statistical Yearbook, statistical catalogues, and on the website of the National Statistical Committee of Belarus.

INSTITUTIONAL SUPPORT/RESPONSIBILITY

Implementation of the system of measures to strengthen the technological capacity of the national economy to enable its functioning on environmental (“green”) principles involves:

- Ministry of Natural Resources and Environmental Protection
- Ministry of Housing and Communal Services
- Ministry of Health
- Ministry of Forestry
- Ministry of Industry
- Ministry of Agriculture and Food
- Department of Veterinary and Food Surveillance
- Department of Land Amelioration and Water Management
- Ministry of Sport and Tourism
- Ministry of Transport and Communications
- Ministry of Emergency Situations
- Ministry of Economy
- Ministry of Energy
- Department of Energy Efficiency

In addition, the following coordinating bodies are in place:

- A working group for developing and ensuring the implementation of the position of Belarus regarding the “green” economy and the preparation of measures to strengthen the technological capacity of the national economy.
- An inter-agency working group for development of a draft national strategy for sustainable socio-economic development in Belarus for the period until 2030.

5.2. ALONG THE LIFE CYCLE

EXTRACTION OF RAW MATERIALS

Forest certification is carried out in accordance with the requirements of the Forest Stewardship Council (FSC) and the System of Forest Certification National System of Conformity of Belarus recognized by the Pan-European Council of Forest Certification (PEFC). With regard to the requirements of the FSC as of January 1, 2014, a total of 69 forestry enterprises were certified, covering about 5.9 million hectares of forest reserves (72.6 per cent of the total forest reserves of the Ministry of Forestry). The PEFC certification was applied to the forest management and forest use systems of 91 forest areas, covering approximately 7.7 million hectares; PEFC certificates for products are held by 83 forests. Certain measures are taken under the Sector Programme for efficient use of wood fuel in woodworking industries (shops) of the Ministry of Forestry of the Belarus for 2011 to 2015.

In 2013, under the state and territorial "Clean Water programme" for 2011-2015, works for construction and reconstruction of 256 water supply and sewerage were carried out, 96 of which were commissioned. Among the commissioned facilities are 18 stations for water deferrization (the removal of iron), 15 artesian wells and 4 sewage treatment plants.

PRODUCTION

Environmental impact assessment is integrated into the national regulatory system, and is used in decision-making on a regular basis. The Ministry of Industry developed and approved a "Long-term plan for the Ministry of Industry to implement the policy to preserve and improve the environment and reduce the negative impact by 2025". A joint project of the European Union and UNDP in Belarus entitled "Promoting comprehensive framework for international cooperation in the field of environmental protection in Belarus" has developed the final version of four national standards or STBs (standard of *Respublika Belarus*) that establish environmental criteria for products and services for accommodation. Also, the final version of the 2 TKP (technical code) has been developed, establishing the procedure for the environmental certification of products and services for accommodation.

THE BEST AVAILABLE TECHNOLOGY

Belarus operates a centre of excellence to showcase the best available technical methodologies,³⁴ and the official website of which provides and constantly updates information on the development of tools for the protection of the environment and natural resources, a list of European Union manuals, and the legal and regulatory basis for integrated environmental permits.

At the 11th international competition for energy-saving technologies and equipment within the framework of the Belarusian Industrial Forum 2014, the most significant achievements in this area were presented, in particular:

- Republican scientific and production unitary enterprise "Center of LED and Optoelectronic Technologies of the National Academy of Sciences" (LED lamp industrial heatsink based on heat pipes);

- Municipal unitary enterprise Minsk subway (for surface hardening using glow discharge technology);
- Open Joint Stock Company 558 Aircraft Repair Plant (recovery of internal cylinder surfaces through pulsed laser deposition).

A total of 20 papers were presented.³⁵

In 2015 the city of Minsk will install 150 bicycle parking lots with 250 watt solar modules. The Minsk authorities also plan to install solar-powered bus stop shelters in the streets of the city. The street lights near such bus stops will use solar energy. The generated power will be enough to broadcast commercials on special screens at the bus stops. The relevant measure has been included into the Minsk City Hall's action plan for improving the quality of public transport services in 2015–2050.³⁶

CONSUMPTION

The country plans to "green" the public procurement of goods, works and services, and to give priority in its energy purchasing to organizations using energy produced from renewable sources, as well as its payment in accordance with the respective tariffs. It also plans to: implement incentive-based measures (financial, crediting, depreciation, etc.) on the introduction of new technologies aimed at maintaining and improving environmental quality; to attract domestic and foreign investment to the renewable energy sector; and to seek international technical assistance to strengthen the technological capacity of the national economy in order to ensure its functioning along the lines of "green" principles.

Requirements for the protection of the environment and natural resources must be met in order for a product to be labelled as eco-compliant. The STBs developed also contain sections that establish requirements for waste management and packaging.

WASTE

In Belarus, there are no large-scale (a capacity above 200 tonnes of solid waste per year) plants for the processing of waste. However, a number of public-private initiatives have emerged to collect and process solid waste. The first plant in Belarus to process municipal solid waste and to generate heat is the biogas facility funded by an investment from the Swiss company «TDF Ecotech AG», which intends to invest 110-120 million euros. About 90 per cent of municipal solid waste is disposed of in municipal solid waste landfills.³⁷

In 2009, the German company Remondis entered into a joint venture with the government for the collection and recovery of waste products. Known as Minsk secondary resources, the company is engaged in the collection, transport and sorting of solid waste in the three districts of Minsk.

In 2012, regulations were adopted to establish new (non-tax) mechanisms to support the implementation of the principle of extended producer responsibility for waste from the disposal of consumer goods (complex household appliances, waste oil, etc.). Under this principle, the costs of waste collection and disposal should be covered by the manufacturers of these goods. The regulatory framework in this area is based on the:

Presidential Decree “On certain matters of consumption waste management” (2012), and the “Instructions on the procedures for organization of collection, disposal and (or) the use of waste products and packaging” (2012).

The Ministry of Natural Resources and Environment maintains an inventory of waste recycling, disposal, and storage plants, as well waste treatment technologies, and the licenses of waste disposal sites. Industrial waste management is better managed than municipal solid waste. There are more than 90 facilities for waste sorting, but this has minimal impact on disposal as this only affects about 1 per cent of the total waste.

Recycled waste is an increasingly important source of secondary raw materials, which is leading to the prioritization of the development of recycling facilities. About 4 million cubic meters of municipal solid waste is collected in Minsk every year (by both public and private companies); equivalent to about 2.2 m³ per person per year, or 0.7 kg per person per day. In comparison, the EU-25 average is 1.4 kg per person per day. In terms of waste collection the Ministry of Public Service provides services in 206 cities and 7,500 villages (out of a total of about 24,000 villages and towns in Belarus). The remaining villages are serviced by local farming cooperatives.

Within the framework of the State programme for collection (salvaging) and processing of secondary raw materials in Belarus for 2009-2015, procurement organizations under the Belcoopsoyuz, Minzhilkomhoz, SA “Belresursy” and non-state organizations collected 841,100 tonnes of the main types of secondary material resources. In 2013, four specialized regional centres were established in the cities of Vitebsk, Kobrin, Bobruisk and Gomel. Work on the collection of used batteries was organised (a total of 8,722 kg) through the placement of containers for collection in trade organizations.

TDF Ecotech, a company founded by a group of businessmen from Belarus, Russia, Germany, Austria and Switzerland, has implemented four projects for processing solid waste in Belarus. In 2010 the company started with waste at the Trostenets site near Minsk. A degassing complex provides renewable energy for about 50,000 households in the capital and its suburbs. In 2012, TDF Ecotech launched similar projects at landfill sites in Vitebsk and Orsha, and in summer 2013 began decontamination of waste at another Minsk Municipal Solid Waste Landfill, North DF Ecotech. Another development has been investments in the construction and operation of biogas plants on large pig farms. In 2012, TDF Ecotech built and launched two installations on large farms in the Nesvizhsky District – “Agrokombinat” and the “Lan-Nesvizh”.

In 2012, the Swedish company Vireo Energy launched an electricity and thermal energy station for the Orsha landfill. In 2013 a biogas complex at the landfill site in Vitebsk was commissioned. In the near future there are plans to start processing waste into biogas at landfill sites in Novopolotsk and Gomel.

In the same year, the largest biogas complex in Belarus – spread over a number of large farms in the Mogilev region and funded by the government – was launched. Plans have been developed to construct similar plants at a further ten large farm complexes.³⁸

5.3. KEY CONSUMPTION SECTORS

FOOD

The Belarusian government adopted a Resolution on the development of organic agriculture and developed an action plan for the organization and manufacture of organic products. The parliament of Belarus is developing a law on organic farming to be adopted in 2014. At present, there is no body for certifying organic production according to international standards in Belarus.⁴⁰ Public certification of small private farms and household plots, which organize production according to the rules on organic farming, is carried out by Ekodom, a state-run entity. Its experts have designed a public certification mark, the phrase “In harmony with nature”, which helps consumers distinguish goods produced by environmentally conscious farmers.

The draft terms of reference of the first version of component 1 of the international technical assistance project “Green Economy in Belarus” (the European Union Delegation to Belarus) includes the development of technical regulations establishing requirements for organic production and labelling, as well as the development of a mechanism of financial and fiscal support (subsidizing) for entities involved in the production of organic produce.

In 2011, the International Finance Corporation initiated the IFC Belarus Food Safety project in cooperation with the Ministry of Agriculture and Foodstuffs. The project focussed on improving food safety in Belarus through the introduction of the Hazard Analysis and Critical Control Points (HACCP) food safety system and the practical aspects of its implementation.

One example of the positive impact of HACCP is the Belarusian company Babushkina Krynka, the maker of Grandma’s Jug, which passed audits to become a supplier of whey powder for such large companies as Cadbury and Kraft. Currently, only 250 out of over 700 food companies operating in the market have implemented the HACCP system³⁹ at their enterprises.

HOUSING

In this sector, the focus is now on ensuring that modern energy-efficient and environmentally friendly methods are used in the construction of new housing. These include using the latest construction techniques and materials, providing heating and cooling through renewable energy sources, and ensuring effective economic mechanisms during construction.

In 2013, a number of recommendations were prepared to support the implementation of the requirements of the TAP 45-2.04-196-2010 (02250) which determine the required thermal protection of buildings in relation to their heat and power characteristics. Also widely implemented are technological solutions for thermal renovation and modernization of existing housing through the use of local materials that reduce heat consumption by up to 50 per cent.

In 2013, the Ministry of Architecture and the Department for Energy Efficiency of the State Committee for Standardization, implemented a UNDP project designed to improve the energy efficiency of residential buildings. The scope of the planned works under the pilot project envisages design and construction from 2013–2015 of three experimental energy-efficient residential buildings (one in Minsk, Grodno and Mogilev) that use geothermal heat pumps.

TRANSPORT AND TOURISM

The vehicle fleet is being upgraded and the proportion of vehicles that meet the latest environmental standards is increasing. A strategy to reduce the harmful effects of transport on the air quality of Belarus for the period until 2020 has been adopted. Construction and reconstruction of roads includes installing barriers, noise screens and protective grilles. For example, in 2013, on three sections of the Minsk-Gomel highway, noise barriers were installed, as well as mesh to prevent animals from entering the roadway, and migration corridors for amphibians were created.

In 2013, a number of events were held within the framework of the "Year of Green Tourism" (2013) and the year of environmental culture and the environment in the Commonwealth of Independent States. These included the "Cranes and cranberries of the Miyorsky area", and a championship mowing contest held at the Sporovsky nature reserve. In order to minimize the damage from tourism and recreational activities in protected areas, permissible load quotas for five areas were approved in 2013.

5.4. INSTRUMENTS

ECONOMIC

Promotion of renewable energy sources has been supported by the Law "On renewable energy" of 27 December 2010 and the decision of the Ministry of Economy of Belarus № 100, dated 30 June 2011, "On tariffs for electricity produced from renewable energy sources". Tariffs for energy produced from renewable energy sources and purchased by state energy suppliers are established at the same level as those of electricity tariffs for industrial and similar consumers with a connected load capacity of up to 750 kVA with an application of increasing coefficients. This is differentiated according to the type of renewable energy source during the first ten years from the date of commissioning of the plant for the use of renewable sources, unless otherwise stipulated by the President of Belarus.

The energy price for the subsequent ten years of operation of installations using renewable energy sources is will be based on the application of the coefficients, established by law, encouraging the use of renewable energy sources.

The Cabinet of Ministers of Belarus sets the compensation rate for collection of waste products and packaging for further use in the territory of Belarus (# 135, 17.02.2014).

REGULATORY

The level of harmonization of national standards, adopted each year in the country, with international and European standards is 62 per cent. The highest level of harmonization is observed in the field of metal machining (81 per cent), engineering (78 per cent), and electrical engineering (69 per cent). Consistent work on the application of international standards in a timely manner allows the country to meet the basic requirements applicable in the global market, reduce the burden on the environment and ensure a more efficient use of natural resources.

In terms of environment protection, 44 Belarus standards are in effect, 26 of which are harmonized with international ones. In accordance with the Plan of State Standardization for

2013, 18 national environment-related standards have been developed, including five standards that are identical to the EN and ISO standards.

A legal and regulatory framework has been established and integrated environmental permits are being introduced as an integral part of state regulation of the harmful effects on the environment. This is designed to simplify administrative procedures, promote the application of best available practice for integrated pollution prevention and control environmental pollution.⁴¹

INFORMATION

The National Environment Monitoring System enables the collection, generalization and analysis of complex systematic data on the state of the environment. It also supports cross-border monitoring and exchange of information, especially within the framework of cross-border organizational cooperation.⁴² The system comprises 11 organizationally independent types of monitoring. They operate on the same principles and are based on an ordered system of collection, processing, analysis and evaluation of information. The National Monitoring System has an extensive and scientifically substantiated observation network consisting of more than 1,000 items included in the National Register of observation points.

Belarus is experienced in organizing the local monitoring and control of activities that may have an environmental impact. Legal entities engaged in activities that could have a harmful impact on the environment are required to conduct local monitoring and reporting, in accordance with the resolution of the Ministry of Environment № 9, of February 1, 2007.

A comprehensive analysis of the monitoring data, including local data, and analytical control data, are the rationale for the development and implementation of action plans for nature management and environmental protection. These action plans also support the respective sections of the socio-economic development plans of the regions and Minsk, and additional measures aimed at minimizing the harmful effects on the environment for those who do not comply with the terms and conditions of their permits.

INVESTMENTS IN SUSTAINABLE INFRASTRUCTURE AND BUSINESS

Mechanisms under the Strategy for the Reduction of the Harmful Effects of Transport on the Atmosphere of Belarus for the period until 2020, provide inducements for innovation and investment. The introduction of renewable energy sources is promoted on the basis of the Law of 27 December 2010 "On renewable energy" and the resolution of the Ministry of Economy of Belarus 2011 № 100, dated 30 June, "On tariffs for electricity produced from renewable energy sources":

During the subsequent ten years of operation of installations for renewable energy, energy produced from renewable energy sources is purchased with application of coefficients established under law that encourage the use of renewable energy sources.

RESEARCH

A number of scientific (research and development programmes) are carried out, for example, the State comprehensive target-oriented research-and-development programme “Natural resources and the environment”, 2011–2015, consisting of three state research and development programmes and one state programme for scientific research, including:

- Natural Resources and the Environment, 2011–2015, which includes 2 sub-programmes – Natural resources and their integrated use, and Ensuring increased sustainable use and conservation of biosphere resources and preservation of the enabling environment
- Forests of Belarus – productivity, sustainability, effective use, 2011–2015;
- Housing and Utility Services, 2011–2015;
- Chemical technologies and materials, natural resource potential, 2013–2015. This includes 4 sections of the sub-programme 5 – Natural resource potential, Nature management -2, Biodiversity Bioresources and Environmental Technologies, Radiation, Environment and Technosphere and Geological models.



Photo © iStock/Smalariyha

6. GEORGIA

6.1. GE AND SCP FRAMEWORK CONDITIONS

GREEN ECONOMY AND SUSTAINABLE CONSUMPTION AND PRODUCTION POLICIES, PLANS AND PROGRAMMES

The Constitution of Georgia recognizes a sustainable development strategy as a fundamental principle of public policy, and this was underlined in 1996 with the law "On Environmental Protection" which saw the development and approval by the government of sustainable development strategies.

Strategic documents that set targets for sustainable development, including green growth strategy, are the following:

- Second National Environmental Action Plan 2012–2016⁴³
- National Strategy for the Regional Development of Georgia, for years 2010 to 2017
- Strategy for the Development of Agriculture in Georgia for years 2014–2020
- National strategy to reduce chemical, biological, radiological and nuclear threats
- National Strategy for Biological Diversity
- Environmental Education for Sustainable Development – Georgian Strategy and Action Plan for 2012-2014

Regulations governing certain aspects of the implementation of the green economy and sustainable production and consumption include:

- Orders by the Ministry of Environment and Natural Resources Protection of Georgia:
 - "On approval of environmental technical regulations" № 745, dated 13 November 2008
 - "On approval of rules for calculation of standards for pollutants in wastewater discharged into surface water"; № 169, dated 27th of June, 2012
- Orders of the Ministry of Labour, Health and Social Protection:
 - "On approval of standards for environmental quality" №297 / H of 16.08.2001

The National Strategy for Regional Development for 2010–2017, saw the adoption of development strategies individual regions:⁴⁴

Strategy documents provide the basis for keys aspects of the implementation of the GE and SCP, in particular: ensuring water quality; establishing a modern system of waste management; and effective management of water resources. It is worth noting that the environmental policy integration and coordinated action of all the relevant ministries and local government authorities is considered, in these regulations, as a key governance challenge.

MAIN OBJECTIVES, GOALS AND TARGETS IN RELEVANT POLICIES, PLANS AND PROGRAMMES

Long-term goals, short-term targets and respective activities are presented in the Second National Environmental Action Plan 2012-2016, and the National Strategy for Regional Development of Georgia, 2010-2017.

The **long-term goals** of the second National Environmental Action Plan, 2012-2016 are:

- Ensure safe water quality and adequate water quantity for human health and aquatic ecosystems;

- Have clean air throughout Georgia that is safe both for human health and the environment;
- Establish a modern system of waste management in Georgia;
- Improve the ecological conditions of the Black Sea;
- Ensure the protection and rehabilitation of unique ecosystems, species diversity and genetic resources of Georgian biota;
- Achieve optimal land-use through sustainable management of land resources;
- Protect the environment and the population from negative environmental impacts associated with the extraction of mineral resources;
- Ensure provision of safe drinking water to the Georgian people;
- Promote economic development through promoting exports to international markets;
- Ensure radiation safety for people and the environment;
- Ensure the security of the Georgian population through the implementation of climate change adaptation measures and the reduction of greenhouse gas emissions.

The **short-term objectives**, indicated in the National Programme, are:

- Establishment of an effective water management system;
- Establishment of effective pollution prevention and water abstraction control mechanisms, reduction of water pollution from untreated municipal wastewater and agriculture;
- Improvement and step-by-step automation of the existing air quality monitoring network that will make it possible to assess the state of ambient air and factors affecting air quality;
- Reduction of industrial emissions through the introduction of modern energy saving technologies and proper enforcement of the requirements of environmental impact permits;
- Improvement of household and hazardous waste management (collection, transport, and disposal);
- Reduction of environmental pollution from accumulated waste;
- Gradual reduction of vehicle emissions through introduction of relevant instruments based on international experience and national specifics;
- Preservation of commercial marine living resources;
- Conservation and management of Black Sea marine and coastal biodiversity and habitats
- Rehabilitation, protection and conservation of viable populations of selected endangered species and habitats; improvement of effectiveness of hunting and fishery management to ensure sustainable use of fauna resources;
- Development of a unified and effective protected areas (PA) network;
- Improvement of the effectiveness of PAs management through the capacity building of its administrations and introduction of financial sustainability mechanisms;
- Reduce degraded land areas, improve the soil quality and minimize soil contamination;
- Enhance the existing capacity of the spatial-land information system to ensure improved management of land resources through application of modern tools and technologies;
- Implementation of adaptation measures in regions vulnerable to climate change, identification of climate change impacts on other regions and sectors, creation of conditions for the reduction of GHG emissions.

Development of a system of measuring sustainable development has not been completed at present. Georgian national policies do not use SDI/SDP indicators proposed by the TFSD, nor do they make direct reference to it.

A system of indicators presented in the Second National Environmental Action Plan 2012–2016 includes two types of indicators:

- Institutional, such as the adoption of new laws, national programmes, other guidance documents, and;
- Specific measures aimed at achieving short-term targets, such as operating of pilot organic farms, the number of educational materials are distributed in public schools and so on.

Out of the 80 SDPs, measurements are carried out on 46 indicators, the data on those are available in the statistical system of the country.

- Themes covered in full: “Air Quality” and “Energy resources”. All of the indicators in these groups are measured.
- Themes “Consumption and income”, “Labour Activity”, “Institutions”, “Land and Ecosystems”, “Water”, “climate”, “Physical capital” and “Financial Capital” (more than half of the indicators in these groups are measured)
- Themes “Health”, “Education”, “Physical Security” and “Non-energy resources” less than half of the indicators in these groups are measured
- Indicators on the themes of “Subjective well-being”, “housing”, “leisure”, “Trust” and “Knowledge Capital” no indicators on these themes are measured.

INSTITUTIONAL SUPPORT/RESPONSIBILITY

The following authorities are involved in policy implementation in order to strengthen the technological capacity of the national economy and enable its functioning along the lines of environmental (“green”) principles:

- Ministry of Economy and Sustainable Development (www.economy.ge)
- Ministry of Environment and Natural Resources Protection (www.moe.gov.ge)
- Ministry of Agriculture (www.moa.gov.ge)
- Department of Energy (www.minenergy.gov.ge)
- Ministry of Regional Development and Infrastructure (www.mrdi.gov.ge)
- Ministry of Labour, Health and Social Affairs
- Ministry of the Interior
- Ministry of Foreign Affairs
- The Committee for Environmental Protection and Natural Resources of the Parliament of Georgia
- The Committee for Health Protection and Social Affairs of the Parliament of Georgia
- Governmental Commission for Regional Development of Georgia

6.2. ALONG THE LIFE CYCLE

EXTRACTION OF RAW MATERIALS

The National Forest Policy Action Plan was adopted, based on the availability of forest and non-timber products to the local population. At the same time, emphasis is being placed on the need for sustainable forest management and the need to raise awareness on the protective role of forests. Work on amending the Forest Code in accordance with the adopted strategic documents and work on technical issues (e.g., the development of electronic system for accounting of fuel wood for households) is ongoing. Georgia’s protected areas, 75 per cent of which are

TUSHETI

In April 2014, the Tusheti Protected Areas were established, which include the Tusheti natural reserve, the Tusheti National Park and the Tusheti protected landscape, the total area of which is about 113,660.2 hectares. Each village in Tusheti is a historical monument, with late medieval castles, most of which are well-maintained, dotted throughout. Tusheti is one of the most important tourist attractions in Georgia.

covered by forests, are characterized by their biological diversity and are home to a wide range of animal species. The protected area are home to 90 species of rare and endangered animals, making up 67 per cent of the animal species listed in the “Red List” (the “Red Book”) of Georgia.

PRODUCTION

The Laws “On Licenses and Permits” (2005) and “On permits for impact on the environment” (2007) identify the industries and the types of activities subject to environmental expert reviews. The discharge of industrial and non-industrial wastewater into the country’s surface water system is regulated by Order of the Ministry of Environment and Natural Resources №745 of 13 November 2008 “On approval of environmental technical regulations”. To solve this problem, a project has been drafted for pressure pipelines and a sewage pumping station in the city of Gardabani. The Ministry of Environment and Natural Resources Protection issued permits for projects to construct or repair wastewater treatment plants in Batumi, Kobuleti, Zugdidi, Poti, Borjomi, Kutaisi, Mestia, Anaklia, Marneuli.⁴⁵

A drain age system operates in 41 cities (out of total 84), and the district centres. Sewage treatment facilities were built before 1990, therefore the overall condition of the infrastructure and wastewater sewage treatment is inadequate. In most communities that lack treatment facilities, the local landscape allows the wastewater to flow by gravity into the receiving waters. In only two (Tbilisi and Rustavi) out of 20 cities, is all or part of the wastewater entering the drainage system subject to mechanical treatment. A large proportion of wastewater entering the wastewater system is dumped into receiving waters untreated. At present, biological treatment plants operate in only two cities (Batumi and Sachkhere). 2013-2015).

CONSUMPTION

There was no information available on specific policies addressing consumption in the context of GE and SCP in Georgia. However, there are a number of regulations relating to consumption and production including: government Decree (N198, July 30, 2013) on Bioproduction which entered into force on August 1, 2014, and the Georgian Law on Fees for Use of Natural Resources (29 December 2004) which entered into force on January 1, 2005.

WASTE

The main control issue in this area is the fact that the law “On management of waste” has yet to be adopted. Implementing policy on waste management has been declared a priority, with particular focus on hazardous chemicals (unused pesticides, waste containing mercury) and municipal waste in the capital.

The goal of the Ministry of the Environment and Natural Resources Protection is the collection of the remaining obsolete and unusable pesticides, their re-packing and temporary placement in a secure facility, followed by neutralization, until 2016. The national legislative framework in the area of environmental protection does not provide for or indicate the specific activities or responsibilities of a business entity or local authorities to manage contaminated areas. Nor does the legislation reflect issues related to the management of historically contaminated lands.⁴⁶

To address the issue of waste management the following measures have been taken:

- The Ministry of Environment of Georgia, with the support of the TWINNING PROJECT in 2012 started to develop a new draft law "On Waste Management" (completion date – 2014);
- In January 2013, development of the National Waste Management Strategy and the National Action Plan started;
- The establishment of a state company for solid waste management in 2011;
- Research is being conducted into the arsenic-containing waste repository in Tsanah and Urawa to develop an action plan for the removal or containment of hazardous waste in the vicinity of the processing sites (target dates – 2013–2015);
- A temporary continuation of the stockpiling of hazardous waste at the landfill site in Ialudzha is being carried out (involving fencing, organization of drainage channels, covering up of open places with earth). In addition, an inventory has been taken of up to 200 tonnes of dangerous chemicals. Waste containing persistent organic pollutants will be re-packaged and temporarily placed in a secure site and then neutralized (target dates – 2013–2015).

Waste management in Georgia has also benefited from the support of the European Bank for Reconstruction and Development (EBRD) which has funded the creation of an integrated waste management system in the region. In accordance with the amendment of May 1, 2012, responsibility for landfill management (with the exception of landfills located in Tbilisi and Adjara) has passed from local governments to a state-owned company subordinate to the Ministry of Regional Development and Infrastructure.

Municipal solid waste in the capital is collected by the Tbilisi Service Group (TSG). In addition, waste management projects were carried out in the period 2005-2008 in Poti and Kutaisi (waste separation), Kobuleti and Batumi (an EBRD-funded landfill development project), and a recycling plant in Kutaisi now produces roof tiles using recycled polyethylene bottles.

In 2011, in Bolnisi (Eastern Georgia), a biological waste processing plant was built. The plant is located in an area of 2000 m² and has a biological water purification, filtering and chlorinating system installed. The installation of the plant will enable the production of process water, which the inhabitants of the nearby villages will be able to use for irrigation.⁴⁷

An example of local initiatives is Coop Georgia which was founded in 2012 by a group of Tbilisi residents to develop recycling services and improve the environment in Georgia. The company started its recycling services from scratch and already serves over 50 businesses, organizations and schools. As a social enterprise, Coop Georgia is not-for-profit, and its objective is to create a sustainable model for recycling in which surpluses are continually reinvested into environmental activities.⁴⁸

6.3. KEY CONSUMPTION SECTORS

FOOD

The country has adopted a comprehensive food safety strategy and action programme (2011), as a necessary condition for the implementation of the Association Agreement.⁴⁹ Work is being conducted on amending the food supply-related areas within the 'Code on food/animal food safety, veterinary and plant protection' (reference to be inserted here). Based on Article 75 of this Code, a 'resolution on bioproduction'⁵⁰ was developed and adopted in 2013 and entered in force on the 1st of August 2014. This resolution defines the rules for bio-farm administration, production and processing, labelling, distribution and marketing, as well as rules for the production of voluntary bio-certification.⁵¹ Bioproduction certification is voluntary and is carried out on the initiative of the operator. Certification is carried out by an accredited certification authority. The certificate must be updated annually.⁵² Development and adoption in 2015 of the Law on the labelling of genetically modified organisms used as food products and feed for animals, and genetically modified products, has been initiated.⁵³

An example of a Georgian initiative for organic food sellers and consumers is Elkana,⁵⁴ the Biological Farming Association which was founded in 1994 as a union of farmers. Its objective is to improve the socio-economic conditions of the Georgian population and to preserve the country's environment through fostering the development of sustainable organic farming and increasing the self-sufficiency of the rural population.

HOUSING

The basis for activities in the housing sector is the "Law on Energy and Natural Gas" (2006) – which is in the process of being brought to full conformity with the requirements of the EU energy package – and the "Law on Householders Association (2007)". In Georgia, the GDP share of energy-efficient industries is approximately 0.7 per cent, compared to a global average of 0.31 per cent. Since 2008, the "step-by-step" tariff system has been in effect, which is aimed at encouraging consumers to save energy, and use inventory-keeping and good management practices. However, the expert consensus is that this initiative is proving ineffective.

An example of the 'greening' of residential construction in Georgia is the "Green City Lisi" project, which will be located on an area of 355 hectares. One third of this site will be residential (homes and apartments) and two thirds reserved for the unique flora of the area and specially cultivated gardens. On 40 acres of the total residential area, building height will be no more than four or five floors. 2012 saw the commissioning of the first residential complex in this development.

Major initiatives on energy efficiency:

- NATELI (2009), funded by the United States Agency for International Development (USAID), aimed at promoting the ideas of efficiency, capacity building through personnel training for energy audits of public and residential buildings.
- Advanced Engineering Associates International (AEAII) (2008-2011) is implementing projects to improve the efficiency of energy policy through dialogue with stakeholders on policy issues.
- Winrock International has funded projects on energy efficiency and renewable energy in urban and rural areas.

- The EBRD (2007-2014) has financed a number of energy efficiency measures in small and medium enterprises and the residential sector through energy efficiency credit lines [www.Energycredit.ge].
- Seven cities in Georgia are parties to the Covenant of Mayors: Zugdidi, Poti, Batumi, Kutaisi, Gori and Rustavi. They agreed to reduce GHG emissions in urban areas by 20 per cent by 2020.

TRANSPORT AND TOURISM

Following recommendations of international experts, the Unified Transport Administration of the Ministry of Economy and Sustainable Development of Georgia was reorganized in order to increase the efficiency of technical regulations in the field of transport and communications. After 15th of April, 2011, the following agencies were created: Land Transport Agency, the Agency of Maritime Transport, Civil Aviation Agency. These agencies are focused on the technical regulation of their respective industries.

The National Administration of Tourism of Georgia⁵⁵ is an organization aiming to ensure sustainable tourism development by: positioning Georgia as a unique destination on the international tourism map, improving the quality of services, maximizing revenue from the industry, and development of cooperation with strategic partners. The Administration is the coordinator of the development and formation of the annual tourism strategies of the country. The Ministry of Economy and Sustainable Development of Georgia and the National Tourism Administration in Georgia, in cooperation with the American-Georgian Business consulate (AGBC) developed a comprehensive plan for the development of sustainable tourism. The project is currently going through a public hearing stage entitled "Georgia's Way" – a Comprehensive Plan for Sustainable Tourism Development in Georgia.⁵⁶

The government is supporting an initiative to establish protected areas for the conservation of biodiversity. As of 2014, a network of 50 protected areas consistent with international requirements was created, including 14 nature reserves, 8 national parks, 14 natural monuments, 12 managed nature reserves and two protected landscape parks. In addition, to achieve the goal of 13 per cent of state territory having protected status – in 2012 the government launched a number of major infrastructure projects across the country for the reconstruction of infrastructure. The main ones were located in Tbilisi, Batumi, Sighnaghi, Mtskheta, Mestia and Anakliya.⁵⁷

Under the auspices of the Ministry of Environment and Natural Resources Protection, and the Agency of Protected Areas, initiatives to create eco-tours in various protected areas have been developed. The recent "Green Holidays" initiative of the Ministry, was aimed at attracting students to undertake waste removal in the protected areas.

6.4. INSTRUMENTS

ECONOMIC

Economic tools to protect the environment are not used in Georgia, therefore there are no economic incentives for protecting the environment. For example, new cars attract higher customs tariffs than old cars, even though they have a lower environmental footprint. There were a series of presentations by the Ministry with respect to changing regulations in order to improve air quality but, as yet, no specific action has been taken.

REGULATORY

A government resolution of 2006 limits the amount of hazardous chemicals that can be manufactured, used, imported or exported.

INFORMATION

The National Environment Agency (NEA), a legal entity under the Ministry of Environment of Georgia, is responsible for all types of environmental monitoring in the country, as well as for elimination of such risks as desertification and land degradation, and establishing the need to relocate the population in areas at risk, identification and assessment of resettlement areas, etc.⁵⁸ The NEA annually produces emissions bulletins that are available on its web site, and issues a monthly newsletter entitled "Summary of environmental pollution in Georgia."

Air quality management is ongoing through the work of the European instrument of strategic partnership (ENPI East) project which is designed to improve the monitoring of Georgia's air quality.⁵⁹ In addition, work on the creation of an accessible environmental information system (SEIS) is underway. In September 2013, a Memorandum of Understanding was signed between the Ministry and GEOSTAT, the Georgian National statistical office.

INVESTMENTS IN SUSTAINABLE INFRASTRUCTURE AND BUSINESS

There are a number of initiatives in this area including the EBRD Energy Efficiency and Renewable credit line (energycredit.ge). Funding is also available through a number of ENPI initiatives for small and medium-sized businesses. Another example targeting agriculture and rural development is the EU launched the European Neighbourhood Programme for Agricultural and Rural Development (ENPARD) which was launched in 2012 to boost the production of food in Georgia and to reduce rural poverty (3 years for 52 million Euros).⁶⁰

RESEARCH

Research institutes have been reorganized into university research centres. However, connections between these centres, the private sector and policy makers remain very weak due to a lack of interest, incentives, and state support. Georgia ranked 71 out of 141 countries on the Global Innovation Index in terms of its innovation capabilities and results. Expenditure on research and innovation in the past few years has remained below 1 per cent of GDP.

Research in the energy efficiency/renewable energy sphere is being carried out by the science department at the Georgia's Technical University and the Faculty of Exact and Natural Sciences at the Tbilisi State University. A further 16 research institutes work under the auspices of the Department of Scientific Development.

Research is also being carried out by a number of domestic and international scientific foundations. Namely: the Shota Rustaveli National Science Foundation, the Georgian Research and Development Fund (GRDF), the Science and Technology Centre in Ukraine (STCU), the International Science and Technology Centre (ISTC), the Scientific and Technological Research Council of Turkey (TUBITAK), and the French National Centre for Scientific Research (CNRS).

7. REPUBLIC OF MOLDOVA

7.1. GE AND SCP FRAMEWORK CONDITIONS

GREEN ECONOMY AND SUSTAINABLE CONSUMPTION AND PRODUCTION POLICIES, PLANS AND PROGRAMMES

The strategic documents that set target indicators for sustainable development, including green growth strategy, are:

- National Development Strategy of Moldova – 2020: 7 solutions for economic growth and poverty reduction⁶¹
- National Programme of the Republic of Moldova “European Integration: Freedom, Democracy, Welfare 2013–2014⁶²
- Environmental Strategy of Moldova for years 2013–2023
- Strategy for Adaptation to Climate Change of the Republic of Moldova
- Strategy for radioactive waste management for years 2013–2023
- State programme of reforestation and afforestation of forest reserve lands for the years 2003–2020)
- National Strategy for sustainable development of agriculture in 2008–2015
- The National Action Plan for the implementation in the Republic of Moldova of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters Related to the Environment (2011–2015)
- The National Programme for the creation of a national environmental network for years 2011 to 2018
- Programme for the Development of Water Resources and Hydrotechnical Amelioration in the Republic of Moldova for years 2011 to 2020

The Republic of Moldova does not have a specific green economy policy. However, the National Development Strategy of Moldova – 2020 emphasises the need to replace an inertial growth model with a dynamic model based on the development of a green exports industry. In addition, strategic documents defining the objectives of sustainable development provide for certain aspects of the transition to a green economy and sustainable consumption and production.

MAIN OBJECTIVES, GOALS AND TARGETS IN RELEVANT POLICIES, PLANS AND PROGRAMMES

Main strategic goals and short-term targets are identified in the **National Development Strategy, “Moldova 2020”: 7 solutions for economic growth and poverty reduction**, and in more than thirty different strategy documents and plans related to environmental and natural resource management.

The **long-term goals** related to the implementation of GE and SCP policies are:

- Growth of public investment in road infrastructure of national and local importance, in order to reduce transport costs and increase speed of access;
- Reduction of financing costs by increasing competition in the financial sector and the development of risk management tools;
- Improving the business environment, the promotion of competition policy, the optimization of the legal framework and the application of information technologies in public services for businesses and citizens;

- Reducing energy consumption through energy efficiency and renewable energy;
- Implementation of the green economy principles in national policy and all spheres of economic activity.

The **short-term objectives**, indicated in the National Programme, are:

- Reduction of GHG emissions;
- Prevention of land degradation;
- Improvement in the quality of drinking water;
- Reorganization and modernization of enterprises engaged in the road maintenance until 2013;
- Optimizing the energy balance, energy diversification, promoting the use of energy from renewable sources as well as new ways to generate energy;
- Strengthening the energy sector reform process, including the adoption of new legislation line with EU requirements.

National policies do not directly reference the SDI/SDP indicators proposed by the TFSD. In the National Development Strategy specific quantitative indicators of achievement of short-term targets are used, such as the length of power lines, pipelines in kilometres, the share of annual electricity production from renewable sources. Nevertheless, the statistical system of the Republic of Moldova has data for 64 out of the 80 indicators proposed by the TFSD.

- For the themes: “Air Quality”, “Leisure”, “Labour Activity”, “Institutions”, “Energy Resources”, “Water”, “Climate” and “Financial Capital” measurements exist or data for their creation is available in the national statistical system.
- Indicators for the themes: “Consumption and Income”, “Health”, “Housing”, “Education”, “Trust”, “Non-energy resources”, “Land and Ecosystems” and “Physical capital” are covered by more than 50 per cent.
- Less than half of the indicators in the “Physical Security” and “Knowledge Capital” themes are measured.
- The “Subjective well-being” indicator is not covered.

INSTITUTIONAL SUPPORT/RESPONSIBILITY

No institution has been established to develop and ensure the implementation of green economy policies or the preparation of measures to strengthen the technological capacity of the national economy. Rather these issues are covered by a number of government ministries:

- Ministry of the Environment (www.medi.gov.md)
- Ministry of Economy (www.mec.gov.md)
- Ministry of Regional Development and Construction (www.mcdr.gov.md)
- Ministry of Agriculture and Food Industry (www.maia.gov.md)
- Ministry of Health (www.ms.gov.md)
- Ministry of Sport and Youth of the Republic of Moldova (www.mts.gov.md)

7.2. ALONG THE LIFE CYCLE

EXTRACTION OF RAW MATERIALS

The country has adopted the Strategy for Water Supply and Sanitation for 2014–2028⁶³ and a national plan for afforestation of territories ratified the Convention on Wetlands of International Importance. One of the goals of the Strategy is to increase the efficiency and profitability of water supply and sanitation systems, and to improve environmental and health indicators.

PRODUCTION

The country has implemented a national programme for the sustainable management of chemicals in Moldova (approved by PP №. 973 on 18 October 2010). A Draft National Strategy to reduce and eliminate Persistent Organic Pollutants (POPs), and the National Implementation Plan for the Stockholm Convention on POPs have also been prepared.

COST REDUCTION AND RESOURCE EFFICIENCY

Currently, one of the main tasks of ferrous metallurgy enterprises of Moldova is to reduce the cost of finished products and increase its competitiveness in world markets. This problem is being addressed by using resource efficient technologies, and improving the quality and properties of the finished steel; a key objective of Moldova's Steel Works policy. This involves using a secondary treatment process, and new materials and technologies applicable in the preliminary deoxidation of steel, can be used to improve technical and economic performance.⁶⁴

Two hundred Moldovan farmers took steps towards becoming more resource efficient by attending a government workshop on "Resource-efficient technologies for crop production in a changing climate". The seminar was organized by WeTrade, Sudzucker Moldova and the ACSA agency under aegis of the Ministry of Agriculture and Food Industry of Moldova. The aim was to address the problem of transitioning from classically resource-intensive farming, involving plow tillage, the application of large amounts of fertilizers and irrigation to an agriculture based on "no-till" farming. The application of a no-till system for over a decade in Agro-Soyuz, the model agricultural enterprise, saw production costs reduced by 50–70 per cent, and a doubling of grain yield from 2.7 to 5 t/ha.⁶⁵

CONSUMPTION

The organic farming sector, which is the subject of active joint action by the Ministry of Agriculture and Food Industry and the Ministry of Ecology and Natural Resources, is becoming increasingly important. The regulatory framework governing organic farming, was created in 2005 after the approval of the law "On environmental agricultural production", as well as the adoption of a number of government regulations and action plans, covering such matters as the production of food agricultural products, marketing, systems of inspection and certification, and the rules for import and export. However, that law does not provide direct incentives for the development of organic agricultural food production and trade. Active work on the development of organic farming is conducted by the Ecoproduces Association in collaboration with the Institute of Field Crops.

WASTE

Though the Republic of Moldova has a Waste Management Strategy for 2013–2027, only 10 per cent of waste is recycled, while

90 per cent is landfilled.⁶⁶ Municipal waste is collected regularly in the capital Chisinau. There are about 70 authorized disposal sites near the towns and about 1600 near villages. However, they do not meet acceptable standards and are used traditionally as landfills. Municipalities have the right to contract garbage disposal.

Tiraspol city, with a population of 6,000 inhabitants, has taken an innovative approach to solving the problem of recycling known as "3R" (reduce, reuse and recycle). In 2010, the municipality began to build and expand the infrastructure for household waste sorting and to conduct citizen outreach. Waste sorting was organized at 27 locations. In the city colourful containers for glass, paper, general waste, metal and plastic were installed, mostly close to public institutions such as hospitals, schools and offices in populated areas. Physical infrastructure has also been developed with the aim of raising awareness of the three aspects of the 3R approach: *reducing* the consumption of plastic bags; *reusing* organic waste or as a natural fertilizer and *recycling* plastic bottles.⁶⁷

7.3. KEY CONSUMPTION SECTORS

FOOD

The basis for the development of the organic food industry is the Law on organic food production (2005) and the regulatory framework is provided by technical regulations within the "Organic food production and labelling of organic products" (2008).

Only 1.7 per cent of arable lands in the country are used successfully from the 'organic' point of view, and export of organic products is over 11 per cent of the total exports of agricultural products.⁶⁸ Subsidies for organic agriculture, including fresh fruits and vegetables, are limited. According to experts, in recent years subsidies for organic farming accounted for 0.7 per cent of the total amount invested in agriculture, while subsidies on fertilizer and pesticide use amounted to 12.1 per cent.⁶⁹

HOUSING

Moldova's economy is highly energy intensive (about three times higher than the EU average). The share of renewable energy sources in final energy consumption is about four per cent (according to the Energy Balance for the year 2011).

A significant number of Moldovan companies operate in the areas of energy including manufacturers, suppliers of equipment, technologies and services. These include: ICS Red Union Fenosa SA, Rețelele Electrice de Distribuție NORD SA, Avi Clima, SRL, Cvadro Therm SRL DI u0026 Trade SRL, Darnic Gaz SA, Ecowatt-Impex SRL, Electrocon SA, Est-Service M SRL, ICS IEK Moldova S.R.L., I.C.S. ElectroTehnolimport S.R.L. Compania Electrotehnică E.Next-Moldova SRL, SC Habsev Grup SRL, Institutul de Studii și Proiectări Energetice -ISPE, Laiola SRL, Schneider Electric Moldova and others.

In 2014, leading energy companies held an international exhibition called "Moldenergy 2014", which showcased energy saving technologies in heating, gas, and air-conditioning. It is the only exhibition in Moldova focused on energy, heat, electrical equipment and energy-saving technologies.⁷⁰

Seven Moldovan companies have won a competition held by the EBRD for the best project in the field of energy efficiency. To participate in the competition, an enterprise must have received loans through Eurobank and successfully implemented projects to improve energy efficiency or renewable energy. Depending on the complexity and scope, the size of the disbursed loan

ranged from 10,000 to 2 million euros for a period of three to five years. After implementation of a number of projects, the energy consumption of many enterprises decreased by 20-70 per cent. The jury was particularly impressed by one project for heating one of the capital's restaurants using thermal waters extracted from 300 meter underground. The budget line of credit for improved energy efficiency in Moldova is 20 million euro. In total, 71 Moldovan enterprises have received loans. The project is funded by the European Union, together with the EBRD.⁷¹

The Prime Capital Financial Company, in cooperation with the United States Agency for International Development and the Swedish International Development Cooperation Agency (Sida), launched a new project to support the introduction of energy efficient technologies to Moldova in October, 2014. USAID and Sida signed 15-year agreements with Prime Capital, allowing the company to issue loans for US\$ 7 million from its own resources for the implementation of energy-saving technologies. Individual loans will be issued for the replacement of windows, roof repair, purchase of boilers, and for economic mechanisms to encourage the use of renewable energy, such as solar panels or the replacement of equipment with lower power consumption versions.⁷²

Households and private businesses in Moldova will be able to reduce energy consumption thanks to two credit lines totalling EUR 10 million provided by the EBRD to Moldova's Agroindbank for re-lending. Loans are available through the "Moldovan Residential Energy Efficiency Financing Facility (MoREFF)", and the "Moldovan Sustainable Energy Efficiency Financing Facility II (MoSEEFF II)", which will provide an opportunity for the Moldova Agroindbank to issue long-term loans to companies and individuals, enabling the implementation of energy saving projects.⁷³

The Foundation for efficient energy use has been in operation since 2013, and has two project implementation modalities (public and private sector). The first 85 projects have been approved to attract investment for renovation of hospitals, schools and other public institutions. Moldova also became a full member of the Eastern Europe Energy Efficiency and Environmental Partnership (ESP).⁷⁴

TRANSPORT AND TOURISM

Priorities of the Agency for Tourism in 2013 to 2014⁷⁵ were concentrated in four main areas:

- legislation and documents for strategic development of the sector (implementation of the "Tourism 2020" strategy, development of an action plan);
- the economic unit, including support and encouragement of companies contributing to the development of tourism;
- marketing and logistics (including development of an information system "Travel Directory of Moldova" and "Electronic Travel Guide of Moldova", and certification of tourist routes), and;
- international relations.

A strategy for industry development "Tourism 2020" is being implemented,⁷⁶ which resulted in the development of strategies for sustainable development of tourism in the Republic of Moldova for 2003–2015.⁷⁷

In November 2013, the government of Moldova approved the Strategy for transport and logistics in 2013–2022. The long-term goal is to develop an effective system of transport and logistics,

which will ensure the needs of citizen mobility, and increasing the importance of the Republic of Moldova as a European transport centre. Greening the industry is not designated as a separate goal, and its achievement is realized only through the introduction of EU standards.⁷⁸

7.4. INSTRUMENTS

ECONOMIC

The main economic incentive factors are reflected in the: Regulation on the regulation of payment documents to the central government through the treasury system of the Ministry of Finance [Ministry of Finance, Art. Decree on environmental monitoring and diagnostics of vehicles in Moldova (Ministry of Transport, №.1807 of 18.07.1996), and the instructions for calculation of payments for environmental pollution on the implementation of environmental control of automobiles (25B of 25.11.1998).

REGULATORY

The basis of regulatory policy is the Law on Public Procurement, and the Law on Standardization (1995).

INFORMATION

No information was available on the use of information-based instruments for promoting and supporting the GE and SCP in Moldova.

INVESTMENTS IN SUSTAINABLE INFRASTRUCTURE AND BUSINESS

No information was available on the existence of specific tools or investments in support of sustainable infrastructure and business in the Moldova.

RESEARCH

The Republic of Moldova is the only country within the Eastern European Partnership with association status within the EU's Seventh Framework Programme for Research (FP7). Under this framework, Moldovan institutions are involved in 53 projects with a total value of 3.8 million euros. In 2013, Moldova applied for association to Horizon 2020, the EU's biggest Research and Innovation programme. Moldova has a member sitting on the board of governors of the Joint Research Centre, and is a member of the Strategic Forum for International Cooperation and the High-Level Group for Joint Programming. Moldova is also a member of the Joint Programme Initiative on protecting water resources.

In 2013, with the support of the EU, three new FP7 (R2I – Research and Innovation) projects were launched with a total funding of approximately 3 million euros. Their goal was to encourage partnerships in the field of industrial research, improve the innovative capacity of Moldova and promote commercialization of research. In September 2013, a new three-year regional FP7 project was launched, the Science Technology and Innovation International Cooperation Network for Eastern Partnership countries (IncoNet EaP), which included the establishment of the Centre of International Projects within the Academy of Sciences to prepare for the transition to project Horizon 2020, and the promotion of cooperation within the framework of a possible current programme. The Moldovan Office for Science and Technology was also opened in Brussels, along with a national coordination committee project for Horizon 2020 at the inter-ministerial level.⁷⁹

8. UKRAINE

8.1. GE AND SCP FRAMEWORK CONDITIONS

GREEN ECONOMY AND SUSTAINABLE CONSUMPTION AND PRODUCTION POLICIES, PLANS AND PROGRAMMES

The strategic documents that, inter alia, reflect the goals of Ukraine's transition to a GE and SCP are the following:

- Strategy for the National Environmental Policy until the year 2020, approved by the Law of Ukraine in 2010⁸⁰
- National Environmental Action Plan for 2011–2015⁸¹
- State Programme for the Development of Domestic Production⁸²
- Energy Strategy of Ukraine until the year 2030⁸³
- Transport Strategy of Ukraine for the period until 2020⁸⁴
- National programme for reform and development of housing and communal services in 2009–2014⁸⁵
- National Programme for formation of the environmental network in Ukraine for years 2000–2015⁸⁶
- National target-oriented programme for the development of Water Resources and Environmental Rehabilitation of the Dnipro River Basin for the period until 2021⁸⁷
- National programme for toxic waste management⁸⁸
- National Drinking Water of Ukraine programme⁸⁹
- State target-oriented economic programme for energy efficiency and development of energy efficiency in the sphere of production of energy resources from renewable energy sources and alternative fuels for years 2010 to 2015⁹⁰
- A draft concept note on the implementation of clean production in Ukraine⁹¹

Although a Ukrainian government policy on sustainable development has been in place for fifteen years, Ukraine has yet to adopt a specific sustainable development strategy. However, there is an overarching National Environmental Strategy, which includes, inter alia, the task of elaboration and adoption of a national policy document on SCP. This was adopted at the end of 2010, and includes many elements of GE and SCP principles within its tasks and objectives.

MAIN OBJECTIVES, GOALS AND TARGETS IN RELEVANT POLICIES, PLANS AND PROGRAMMES

Ukraine's current environmental policy is being shaped by the ongoing reforms dictated by its Association Agreement with the European Union, and is defined by the Law of Ukraine "On the Fundamental Principles (Strategy) of Ukraine's State Environmental Policy for the Period until 2020 (adopted on December 21, 2010), as well as by the National Environmental Protection Action Plan (NEPAP) for 2011–2015 (approved by the Resolution of the Cabinet of Ministers of Ukraine of May 25, 2011 № 577-p).

This reform aims to integrate environmental policy into the country's socio-economic development policies at the national, regional, oblast, and local level, in order to achieve efficient environmental protection and rational use of Ukraine's natural resources in line with international standards.

According to the Strategy, the goal of the national environmental policy is the stabilization and improvement of the environmental situation in Ukraine. This is to be achieved by integrating

environmental policy into the socio-economic development of Ukraine to ensure a safe and healthy environment for the population, an environmentally balanced system of natural resource management, and the conservation of natural ecosystems.

The Strategy puts forward 7 objectives:

1. Raising public awareness of environmental issues;
2. Improving the environmental situation and enhancing environmental security, including the improvement of air quality, the protection of water, land and forest resources, improved waste and subsurface resource management, and ensuring biosafety;
3. Ensuring an environment safe for human health;
4. Integrating environmental policy and improving the integrated environmental management system;
5. Stopping biological and landscape diversity loss and forming an environmental network;
6. Ensuring environmentally sound use of natural resources;
7. Improving regional environmental policies.

Objective 4: Integrating the environmental policy and improving the integrated environmental management system contains the following tasks:

- Development and legal enforcement of the compulsory inclusion of environmental policies into other state, industry (sectoral), regional, and local development policies by 2012;
- Establishment of environmental management systems and development of state targeted programmes on the 'greening' of certain national industries. These programmes should include technical re-equipment, introduction of energy efficient and resource saving technologies, and non-waste and environmentally safe technological processes;
- Implementation of an environmental management system, corporate social responsibility principles, environmental auditing techniques, certification of product manufacturing and product quality in accordance with international conservation standards, and improvement in the environmental properties of products according to established international environmental standards.

By the two stages of 2015 and 2020:

The objective is to increase the energy efficiency of manufacturing by 25 per cent compared to the base year of 2015 and by 50 per cent by 2020, and increase the use of renewable and alternative energy sources by 25 per cent compared to the base year of 2015 and by 55 per cent by 2020.

Sector specific actions are also described:

Industry and energy sector:

- Approving in 2012 a concept note for introducing cleaner production in Ukraine and adopting by 2015 a relevant strategy and national action plan;
- Developing by 2015 a methodology to determine the degree of environmental risk posed by production activities of environmentally hazardous facilities.

Transport and road sector:

- Installing by 2015 anti-noise structures/noise barriers (where settlements are located near highways) in communities with

at least 500,000 of population, and by 2020 in communities with at least 250,000 of population;

- Creating by 2015 the economic conditions for the development of infrastructure for environmentally friendly modes of transportation, in particular, public transportation, and providing by 2020 a 25 per cent increase in the share of public transportation in total infrastructure;
- Strengthening the requirements for promoting environmental security and reliability of pipeline transportation.
- Public utilities and construction sector:
- Revising the regulatory framework to support incorporating environmental requirements, particularly regarding energy and resource saving, within the planning process for industrial and residential, construction and renovation and dismantlement operations;
- Enhancing energy and resource saving in apartment buildings.

Agricultural sector:

- Creating conditions for large-scale implementation of environmentally-oriented and organic technologies in farming and achieving, by 2020, a doubling from the baseline of the acreage on which these technologies have been applied.

Military and defence sector:

- Developing by 2015 incentives to promote implementation of environmental management systems in military units and ensuring, by 2020, the environmentally safe use of natural resources deployed in operational and combat training, as well as during military exercises and training;
- Elimination of the consequences of environmental damage caused by military activities, in particular, seeking compensation from foreign countries for any damage arising out of the temporary stationing of foreign troops on Ukrainian territory.

Tourism and recreation:

- Implementing by 2015 environmental management systems and strengthening state environmental monitoring of tourist, recreation, hotel and catering business facilities, and developing eco-tourism and environmentally-oriented recreation;
- Developing, at the first stage, economic levers to promote eco- and green tourism.

Objective 6. Ensuring environmentally sound use of natural resources

The tasks in this area have been set out as follows:

- Preparing and approving in 2012 a draft concept note for a 10 Year Framework of Programmes on Sustainable Consumption and Production (10YFP) in accordance with the Johannesburg Plan of Implementation, and developing a strategy and a national implementation plan by 2015;
- Further developing the national system of natural resource cadasters, and state statistical reporting on the use of natural resources and environmental pollution;
- Technical re-equipment of production facilities based on innovative projects, energy-efficient and resource-saving technologies, low-waste or non-waste and environmentally-friendly processes by 2020;
- Implementing by 2015 a system of economic and administrative incentive mechanisms encouraging producers to ensure sustainable and renewable use of natural resources and environmental protection, large-scale introduction of

advanced cleaner technologies, and innovations in the field of natural resource utilization;

- Ensuring a 25 per cent improvement in energy efficiency of production by 2015, and a 50 per cent enhancement by 2020, compared to the baseline, to be achieved by introducing resource saving techniques in the energy sector and in the energy-consuming industries;
- Ensuring a 25 per cent increase in use of renewable and alternative energy sources by 2015, and a 55 per cent increase by 2020, compared to the baseline;
- Increasing the share of lands used for organic farming to 7 per cent by 2020;
- Establishing by 2015 an environmentally and economically substantiated system of payments for the special use of natural resources and charges for pollution of the environment to encourage efficient use of natural resources by economic entities;
- Reforming by 2015 the existing system of nature protection funds in order to strengthen centralization of financing at the oblast level.

THE SUCCESS OF PUBLIC ADVOCACY

Successful public advocacy by non-governmental organizations (NGOs) has influenced the content of the National Environmental Policy of Ukraine – 2020. In 2010, NGOs continued their efforts to ensure that the environmental provisions are further incorporated in the National Environmental Action Plan for 2011-2015 (NEAP). In 2011, the Ukrainian national environmental NGO MAMA-86 organized broad public consultations on the draft NEAP, together with the Ministry of Ecology and Natural Resources of Ukraine (MENR), in cooperation with partner NGOs such as Environment.People.Law. As a result of four regional consultations, about 900 comments on the draft document prepared by 152 representatives from 129 NGOs were received. For the first time in the practice of MENR, it prepared a 150-page comparative table of comments and proposals received from the public and those incorporated into the NEAP, with explanations of reasons for accepting or denying the NGO contributions. At the final consultation in Kyiv, attended by about 70 representatives of various stakeholders, the second draft NEAP was discussed and additional comments accepted. This process is a good demonstration of how Ukraine has followed the guidance of the Aarhus Convention concerning ensuring public participation in policies, plans and programmes.

At present, a system of measuring sustainable development, reflecting the degree of “greening” of the economy, has not been completed. Ukrainian national policies don’t use SDI/SDP indicators as proposed by the TFSD and no direct references are made to them.

The system of indicators presented in the strategy for the national environmental policy includes two types of indicators: institutional and quantitative indicators (available as an annex to the Strategy).

The institutional indicators include:

- The adoption of new laws, national programmes, other guidance documents;
- Approval of the mandatory list of types of environmental information to be placed on the web;
- Preparation of local action plans for environmental protection, etc.

The quantitative indicators used in the Strategy, include:

- Percentage share of environmental information in the media;
- Amount of pollutant emissions from stationary sources in tonnes;
- Amount of sewage discharge in cubic meters;
- Areas of natural and anthropogenically altered landscapes as a percentage.

The following SDP groups have been developed within the national statistical system:

- Environmental indicators (114 indicators), such as quality and quantity of fresh water (17 indicators); protection of forests (13 indicators); conservation of biodiversity (3 indicators); protection of the atmosphere (21 indicators), etc.
- Social indicators (43 indicators): population dynamics and human development (10 indicators); protection of public health (9 indicators); education (4 indicators); support for the ecological state of human settlements (20 indicators).
- Economic indicators (42 indicators): national policies and international cooperation (13 indicators); changes in consumption patterns (23 indicators); financial resources and mechanisms (6 indicators).

Within Ukraine's national statistical system, 56 from the 80 indicators proposed by TFGSD are measured. The following indicators are available:

- All indicators in the themes "Labour Activities", "Energy Resources", "Water", "Climate" and "Physical Capital";
- Most indicators in the themes "Consumption and Income", "Health", "Housing", "Air Quality", "Institutions" and "Financial Capital" are measured;
- The themes "Education", "Physical Security", "Non-energy resources", "Land and Ecosystems" and "Knowledge Capital" are covered by half or less;
- Indicators in the themes "Subjective well-being", "Leisure" and "Trust" are not measured.

INSTITUTIONAL SUPPORT/RESPONSIBILITY

No special institutional structure to develop and ensure the implementation of green economy policies on and the preparation of measures to strengthen the technological capacity of the national economy has been created. The key ministries responsible for GE and SCP implementation in Ukraine are:

- Ministry of Ecology and Natural Resources
- Ministry of Economic Development and Trade
- Ministry of Energy and the Coal Industry
- Ministry of Infrastructure
- Ministry of Youth and Sports
- Ministry of Regional Development, Construction and Housing and Communal Services

8.2. ALONG THE LIFE CYCLE

EXTRACTION OF RAW MATERIALS

This activity is regulated by the following legal acts:

- On Land Protection
- On ensuring sanitary and epidemiological well-being of the population
- On Environmental Protection
- On Air Protection
- On the withdrawal, processing, recycling, removal or continued use of defective and dangerous products
- On Waste
- On Housing and Utility Services⁹²

as well as

- the Procedures for seizure, disposal and destruction of unusable agricultural raw materials and food products (1995)⁹³
- Methodology for seizure, disposal and destruction of agricultural raw materials and food products exposed to pesticides and agrochemicals and rendered unusable (1996)⁹⁴
- Resolution of the Cabinet Ministers of Ukraine on the implementation of a system for collecting, salvaging and utilization of waste as secondary raw materials (2001)⁹⁵

PRODUCTION

The development of sustainable production is supported by a variety of initiatives and legislation:

- "Statement of Support for participation on the Advisory Board of the international Green Industry Platform" (2012)
- State programme of development of domestic production until 2015 (2001)
- The Law of Ukraine On the Basic Provisions (strategy) of the national environmental policy for the period until 2020 (2010);
- National Plan of Action for the Protection of the Environment for 2011-2015.(2011)
- "The strategy of attracting, implementation and monitoring of international technical assistance and cooperation with international financial institutions for 2013-2016" (2013)
- "The concept note of the project for the National Economic Development Programme industry for the period until 2020" (2013)

BAT

An Internet portal showcasing the "Best available technology (BAT) and management methods"⁹⁶ has been created. The web site has a database that enables the convenient storage, retrieval and search for information on the best available technologies and management practices for reducing emissions of pollutants and greenhouse gases. The database allows users to find information on the BAT used to reduce emissions of pollutants (technical, environmental and economic component of the proposed technologies and management practices).

CONSUMPTION

Initiatives in this area are based on the environmental labelling of products and services (eco-labelling programme type I) (voluntary); labelling of organic products; restrictions on the application of product declarations about a product's ecological or organic characteristics in absence of appropriate supporting evidence (certificate of conformity).

"Greening" of the education system, environmental education and training is also underway through the National Strategy for the Development of Education in Ukraine for the period until 2021.⁹⁷

GREEN CRANE

The "Green Crane" is the Ukraine's primary eco-label. Run by the Ukrainian NGO Living Planet, which also acts as an accreditation and certification agency, the Green Crane covers a wide range of consumer product categories and services. Product category rules have been developed for 27 product categories and 23 food and beverage categories, as well as 5 service categories. Few products within each category have so far been certified.⁹⁸

WASTE

In Ukraine, there are about 4,500 MSW landfills with a total area of more than 7,500 hectares. The amount of MSW annually removed to landfills in Ukraine in the course of anaerobic processing releases approximately 800,000 tonnes of methane (assuming that on average each tonne of MSW discharges 150 m³ of biogas). Since methane has a greenhouse gas effect that is 21 times higher than that of carbon dioxide, the amount is equivalent to 16 million tonnes of CO₂.

The following waste-related regulatory acts are in effect: the Law of Ukraine On Waste, Terms of Service for removal of household waste⁹⁹ standards, directories, sanitary rules and regulations, building codes and rules¹⁰⁰ (DSTU and GsanPiN), Provisional Classifier of toxic industrial waste, and guidelines for the definition of the class of industrial waste toxicity.

A public company, UkrEcoResyrsy, was established to assume responsibility for development and organization of the implementation of a system for waste collection, salvage and recycling, including processing used containers and domestic and imported packaging materials as secondary raw materials.

THE KYIV EXPERIENCE

The Programme for solid waste management in the city of Kyiv for the period until 2011 includes, amongst its main measures, plans to build a new incinerator plant covering 14 out of 24 Desnyansky districts, at an estimated cost of 260 million euros, and in the Holosiyivsky district, at an estimated cost of 300 million euros. In 2007, the Desnyansky district allocated a 5.05 hectare plot of land at the CHP-6 facility, and developed a plan to build the so-called Granite plant. An investor was found – the Austrian company EVN AG, but it later abandoned the project. In 2008, the idea of building two power plants was rejected in favour of the construction of four small plants in different parts of the city with a capacity of 120 to 240,000 tonnes per year, including in Belichi.¹⁰¹

There are also private waste processing companies, for example, the company Waste Management Systems – a pioneer in the application of innovative European technologies to the collection, disposal and treatment of waste in Ukraine, <http://www.wasteua.com>; and the trade and production group GalPET,¹⁰² and Environmental Investments LLC, engaged in processing polyethylene terephthalate.¹⁰³

The “Throw Well” programme was launched by the Ministry of Ecology and Natural Resources (MENR) of Ukraine, the company MTC Ukraine and UNENGO MAMA-86 at the end of 2013 to increase the collection of waste batteries. This programme aims to organize the complex collection and utilization of waste batteries throughout the country. Specially designed green boxes are being installed in public places along with in MTC Ukraine shops in different cities and towns of Ukraine, starting with the Kyiv and Lviv oblasts. The overall quantity of battery waste in Ukraine is unknown, therefore the programme will help to measure this and, correspondingly, the capacities needed for processing. Depending on waste volume, a decision will be made on whether to build domestic processing capabilities or to send batteries for processing abroad. Some preliminary estimations suggest that about 270 million batteries are being imported annually to Ukraine.

The market for waste management services in Ukraine has been developing rapidly. The government resolution of September 3, 2014, approved an action plan for implementation of the Directive of the European Parliament and Council Directive

2009/28 / EC on the promotion of the use of energy produced from renewable sources. An IFC Programme on “Stimulating investment in resource efficiency in Ukraine” is being implemented with the financial support of the Free Land of Saxony, the Finland’s Ministry of Foreign Affairs and the Dutch Ministry of Economic Affairs.¹⁰⁴

8.3. KEY CONSUMPTION SECTORS

FOOD

The legislative framework for the development of organic farming has been developed but not yet adopted in full, in particular, a concept of public green economy policy has been developed (draft). From 2002-2010, Ukraine’s the extent of organic farmlands increased from 164,449 hectares to 270,226 hectares; the number of farmers increased from 31 to 142. The share of organic products in the total volume of agricultural products, according to experts, should reach 10 per cent by 2015.

At the international level, a series of national eco-labelling standards is in place, namely:

- ISO 14020 – Environmental labelling which sets out general principles for the development and use of environmental labels and declarations
- ISO 14021 – Environmental labels and declarations – which sets out requirements for Type II labels, i.e. environmental claims made for goods and services by the producer
- ISO 14024 Environmental labels and declarations. Type I environmental labelling – principles and procedures which provides guidance on developing programmes that verify the environmental attributes of a product via a seal of approval
- ISO 14025 Environmental labels and declarations – Type III environmental declarations – which establishes principles and specifies procedures for issuing quantified environmental information about products

The Hermes Agri-Company Ltd has been in the fertilizer market since 1995. Hermes’ preparations are made from biohumus (vermicompost), an organic fertiliser produced from cattle manure processed by Red Californian Worms (*Eisenia fetida*). The company’s certified laboratory provides product quality control for all the stages of production. Each batch is not only analysed both by chemical and microbiological indicators, but is also tested with the help of screening for crop response. The company has been collaborating with scientific and research institutes for years. Among them, the Institute for Soil Science and Agrochemistry Research n.a. O.N. Sokolovskiy of National Academy of Agrarian Sciences of Ukraine (UAAN), Institute of horticulture NAAN and others. A significant number of Hermes Agri-Company Ltd’s fertilizers have been approved by IMO (Switzerland) for the use in organic agriculture according to Regulation (EC) No. 834/2007 and (EC) No. 889/2008.¹⁰⁵

The legal basis for assuring the safety and quality of agricultural products, food products, and food raw materials are the Laws of Ukraine:

- On the basic principles and requirements for safety and quality of food,¹⁰⁶
- On the production and circulation of organic agricultural products and raw materials¹⁰⁷
- On Milk and Dairy Products¹⁰⁸
- On technical regulations regarding food labelling rules,¹⁰⁹ which was developed in accordance with the Regulation of the European Parliament and of the Council 66 /2010 / EC on eco-labels mark the European Union.

In 2006, Ukraine started the Swiss- Ukrainian project “Certification of organic farming and organic market development in Ukraine”, which was carried out by the Research Institute of Organic Agriculture (FiBL, Switzerland) with the support of the Swiss Confederation. In 2007 the Organic Standard certification body was established, founded by an organization representing the organic sector in Ukraine. In 2009, Organic Standard received international accreditation; entitled to certify for organic production under Council Regulation 834/2007 and private standards BIOAn Association. Today in Ukraine, in addition to domestic company Organic Standard Certification about 15 companies work. There is no unified framework of organic certified producers in Ukraine.

Data on all Ukrainian producers, certified Organic Standard can be found on the organization’s site.¹¹⁰

The Ukrainian Laboratory of Quality and Safety of Agricultural Products of the Ukrainian National University of Life and Environmental Sciences has been in operation since 2003. The laboratory’s Quality Management System is built according to the standards ISO / IEC 17025: 2006 (ISO / IEC 17025: 2005), ISO 9001: 2008. The laboratory engages in activities including: research and development, harmonization, adaptation, the improvement of research methods, and the development of indicators on the quality and safety of agricultural raw materials, and is authorized to conduct state testing of plant protection chemicals for the purpose of their registration in Ukraine.¹¹¹

Since 2012, Ukraine has held a festival of healthy food “Best Food Fest & Health”, which aims to familiarize consumers and producers with current global trends in healthy eating, through holding master classes with top chefs in Ukraine and the world, and through a series of thematic lectures.¹¹²

Public sector organizations, with the support of state bodies, have begun to implement programmes aimed at the development of eco-labelling in Ukraine:

- Within the all-Ukrainian programme “Implementation of environmental measures by enterprises and organizations to meet the requirements of international and European standardization and certification systems”, companies and organizations are awarded the “Environmentally clean and safe” mark on a competitive basis, once a year; environmental priorities in the development strategies are taken into account.
- Eco-labelling program. This has been initiated by the Ukrainian public organization “Living Planet”, the Committee of the Verkhovna Rada Committee on Environmental Policy, Natural Resources and Elimination of Consequences of the Chernobyl Catastrophe. The main purpose of the programme is the development of sustainable ecologically balanced production and consumption in Ukraine through a system of State support for production that has a minimal impact on the environment and human health.

HOUSING

The regulatory framework for sustainable housing has been established through the following legislative acts: the Law of Ukraine “On Energy Saving” (1994), the Law of Ukraine “On Alternative Energy Sources” (2003), the Law of Ukraine “On the combined generation of heat and power (CHP) and the use of waste energy” (2005) and the Law of Ukraine “On alternative fuels” (2000).

The Ministry of Regional Policy of Ukraine has developed the Draft Law “On the energy efficiency of buildings” to support increasing the energy efficiency of buildings.¹¹³

In 2014 the government adopted a resolution “On stimulating the replacement of natural gas in the production of thermal energy for institutions and organizations financed from the state and local budgets.” Its essence is equating the tariff for production of thermal energy from imported natural gas and the tariff for heat energy produced by business entities using other types of fuel and energy. According to the resolution, in case of a price change for imported natural gas, a return of investment is guaranteed to a private investor for revision of tariffs for heat energy generated from other fuels.

In Ukraine, there are a number of private initiatives to promote sustainable economic entities. One of these is “The Sustainable Household”.¹¹⁴ The project provided training on the creation of action teams to put environmental principles into practice in the household, and involved educating, advising and consulting.

Another development has been the construction in Kiev of the first passive house in Ukraine (designed by Ernst T.). The project has now been added to the global catalogue of buildings constructed to the same standards as the original passive house built in Darmstadt, Germany.¹¹⁵ The house has been designed by the German agency Architecture and Environment which specializes in ecological architectural design, environmental design of buildings and structures, as well as designing energy efficient and passive buildings.

Another company operating in Ukraine in this field is Cetus Ltd. Since 2005, it has offered renewable energy-related services in housing design, construction and energy conservation, etc. The company focuses on the development and promotion of renewable energy technologies based on wind and solar systems, solar collectors, and heat pumps.¹¹⁶

In Ukraine, the large energy generating companies have begun paying a green tariff to individuals. Roman Bab’yachok, from Solonka village near the city of Lviv, became the first individual to sell electricity back to the grid in Ukraine (bought by the company Lvivoblenergo). Recently, Roman built a solar power plant in his garden with a capacity of 10 kW (comprising 40 panels of 250 W, a control unit, inverter AC and bilateral counter). The plant cost US\$ 18 000, and in summer, when the plant is at its productive peak, the owner sells the surplus to Lvivoblenergo.¹¹⁷

The Public Joint Stock Company State Savings Bank of Ukraine (Oschadbank) offers loans to individuals for the purchase of energy saving equipment and/or materials. Among the regional offices of Oschadbank, the Sumy administration issued a loan of US\$ 23,594 for the first “heating credit” funded solid boiler, the ATON Tradition. This lending facility supports the implementation of government energy conservation programmes. The credit provided by the bank can support the purchase of any non-gas powered boiler. The state subsidises part of the cost of the boiler. In all, 33 000 families can take advantage of this opportunity.¹¹⁸

The commercial Bank Lviv is successfully implementing a credit programme called Energy in 2006. The programme offers an unprecedented low interest rate for loans for energy saving improvements. This can help people insulate their homes and save money on their heating bills. Thanks to the cooperation with the Bank Lviv, Regional State Administration and a number of governments, customers get refund of interest on such loans. As a result of the low interest rate on loans, energy savings of up to 10 per cent in local currency can be achieved.¹¹⁹

TRANSPORT AND TOURISM

The main regulations in the tourism sector are the Law of Ukraine "On Transport" (1994), the Law of Ukraine "On Tourism" (1995). Also relevant is the Transport Strategy of Ukraine for the period until 2020 (2010)¹²⁰ which determines the direction and objectives for greening transport and which include:

- requirements for compliance of vehicles and transport companies to ensure the protection of the environment;
- requirements for ensuring sustainable development of human settlements and environmental safety of areas during the planning and development of territories, construction and reconstruction
- disposal of vehicles;
- a vehicle manufacturer can assume the responsibility for disposing of the vehicles it manufactures subject to compliance with the requirements of the Law "On disposal of vehicles";
- development of environmental (green) tourism.

Among European countries, Ukraine has the highest diversity of landscapes, and a great historical and cultural, ethnic and genetic heritage. Thus, the rational use of tourism and recreational potential of the country should be considered as one of the most effective ways to bolster economic development, stabilize the environmental situation and to ensure an adequate level of quality of life of the population. In Ukraine, there are a number of private initiatives to provide rural, environmental and green tourism services. There are also numerous online resources (around 50) offering information on intermediary or organization services. The market for tourism niches such as cycle tourism and gastronomic tours is also developing.

THE POLONYNA RAKITA PROJECT

Rural green tourism offers serious competition to larger tourist facilities. It combines a high level of comfort with homelike hospitality and memorable ethnographic flavour. An example is the implementation of the Polonyna Rakita project within the Yaremcha city council region. Its aim was to support the local economy through offering tourists access to a full range of mountain activities as well as local produce (meat, cheese, wool products) on Mount Rakita in the village of Mykulychyn.

The project is expected to increase the number of tourists visiting rural areas, and to create more than fifty new jobs. The area already receives up to 150,000 tourists (summer visitors and transit travellers) who are attracted by the local cultural entertainment activities held during the annual "Polonyna Rakita" festival.

8.4. INSTRUMENTS

ECONOMIC

Instruments include environmental taxes on: emissions of pollutants into the air from stationary sources of pollution; discharge of pollutants directly into water bodies; waste disposal (except placement of certain types (classes) of waste as secondary raw materials to be placed on economic entities' own territory (-ies); generation of radioactive waste (including those already accumulated); temporary storage of radioactive waste by producers in excess of the special conditions of the license with the validity period in accordance with the provisions of the Tax Code of 2011.

Other specific tools include:

- credit subsidies, reimbursement of lease payments, subsidies for organic farming;
- credits, taxation and other benefits to water users who introduce low-waste, waste-free, energy- and resource-saving technologies, or other activities in accordance with the laws that reduce the negative impact on water;
- environmental taxes (based on the actual volume of air emissions, pollutants discharged into water, waste disposal, the actual volume of radioactive waste temporarily stored by its producers, the actual volume of radioactive waste formed; regulated by the Tax Code of Ukraine);¹²¹
- green tariffs (special tariffs for the purchase of electricity generated from renewable energy sources or by using hydraulic power – produced only by micro, mini and small hydraulic power plants, as per the Law "On Electric Power Industry".¹²²

Ukraine actively implements the European Covenant of Mayors (CoMO) initiative, which is directed precisely at reducing CO2 emissions and increasing energy efficiency. More than 50 Ukrainian cities are taking part in the initiative. Local authorities also adopted an energy efficiency programme designed to reduce the use of traditional fuels by 20 per cent by 2020.

REGULATORY

Regulations supporting the GE and SCP in Ukraine include:

- National standards for energy efficiency in production
- ISO 14000 standards
- Regulations on emissions and waste generation
- Technical regulations on environmental labelling¹²³
- Technical regulations on energy labelling¹²⁴
- Inclusion of environment protection measures in the technical and quality requirements of public sector procurement exercises¹²⁵

Since 2011, the Ukrainian National Environmental NGO MAMA-86 holds an annual Green Action Week (GAW) – a week-long intensive awareness-raising networking campaign aimed at popularization of environmentally responsible consumption and focused each year on one of the relevant topics of sustainable consumption. Another example is the Ukrainian Go Organic! GAW campaign-2014 which was focused on two main target groups: consumers and farmers that are not well-informed on organic products, and that lack information about ways to go organic. Other important target groups were the media, local officials, teachers and other stakeholders or people who can act as information multipliers. Activities conducted in 12 regions of Ukraine within these target groups included stakeholder round tables, lessons for children in 20 schools, workshops for farmers and press events and a national roundtable. MAMA-86 produces and disseminates information materials (leaflets, posters, etc.) and uses a special website plus social media to disseminate information. They also engage other interested organisations and individuals in popularising organic food and farming.

INFORMATION

The following information tools are being used in Ukraine:

- Centre of resource efficient and cleaner production (created under the auspices of UNIDO)¹²⁶
- Eco-labelling for goods and services (voluntary)
- Information campaigns and informational materials for the public, producers of goods and services (training seminars, conferences, forums and other similar events, information in



Photo © iStock/Evgeny Tomlinets

mass media, publications) - mainly on the initiative of NGOs, but supported by the government

- NGO web-sites and publications
- Individual projects in schools on sustainable consumption (mainly initiated by schools or NGOs).

In terms of monitoring, Ukraine's first European Monitoring and Evaluation Programme (EMEP) station has been established, equipped and deployed (Co-operative Programme for Monitoring and Evaluation of Long-Range Transmission of Air Pollutants in Europe) in accordance with the new EMEP monitoring strategy.¹²⁷

INVESTMENTS IN SUSTAINABLE INFRASTRUCTURE AND BUSINESS

There are a number of initiatives in this area, in particular: projects related to environmental (green) investment (to reduce emissions or increase the absorption of greenhouse gases); and promotion of the production and consumption of energy produced from alternative sources.¹²⁸

Ukraine has also gained successful experience in realizing the concept of "green cities". For example, in the city of Krivyi Rih, parts of the former quarry along the Inhulets River have been transformed into an environmental reserve and tourist attraction, reclaiming industrial lands and utilizing extracted rock to create a canyon.¹²⁹

RESEARCH

Scientific research work is carried out within the framework of the National Academy of Sciences. Work is also being carried out within the framework of public-private partnerships, co-operation agreements signed by the Ministry of Ecology and Natural Resources of Ukraine and the Chamber of Commerce in Ukraine, and through cooperation agreements between the Ukraine's Chamber of Commerce and the State Agency for Water Resources.

A methodology for evaluating the effectiveness of the implementation of regional and governmental (national) environmental programmes has been developed (registered through the Ministry of Justice, 25.12.2012 № 2146/22458), as has a draft standard of "The procedure for maintaining the land-survey database".

The list of environmental (green) investments, agreed with the parties and contracts of sale of emissions credits – called Assigned Amount Units (AAUs) – are presented on the website of the National Agency of Environmental Investments of Ukraine.¹³⁰

Within the framework of the fundamental and applied National Academy of Sciences' research, the following projects are being implemented:¹³¹

- The state targeted scientific and technical programme on the development and implementation of energy-efficient LED (Light Emitting Diode) light sources and lighting systems (2009–2015);
- The state targeted scientific and technical programme on nanotechnologies and nanomaterials" (2010–2014);
- A targeted integrated programme for fundamental research on hydrogen as an alternative energy and other new technologies (2011–2015) *et al.*

ANNEXES

ANNEX I. CONSOLIDATED SWOT ANALYSIS OF GE AND SCP IMPLEMENTATION

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • existence of policies/plans/programs (PPP) in all countries enabling implementation of GE and SCP; • regulation of GE and SCP matters in formally approved strategies for environmental and sustainable development, the definition of objectives and the implementation of GE and SCP as a top priority within national policy objectives; • assignment of issues of implementation of the green economy and sustainable production and consumption to the central executive bodies responsible for economic management, use of natural resources, housing and communal services; • inclusion of data, making it possible to evaluate the success of a policies being implemented within national statistical systems • the states' active role in developing a system of specific indicators for sustainable development, including success indicators for a green policy; • incorporation of GE and SCP tasks in most states' Local Agenda-21's and local action plans for environmental protection (Armenia, Belarus); • active participation of states in international programmes on specific aspects of the implementation of GE and SCP ("Food Safety"), Project Management Air Quality); • all states exert considerable efforts to ensure adequate information support to implementation of GE and SCP (all countries have established Aarhus centres); • NGOs are involved in PPP planning. 	<ul style="list-style-type: none"> • absence in all the countries of a comprehensive policy document defining the strategy for green growth and /or sustainable consumption; • lack of a single focal point for the implementation of the introduction of GE and SCP, coordinating the actions of the central executive bodies responsible for economic management, the use of natural resources, housing and communal services; • absence in most countries (except Armenia and Belarus) of a system of specific sustainable development indicators, and indicators for green policy success; • weak regulation of participation of local authorities in ensuring the implementation of GE and SCP; • lack of elaboration of economic mechanisms and incentives for sustainable production and consumption; • inadequate information support, lack of a unified database and information system on state and regional policies, best practices of implementation of the green economy and sustainable production and consumption; • insufficient public involvement in resource management and PPP implementation.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • development of comprehensive programme documents, defining the strategy of green growth and/or sustainable consumption and directions for development of national legislation; • creation of government focal points for the implementation of GE and SCP; • approval of the state system of sustainable development indicators, including indicators of the success of a green policy; • legislative regulation of the participation of local authorities in ensuring the implementation of GE and SCP; • regulatory consolidation of economic mechanisms and incentives for sustainable production and consumption; • formation, including through the establishment of government portals, of a unified database and information system on the state and regional policies, best practices in implementation of the green economy, sustainable consumption and production; • formation and legislative regulation of mechanisms for public participation in the management of resources and decision-making. 	<ul style="list-style-type: none"> • lack of coordination between central executive bodies and local authorities on implementation of introduction of GE and SCP; • difficulties in adequately assessing the success of a green policy; • lack of economic interest on the part of companies and consumers in sustainable consumption and production; • contradictory nature and, as a consequence, lack of effectiveness of national legislation on the regulation of GE and SCP matters; • limited opportunities for public participation in resource management and decision-making on PPP implementation.

ANNEX II. GAP ANALYSIS TO PROVIDE GE AND SCP BY COUNTRY

An analysis of the available data on the effectiveness of GE and SCP support in the target countries revealed significant gaps and weaknesses in policy implementation.

Gaps and weaknesses that can be viewed as threats:

1. A contradictory nature and, as a consequence, a lack of effectiveness of national legislation on the regulation of GE and SCP issues;
2. Lack of coordination between the central executive bodies and local authorities on the implementation of GE and SCP;
3. Difficulty in adequately assessing the success of a greening policy;
4. Lack of interest on the part of economic entities and consumers in sustainable production and consumption;
5. Little opportunity for public participation in the management of resources and decision-making on PPP implementation;
6. Insignificant level of innovation investment, extremely low level of funding for research in the field of environmental protection, eco-innovation, recycling etc.

Gaps and deficiencies that weaken policy effectiveness:

1. Absence in all the countries of a comprehensive policy document defining the strategy for green growth and/or sustainable consumption;
2. Absence of a single focal point for introduction of GE and SCP, coordinating the actions of central executive bodies responsible for economic management, the use of natural resources, housing and communal services;
3. Lack of completion, in most countries, (except Armenia and Belarus) of a system of specific indicators of sustainable development, including indicators of the success of a greening policy;
4. Weak regulation on the participation of local authorities in ensuring the implementation of GE and SCP;
5. Insufficiently elaborated economic tools and incentives for sustainable production and consumption;
6. Insufficient information support, lack of a unified database and information system on the state and regional policies, best practices for implementation of the green economy and sustainable production and consumption;
7. Lack of public involvement in resource management and PPP implementation.

Ways to overcome gaps and weaknesses:

1. Development of comprehensive programme documents, defining strategies of green growth and/or sustainable use and development directions in national legislation;

2. Creation of governmental focal points for the implementation of GE and SCP;
3. Approval of state systems' sustainable development indicators, including indicators of the success of green policies;
4. Legislative regulation of the participation of local authorities in ensuring the implementation of GE and SCP;
5. Regulatory consolidation of economic instruments and incentives for sustainable consumption and production;
6. Development, in part, through establishment of governmental portals, of a unified database and information system on state and regional policies, and best practices for implementation of the green economy and sustainable consumption and production;
7. Adoption of legal procedures for public participation in the management of resources and decision-making in PPP planning and implementation;
8. Creation of research and venture public research funds for environmental protection, eco-innovation, recycling etc.

Positive developments that could be the basis for addressing the gaps and shortcomings:

1. Availability of PPP in all states ensuring implementation of GE and SCP;
2. Regulation of GE issues and GE approved strategies for sustainable development, definition of objectives and the implementation of GE and SCP as priority in the national policy;
3. Matters related to the implementation of the green economy and sustainable production and consumption within the competence of central executive bodies responsible for economic management, use of natural resources, housing and communal services;
4. Inclusion of data to evaluate the success of the policy tracked by statistical systems;
5. National activities in the development of specific indicators of sustainable development, including indicators of the success of a greening policy;
6. Incorporation of GE and SCP into the Local Agenda – 21 in most states and local action plans for the protection of the environment (Armenia, Belarus);
7. Active participation of international programmes on specific aspects of the implementation of GE and SCP ("Food Safety" Project Air Quality Management);
8. All states have exerted considerable efforts to ensure the implementation of information systems for GE and SCP;
9. There are good practices on public participation in PPP planning.

ANNEX III. INDICATOR DEVELOPMENT

Table 1: Availability of a national statistical system for TFSD Sustainable Development Indicators																				
	Indicator group	Subjective Well-being	Incomes and consumption	Food	Health	Employment activity	Education	Housing	Leisure	Land and ecosystem	Water	Air quality	Climate	Energy resources	Non-energy resources	Trust	Institutes	Physical capital	Knowledge capital	Financial capital
Country																				
Azerbaijan			■		■	■		■		■	■		■	■	■			■	■	■
Armenia			■		■	■	■	■		■		■		■			■		■	
Belarus			■		■	■	■	■	■		■	■	■	■		■		■		
Georgia			■		■	■	■			■	■	■	■	■	■		■	■		■
Moldova			■		■	■	■	■	■	■		■	■	■	■	■	■	■		■
Ukraine			■		■	■	■	■		■	■	■	■	■	■		■	■	■	■

Degree of reflection and availability in the statistical system of the country: ■ <50% ■ 50% ■ >50% ■ 100%

The percentage in each cell denotes the proportion of indicators within each group that have been developed to date, using the ranges: 100%; 50-100%; 50%; 1-50%

NOTES

1. http://stargazer.ru/xeber/Prezident_Ilham_Aliev_podpisal_Rasporyazhenie_o_podgotovke_Koncepcii_razvitiya_Azerbaidzhan_2020_vzglyad_v_budushchee-285942
2. <http://www.economy.gov.az/>
3. http://www.mst.gov.az/index_11_az.html; <http://www.eco.gov.az/mus-.php>
4. <http://www.eco.gov.az/es-milli-pro.php>
5. <http://www.eco.gov.az/b-qirmizikitab.php>
6. <http://area.gov.az/>
7. Measuring Sustainable Development. United Nations New York and Geneva.: http://www.unece.org/fileadmin/DAM/stats/publications/Measuring_sustainable_development.pdf
8. <http://www.trend.az/business/economy/2221223.html>
9. The "Clean City" JSC was registered in 2009 <http://tamizshahar.az/pages/view/tskilati-struktur>
10. <http://www.trend.az/business/economy/2225031.html>
11. Approved by the Decree of the President of Azerbaijan on April 6, 2010 № 838. <http://1news.az/economy/20111115052816707.html>
12. http://www.azerbaijans.com/content_1740_ru.htm
13. "On the regulation of electricity prices in the territory of the Republic" the Tariff (Price) Council.: <http://www.tariffcouncil.gov.az/?ru/resolution/archive/>
14. www.tariffcouncil.gov.az/?ru
15. <http://www.eco.gov.az/e-lab.php>
16. <http://www.eco.gov.az/e-sular.php>
17. www.gov.am
18. <http://minfin.am/index.php?cat=242&lang=3> (Armenian development strategy)
19. www.mnp.am
20. Organic Agriculture – Prospects for EECCA Countries, International Centre for Trade and Sustainable Development – <http://www.ictsd.org/bridges-news/>
21. <http://www.parliament.am/legislation.php?sel=show&ID=2136&lang=arm>
22. <http://www.parliament.am/legislation.php?sel=show&ID=4290&lang=arm>
23. [http://www.wastegovernance.org/Documents/Draft%20Strategy%20Document%20\(ARM\).pdf](http://www.wastegovernance.org/Documents/Draft%20Strategy%20Document%20(ARM).pdf)
24. http://www.wastegovernance.org/armenia_eng.html
25. <http://f.ru/node/13915#sthash.9UjvdRTL.dpuf>
26. <http://www.kavkaz-uzel.ru/articles/158767/>
27. Organic Agriculture – Prospects for EECCA International Centre for Trade and Sustainable Development – <http://www.ictsd.org/bridges-news/>
28. <http://www.minpriroda.gov.by/ru/legislation/nsur2020>
29. http://www.minpriroda.gov.by/ru/legislation/new_url_1670219329
30. http://www.minpriroda.gov.by/ru/legislation/new_url_1649710582
31. http://www.minpriroda.gov.by/ru/legislation/new_url_2009876790
32. <http://www.minpriroda.gov.by/ru/legislation>
33. <http://www.minpriroda.gov.by/ru/legislation/nsur2020>
34. <http://www.ndtm.by/>
35. http://expoforum.by/ru/year_14/may/bpf_14/k_teh_prezent.html
36. http://ecoinfo.bas-net.by/ecology-belarus/Nomera/2014/news_belarus_12.pdf
37. Industry Overview <http://www.enter-invest.com/cms/files/publications/ru/32.pdf>
38. http://www.zautra.by/art.php?sn_nid=13396
39. http://www.ifc.org/wps/wcm/connect/RegProjects_Ext_Content/ifc_external_corporate_site/home_bfsp_ru
40. Head of the Laboratory of the Institute of Soil Science and Agricultural Chemistry of the NAS of Belarus T. Seraya http://naviny.by/rubrics/opinion/2012/09/15/ic_articles_116_179213/print/
41. <http://www.ndtm.by/>
42. http://www.minpriroda.gov.by/ru/legislation/deistv_zakon/g_29.html
43. http://moe.gov.ge/files/Saministros%20Prioritetebi/NEAP_eng_2012.pdf
44. <http://www.mrdi.gov.ge/en/news/rdevelopment>
45. http://www.unece.org/fileadmin/DAM/env/water/Protocol_reports/reports_pdf_web/2013_reports/Georgia_report_RUS_04042013.pdf
46. http://www.unece.org/fileadmin/DAM/env/water/Protocol_reports/reports_pdf_web/2013_reports/Georgia_report_RUS_04042013.pdf
47. <http://www.vestikavkaza.ru/news/32621.html>
48. <http://coop.ge/en/about/>
49. http://government.gov.ge/files/41_32356_419541_Food_Safety_Strategy.pdf
50. <https://matsne.gov.ge/ka/document/download/1659434/4/ru/pdf>
51. www.government.gov.ge/files/276_37826_866935_198300713.pdf
52. http://nfa.gov.ge/index.php?lang_id=GEOu0026sec_id=35u0026info_id=1299#sthash.OdBXJ8rU.dpuf
53. <http://parliament.ge/ge/law/1441>
54. <http://www.new.ruraltourism.ge/>
55. <http://gnta.ge/>
56. <http://www.sw-associates.net/projects-and-activities/central-asia-caucasus/georgia/>
57. The Green Georgia Portal <http://www.greengeorgia.ge/?q=node/72#sthash.HWGfCDBi.dpuf>
58. <http://www.meteo.gov.ge/>
59. www.airgovernance.eu
60. <http://www.enpard.ge/aboutus>
61. http://www.gov.md/public/files/Moldova_2020_RUS.pdf
62. <http://www.gov.md/lib.php?l=enu0026idc=445>
63. Government Decree number 199 dated 03/20/2014 <http://lex.justice.md/ru/352311/>
64. http://www.zaometalon.com/?i_stat=3
65. http://www.lider-agro.md/rus/resursosberegayushaya-sistema-zemledeliya-put_ot_vspashki-k-no-till.html
66. http://www.infotag.md/m9_populis/188326/
67. http://www.un.org/ru/sustainablefuture/stories_iran_parched_plains.shtml
68. <http://www.md.undp.org/content/moldova/en/home/presscenter/pressreleases/2014/08/19/organic-farming-can-help-moldova-overcome-sustainable-development-challenges/>
69. Chisinau will host a presentation of the National study of organic farming // Moldova news. Teleradio-Moldova Company <http://m.trm.md/ru/economic/un-studiu-privind-agricultura-ecologica-in-moldova-este-prezentat-la-chisinau/#ixzz3E5FUUA8N>
70. <http://www.allmoldova.com/article/moldenergy-2014-ploshhadka-dlya-rezultativnyx-kontaktov/>
71. http://ru.publika.md/link_425621.html
72. http://www.noi.md/ru/news_id/42480
73. <http://www.maib.md/ru/news/43533/>
74. http://eeas.europa.eu/delegations/moldova/documents/press_corner/enp_progress_report_ru.pdf
75. <http://www.turism.gov.md/>
76. Official Gazette of Republic of Moldova, 2007, № 14-17., Art. 40 http://www.turism.gov.md/files/files/SDT%20Turism_2020%20Ro.doc
77. <http://www.tur.md/rom/section/257/>
78. <http://lex.justice.md/viewdoc.php?action=view&view=doc&id=350111&lang=2>
79. http://eeas.europa.eu/delegations/moldova/documents/press_corner/enp_progress_report_ru.pdf
80. <http://zakon4.rada.gov.ua/laws/show/2818-17/page>
81. <http://zakon4.rada.gov.ua/laws/show/577-2011-%D1%80>
82. <http://zakon4.rada.gov.ua/laws/show/1130-2011-%D0%BF>
83. <http://zakon1.rada.gov.ua/laws/show/145-2006-%D1%80/paran5#n5>
84. <http://zakon4.rada.gov.ua/laws/show/2174-2010-%D1%80>
85. <http://zakon4.rada.gov.ua/laws/show/1869-15>
86. <http://zakon3.rada.gov.ua/laws/show/1989-14>

87. <http://zakon0.rada.gov.ua/laws/show/4836-17>
88. <http://zakon1.rada.gov.ua/laws/show/1947-14>
89. <http://zakon1.rada.gov.ua/laws/show/2455-15>
90. <http://zakon2.rada.gov.ua/laws/show/243-2010-%D0%BF>
91. <http://www.menr.gov.ua/index.php/public/discussion/1808-proekt-rozporiadzhennia-kabinetu-ministriv-ukrainy-pro-skhvalennia-kontseptsii-vprovadzhennia-v-ukraini-bilsh-chystoho-vyrobnystva-rozroblenyi-departamentom-na-vykonannia-zakonu-ukrainy-pro-osnovni-zasady-stratehii-derzhavnoi-ekolohichnoi-polityky-ukrai>
92. <http://zakon4.rada.gov.ua/laws/>
93. <http://zakon4.rada.gov.ua/laws/show/1065-95-%D0%BF>
94. <http://mozdocs.kiev.ua/view.php?id=2211>
95. <http://zakon3.rada.gov.ua/laws/show/915-2001-%D0%BF>
96. <http://213.160.145.179/mebank/page/pro-sistemu>
97. <http://zakon4.rada.gov.ua/laws/show/344/2013>
98. <http://www.ecolabel.org.ua/>
99. <http://zakon4.rada.gov.ua/laws/show/1070-2008-%D0%BF>
100. <http://waste.ua/law/standard.html>,
101. http://www.bionafta.com.ua/materialu/10.Runok_i_problemu-obraschenija_s_othodami_v_Ukraine.pdf
102. <http://www.galpet.com.ua/uk>
103. <http://eco.biz.ua/ru/o-kompanii.html>
104. http://www.ifc.org/wps/wcm/connect/a8094c004f047e0cb9f0fb3eac88a2f8/GT_Guide_19032013_UKR.pdf?MOD=AJPERES
105. <http://www.humi-plus.com/ru/home/>
106. <http://zakon4.rada.gov.ua/laws/show/1602-18>
107. <http://zakon4.rada.gov.ua/laws/show/425-18>
108. <http://zakon4.rada.gov.ua/laws/show/1870-15>
109. <http://zakon4.rada.gov.ua/laws/show/z0183-11>
110. <http://www.organicstandard.com.ua/ua/clients>
111. <http://www.quality.ua/ua/>
112. http://www.bff.kiev.ua/about_festival.html
113. <http://www.minregion.gov.ua/regulatory/proekty-reguljatornyh-aktiv-dlja-obgovorennja-ta-analzy-reguljatornogo-vplyvu/proekt-zakonu-ukrayini-pro-energetichnu-efektivnist-budivel-638822/>
114. <http://domogospodarstvo.esd.org.ua/>
115. <http://ernst.kiev.ua/>
116. <http://cetusa.org.ua/o-kompanii.html>
117. http://ua-energy.org/upload/files/Newsletter_8.pdf
118. <http://www.oschadnybank.com.ua/private/loans/energy/index.php>
119. <http://www.banklviv.com/uk/about/news/?newsid=468>
120. <http://zakon4.rada.gov.ua/laws/show/2174-2010-%D1%80>
121. <http://zakon4.rada.gov.ua/laws/show/2755-17/page>
122. <http://zakon4.rada.gov.ua/laws/show/575/97-%D0%B2%D1%80>
123. <http://zakon4.rada.gov.ua/laws/show/529-2011-%D0%BF>
124. <http://zakon4.rada.gov.ua/laws/show/702-2013-%D0%BF>
125. Law on public procurement <http://zakon4.rada.gov.ua/laws/show/2289-17>
126. <http://recpc.kpi.ua/ru/node/77>
127. <http://ru.msceast.org/index.php/2011-03-01-13-42-28>
128. Law "On Alternative Energy Sources» <http://zakon4.rada.gov.ua/laws/show/555-15>
129. [http://unf.org.ua/uploadfiles/fckeditor/Korotko_Zbirnyk_ukr\(1\).pdf](http://unf.org.ua/uploadfiles/fckeditor/Korotko_Zbirnyk_ukr(1).pdf)
130. <http://www.seia.gov.ua/seia/control/main/uk/publish/article/638035>
131. <http://www1.nas.gov.ua/infrastructures/Legaltexts/ResearchTopics/Pages/default.aspx>

The “Sustainable Consumption and Production policies and initiatives in Eastern Europe and the Caucasus” report has been developed under the umbrella of the “Greening Economies in the Eastern Neighbourhood” (EaP GREEN) programme. The report provides information on the progress made in the EaP GREEN countries – Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine – in development of policies that enable a transition to a green economy (GE) and that integrate the principles of sustainable consumption and production (SCP).

European Neighbourhood and Partnership Instrument (ENPI) East region countries hold a bounty of natural resources, unique eco-systems and natural capital. These countries also have lasting industrial legacies and aspirations toward further development, both of which must be managed in a way that can not only protect and preserve, but also exploit and utilise the natural environment. The report aims at identifying the policy gaps as well as the next steps in GE and SCP policy making in the region.

This report strives to inform government policy-makers and practitioners in the region on SCP approaches, and could serve them as a useful tool to move forward.

EaP GREEN
Partnership for Environment and Growth



This project is funded by the EU



For more information contact:

UNEP Regional Office in Europe
11, Chemin des Anémones
CH-1219 Châtelaine
Geneva, Switzerland
Tel: (+41 22) 917-8294/95 Fax: (+41 22) 917-8029
Email: roe@unep.org Web: www.unep.org/roe

www.unep.org

United Nations Environment Programme
P.O. Box 30552 - 00100 Nairobi, Kenya
Tel.: +254 20 762 1234
Fax: +254 20 762 3927
e-mail: unep@unep.org
www.unep.org

