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**Opportunities and options for promoting a green economy in
the Eastern Partnership countries**

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OPPORTUNITIES AND OPTIONS FOR PROMOTING A GREEN ECONOMY IN THE EASTERN PARTNERSHIP COUNTRIES

Final REPORT

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1. EXECUTIVE SUMMARY

Note: Definitions and references are presented in the main text of the report.

1.1 Purpose

The global objective of this report is **to provide information about the current situation and potential opportunities in the Eastern partner countries** (Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine) **to make progress towards a green economy and the introduction of eco-innovation policy instruments.** The specific objectives of this report are:

- a) To provide an analysis of the state of play of eco-innovation and green economy policies in the Eastern partner countries that includes regulatory frameworks, R&D, and economic instruments.
- b) To identify policy areas where opportunities for further development of green economy and eco-innovation in the beneficiary countries exist.
- c) To identify areas where such developments could be better promoted through a regional approach.
- d) To propose actions that could be considered in order to favour the development of green economy and eco-innovation in partner countries.

This report has been drafted on the basis of the conclusion adopted by the Panel on Environment and Climate Change (established within the Eastern Partnership multilateral Platform on "Economic Integration and Convergence with EU Policies") which calls for cooperation in the promotion of green technologies and eco-innovation.

The report is based on the assessment of available information sources as well as on the information obtained during country missions to all Partner countries where representatives of governments, business community and NGOs were interviewed.

1.2 Approach

To assess both the current situation and potential opportunities to make progress towards a green economy and the introduction of eco-innovation policy instruments, the whole system from policy through legislation, institutions and instruments to practical operations and international activities must be taken into account. Therefore, the assessment is structured along the following lines:

- **Policy level:** Relevant strategies, policies and (action) plans in the field of sustainable development, environment, economy and other relevant sectors.
- **Legislative level:** Relevant existing and expected legislation.
- **Institutional level:** State/public administrative institutions, supporting institutions (mainly state agencies and R&D institutions), business associations, NGOs.
- **Instrumental level:** Regulatory instruments, economic instruments, financial instruments, voluntary instruments, and information instruments.
- **Operational level:** Production patterns, public sector and household consumption patterns, research and development activities.
- **International level:** Global, regional and sub-regional Multilateral Environmental Agreements (MEAs), bilateral, regional and multilateral projects and other relevant activities.

1.3 Summary of Findings

1.3.1 *Analysis of the state of play of eco-innovation and green economy policies*

- **Regardless of the fact that the concept of green economy/green growth is new for all Partner countries**, both **top-down** (governments, municipalities) and **bottom-up** (business

community, NGOs, academia) **activities relevant to a green economy could be found in each country.**

- **No country has specific strategic documents on green economy, sustainable production and consumption or cleaner production.** The majority of countries has some kind of general socio-economic development strategy and several countries have (Armenia, Ukraine) or are updating (Azerbaijan, Belarus, Georgia, the Republic of Moldova) environmental strategic documents. Sector strategies are in place in all countries for most of the relevant sectors of this study (energy, transport, industry, agriculture and food). Certain countries, such as Belarus, have adopted national innovation strategies.
- **The main part of relevant legislation dates back to the 1990s or to the first half of the 2000s. Newly prepared legal acts are often partially harmonized with the EU legislation.** Certain countries (e.g. Azerbaijan) have adopted detailed plans of harmonisation; others (e.g. the Republic of Moldova) have available detailed harmonization guidelines (drafted with the support of the EC). In several countries, **certain important legal provisions are missing** (e.g. waste management legislation in Georgia).
- All countries have ministries responsible for environment, economy, energy, transport, agriculture and food industry, forestry. Coordination among these ministries is often insufficient as inter-ministerial coordination bodies are either missing or exist without sufficient competencies (with partial exception of the Republic of Moldova), which creates barriers to the integration of environmental/ green economy issues into sector strategies and policies. The business community is organised in all countries in the form of chambers of commerce. NGOs are developed and active in all countries, some of them acting at sub-regional level (e.g. CENN). In addition, the RECs (Regional Environmental Centres) are active in the Republic of Moldova and in the Caucasus countries.
- **Environmental permitting systems in all countries are fully or almost fully based on the obsolete Soviet *ad hoc* system. Integrated permitting or technology-based environmental requirements are not in place**, with the partial exception of Belarus and Ukraine. **Economic instruments** of environmental policy are provided for by legislation but **not efficient** or even **not fully implemented**. **Harmful subsidies are still in place**, mainly in the energy and water sector. With the exception of Belarus, **systems of environmental monitoring and environmental statistics are rather underdeveloped**.
- **Activities relevant to green economy can be found in all countries.** Many exporting companies have certified the ISO 14000 standard and processes of certification of organic products are being developed by private entities. **Green procurement is generally not in place but the first steps are being made in this direction in some countries** (e.g. Georgia). **All countries implement measures to increase energy efficiency and to introduce renewable energy technology with the aim to reduce their dependence on energy imports and to improve their energy safety.**
- All countries have available certain **intellectual potential in scientific research institutes and in academies of sciences**, however financing of these institutions is not sufficient. In certain countries, bottom-up **activities in the field of eco-innovation** business can be found but demand for R&D is very low. Some countries (e.g. Belarus or the Republic of Moldova) **have institutions specialized in innovation and technology transfer**.
- All countries are parties to the majority of relevant global multilateral environmental agreements (MEAs) and regularly report to their secretariats. However, only some relevant regional MEAs have been ratified. From the point of view of the green economy, a major gap lies in the UNECE Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to the UNECE Convention on Long-range Trans-boundary Air Pollution (CLRTAP). As for sub-regional MEAs, countries are parties to geographically relevant conventions.

- At the project level, the majority of international institutions (especially the European Commission, WB, EBRD, EIB and UN agencies) as well as certain developed donor countries have implemented projects relevant for the development of green economy in each country (mainly in energy efficiency, renewable energy, waste and water sectors). In all countries, projects are being implemented under the framework of UNFCCC and the Kyoto Protocol mechanisms.

1.3.2 Policy areas where opportunities for further development of green economy and eco-innovation

- All countries have **substantial opportunities** for green growth in **energy efficiency (including housing), organic agriculture and food industry, transport sector and ecotourism/eco-agro-tourism**. Potential for **renewable energy** is widespread but differs from country to country
- Higher **opportunity in industry** (mainly manufacturing) can be found especially in **Azerbaijan, Belarus, Ukraine and Armenia**. In particular, Azerbaijan has started to implement a policy of development of non-oil economy and has national funding available in the form of revenues from the oil industry. **Opportunities in sustainable forestry management and “wood” industry** (e.g. construction materials) exist in **Belarus, Georgia and Ukraine**
- All countries would need to **improve** their **legal systems** and **especially** their **regulatory mix** (permitting system, economic instruments, elimination of harmful subsidies)
- All countries would need to build **additional capacities in the field of environmental management** (mainly environmental economics, eco-innovation, assessment of environmental technologies)
- All countries would need to **improve coordination of activities** amongst particular ministries and state agencies to assure the integration of green economy issues to sector strategies and policies
- All countries would need to develop specific **water related infrastructure** (drinking water supply, waste water treatment) as well as **waste management systems**
- All countries, with the exception of Belarus, would need to **improve** their **environmental monitoring system** and especially **environmental statistics** to be able to measure the environmental impact of measures towards green growth
- All countries would need to **support green procurement** at all levels of public administration to give positive signals to both business community and the general public
- **All countries would need to raise awareness in the field of green economy amongst all target groups** (state administration, business community, academia, NGOs, general public).

1.3.3 Areas where developments could be better promoted through a regional approach

Opportunities for regional or sub-regional activities can be found in **energy, transport** (rail and water transport), **air quality governance** and **water management** (trans-boundary rivers, Black Sea). In addition, due to the similarity of legislation, regulatory instrument mix, environmental monitoring and statistics, a regional approach could be applied in these fields as well.

1.3.4 Actions to be considered to favour the development of green economy and eco-innovation

1.3.4.1 Common recommendations to all Partner countries

All recommendations should be implemented step-by-step taking into account economic, social and environmental conditions in particular countries.

- Introduction of the green economy/green growth concept into national strategies, policies and plans.
- Approximation of national legislation with EU legislation (in all countries) and adoption of relevant missing legislation (in countries where applicable).
- Stepwise introduction of technology-based environmental requirements (taking into account best available techniques) and adjustment of integrated environmental permitting procedures.
- Improvement of efficiency of economic instruments (both negative and positive stimulation).
- Stepwise elimination of harmful subsidies, especially in the energy and water sectors; available saved funding should be used to subsidize environmental friendly/green economy related activities (energy and water savings, development of infrastructure, incentives to green business activities, eco-innovation).
- Introduction of best available techniques (BAT) and cleaner technologies in state-owned companies.
- Additional capacity building with respect to the needs of the green economy/green growth (mainly with regard to environmental economics, eco-innovation and assessment of environmental technologies, R&D in relevant fields).
- Improved coordination among relevant ministries and agencies (both in-country coordination and coordination of foreign aid).
- Stepwise introduction of "green procurement" in public sectors.
- Introduction of the eco-labelling scheme.
- Stepwise improvement of water infrastructure (drinking water supply, waste water treatment) and waste management systems (including recycling).
- Application of Strategic Environmental Assessment (SEA).
- Relevant awareness raising activities targeting major stakeholders (public administration, business community, general public).
- Improvement of national systems of environmental monitoring and environmental statistics (with the exception of Belarus).
- Improvement of general "business enabling conditions" – reduction of administrative burden (with the exception of Georgia)
- Support to businesses' and NGOs' bottom-up activities in fields related to the green economy.
- Cooperation at regional (air quality management) and sub-regional (railway and water transport, energy, inland water management, protection of the Black Sea, rehabilitation and use of the "Chernobyl areas") levels.
- Possible ratification and step-wise implementation of missing MEAs and Protocols.
- Consideration of becoming a Contracting Party to the Energy Community Treaty (with the exception of the Republic of Moldova and Ukraine).

1.3.4.2 Country-specific recommendations

Armenia

- Implementation of existing economic, energy and environmental policies with respect to green economy issues,
- Adoption and implementation of drafted legal provisions in the field of environment (Environmental Codex),
- Drafting and adoption of National Clean Production Strategy (based on existing draft document),
- Establishment of national cleaner production centre,
- Support the City of Yerevan and other big cities to sign the Covenant of Mayors.

Azerbaijan

- Make use of strong political support for the development of non-oil sectors of the economy to introduce green economy issues,
- Preparation of the Green Non-Oil Economy Strategy (including the introduction of best available technologies and techniques and awareness raising),
- Support the City of Baku and other big cities to sign the Covenant of Mayors.

Belarus

- Attracting FDIs with emphasis on advanced clean technologies during the privatization process,
- Support to the introduction of best available techniques in the state owned companies,
- Establishment of “centres of expertise” (use of high research potential of the country),
- Support to the development of SME sector, which might play an important role in innovation/eco-innovation business,
- Support the City of Minsk and other big cities to sign the Covenant of Mayors.

Georgia

- Reintroduction of economic instruments of environmental policy,
- Support to “green transport” (reintroduction of trams and trolleybuses in Tbilisi),
- Implementation of all measures to further develop the hydro energy sector while respecting ecological constraints,
- Implementation of a policy attracting foreign investors by offering “clean energy” with respect to the introduction of new environment friendly technologies,
- Implementation of an Action Plan for Tbilisi (developed within the framework of the Covenant of Mayors).

The Republic of Moldova

- Preparation and adoption of a National Environmental Strategy with emphasis on a green economy,
- Support to existing cleaner production, innovation and technology transfer promoting institutions,
- Support the City of Chisinau and other big cities to sign the Covenant of Mayors.

Ukraine

- Implementation of the National Environmental Strategy, preparation and implementation of a subsequent action plan with strong emphasis on green economy issues,
- Support the development of the SMEs sector, which might play an important role in innovation/eco-innovation business,
- Support the City of Kyiv and other big cities to sign the Covenant of Mayors.

1.3.4.3 Recommendations to the European Commission

Recommendations should be implemented in close dialogue with the Partner countries taking into account joint priorities and the availability of resources.

- **Areas of potential support by the EC**

Governments of the Partner countries represent the main addressees of the recommendations contained in this report. In addition, the following **options** for potential support are recommended to the European Commission for consideration:

Transfer of know how related to green economy/green growth (environmental technologies, eco-innovation, eco-design, integrated product policy), in particular:

- Best available techniques (reference documents),
- Product standards,
- Advanced modelling tools (economy, environment, energy, transport, agriculture),
- Technology and innovation platforms,
- Cluster initiatives.

Support the drafting of national green economy strategies and the introduction of green economy relevant issues to sector strategies and policies, in particular economic development strategies, but also regional development strategies, national innovation strategies, national transport strategies or National agricultural strategies.

Support the approximation of relevant legislation (mainly integrated permitting, environmental and product standards), in particular certain newly adopted directives:

- Directive 2010/75/EC on industrial emissions (IPPC),
- Directive 2010/31/EU on the energy performance of buildings,
- Directive 2009/28/EC 2009 on the promotion of the use of energy from renewable sources,
- Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles,
- Directive 2008/98/EC on waste.

Support the introduction/increase of efficiency of economic and market policy instruments

- Improvement of efficiency of air and water pollution charges,
- Assessment of the impact of harmful subsidies and of the ways of their gradual elimination,
- Assessment of externalities,
- Pricing of natural capital.

Support further application of information instruments, in particular:

- Introduction of eco-labelling,
- Application of strategic environmental assessment (SEA).

Support to the development of environmental monitoring systems and environmental statistics, in particular:

- Methodologies of emission inventories,
- Application of modelling tools (including modelling of projections and scenario analysis),
- Introduction of indicators (environmental indicators, green growth indicators).

Support the ratification of relevant MEAs, in particular drafting implementation plans (namely for new protocols under the UNECE CLRTAP).

Support the coordination of relevant activities, in particular:

- Establishment/re-establishment/development of national coordination units (units coordinating foreign aid),
- Coordination of donor activities at regional level.

Support to other actors within existing budget constraints (municipalities, R&D institutions, business associations or NGOs).

Special emphasis should be put on activities at sub-regional and regional levels.

- **Implementation of potential support by the EC**

The abovementioned types of support could be implemented by the EC through the following activities:

Increased importance of green economy issues in ongoing projects (up to maximum extent allowed by the ToRs), in particular:

- Air Quality Governance (ratification of CLRTAP protocols, introduction of integrated permitting and best available techniques, introduction of advanced modelling tools),
- Waste Governance (introduction of best available techniques),
- Towards a Shared Environmental Information System (introduction of green growth indicators),
- CIUDAD (implementation of green economy relevant projects),

Preparation of a new “umbrella” project on Green Economy Governance

Having experience with both completed (water) and running (waste, air quality) governance related projects, the preparation and implementation of a similar project in the field of green economy/green growth could be considered. Within the framework of such a project, it would be possible to:

- Build on the results of specialised “governance” projects,
- Put together a number of relevant EU and national experts,
- Implement a considerable part of the above stated types of support (in particular transfer of know-how),
- Implement relevant pilot/demonstration projects at regional, sub-regional, national and local levels.

Increased importance of green economy/green growth relevant issues in existing financing mechanisms (Neighbourhood Investment Facility, Cross Border Cooperation) and in “soft” cooperation activities (TAIEX, Twinning).

Increased coordination of activities (and cooperation including jointly financed projects wherever possible) **with those international organisations which are active in the region in the field of green economy** (mainly UN agencies, WB, EBRD, EIB).

1.3.4.4 Recommendations to Member States

- Support to national companies willing to invest in Partner countries (with respect to introduction of clean technologies).
- Support to national R&D institutions to invite institutions from the Partner Countries to consortia applying for support from FP7 and future FP8 (DG Research and Innovations),
- Support to municipalities having bilateral partnerships with municipalities in partner countries to introduce green economy related activities.

1.3.4.5 Recommendations to other international institutions

- UN agencies (UNECE, UNEP, UNDP, UNIDO, FAO), WB, OECD, OCSE, EIB, EBRD: Increased coordination of activities in Partner countries, increased focus on the green economy related projects,
- EBRD: Introduction of green economy related issues into its Country Strategies,
- EEA: Continuing support to the development and application of environmental indicators in the framework of the SEIS project.
- UNDP/UNIDO: Increased support in the field of “cleaner production”
- UNECE: Continuing support to the development and application of environmental indicators.

2 .INTRODUCTION

2.1 Purpose of the report

The objective of this report is to provide information about the current situation and potential opportunities in the Eastern partner countries (Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine) to make progress towards a green economy and the introduction of eco-innovation policy instruments. The report served as a basis for the EaP thematic seminar on the green economy held on 7 July 2011. The specific objectives of this report are:

- To provide an analysis of the state of play of eco-innovation and green economy policies in the Eastern partner countries that includes regulatory frameworks, R&D, and economic instruments.
- To identify policy areas where opportunities for further development of green economy and eco-innovation in the beneficiary countries exist.
- To identify areas where such developments could be better promoted through a regional approach.
- To propose actions that could be considered in order to favour the development of green economy and eco-innovation in partner countries.

This report has been drafted on the basis of the conclusion adopted by the Panel on Environment and Climate Change (established within the Eastern Partnership multilateral Platform on "Economic Integration and Convergence with EU Policies") which calls for cooperation in the promotion of green technologies and eco-innovation.

The report is based on the assessment of available information sources (see Annex II and III) as well as on the information obtained during country missions to all partner countries where representatives of governments, business community and NGOs were interviewed.

2.2 Definitions

In general, **"green economy"** is **the economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities**¹. In particular, "green economy" is an economy or economic development model based on **sustainable development** and knowledge of environmental economics. Alternatively, OECD has developed and introduced the concept of **"green growth"**, defined as **maximising economic growth and development while avoiding unsustainable pressure on the quantity and quality of natural assets and harnessing the growth potential that arises from transiting towards a green economy**².

Two changes are needed: to develop towards green economy

- **Change of production patterns towards more energy and material efficient production (services) with less emissions and wastes and higher use of renewable (non-fossil) resources** (eco-innovation, eco-design, clean production, integrated product policy, introduction of environmental technologies, voluntary activities),

¹ Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – Synthesis for Policy Makers, UNEP 2011 (www.unep.org/greeneconomy).

² Green Growth Strategy Synthesis Report (Note by the Secretary General), C(2011)29/Rev1, OECD, March 2011

- **Change of consumption patterns towards environment-friendly products and services** (public consumption, individual/household consumption, corporate consumption).

Production and consumption patterns should be understood as an interactive system with strong mutual positive feedbacks. For instance, increased demand for environmental products and services may have a positive impact on production patterns; conversely, environmentally friendly production can generate a positive impact on consumption patterns via advertisement of such products.

Development of the “green market” is understood as one of the main objectives of the above mentioned changes (therefore not only green market with products and services but also the green labour market) as **market forces can significantly speed up the shift towards a green economy**. Development of a green market brings about the development of **eco-innovation, eco-design, cleaner production and integrated product policy** activities.

Eco-innovation is the introduction of any new or significantly improved product (good or service), process, organisational change or marketing solution that reduces the use of natural resources (including materials, energy, water and land) and decreases the release of harmful substances across the whole product life-cycle.³

Eco-design is an approach to product design intended to pay special consideration to the environmental impact of the product during its whole lifecycle. In a product life cycle assessment, the main lifecycle stages are procurement, manufacture, use and disposal.

Cleaner production is a preventive, company-specific environmental protection initiative. It is intended to minimise waste and emissions and maximise product output. By analysing the flow of materials and energy in a company, one tries to identify options to minimise waste and emissions out of industrial processes through source reduction strategies. Improvements in organisation and technology that help reduce or identify better options in the use of materials and energy and to avoid waste, wastewater and gaseous emissions, heat losses and noise.

All products cause environmental degradation in some way, whether from their manufacturing, use or disposal. **Integrated Product Policy (IPP)** seeks to minimise such effects by looking at all phases of a product's life-cycle and taking action where it is most effective. The life-cycle of a product is often long and complicated. It covers all the areas from the extraction of natural resources, through their design, manufacture, assembly, marketing, distribution, sale and use to their eventual disposal as waste. At the same time it also involves many different actors such as designers, industry, marketing people, retailers and consumers. IPP attempts to stimulate each part of these individual phases to improve their environmental performance.⁴

Green jobs⁵ means work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute(s) substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize or altogether avoid, generation of all forms of waste and pollution.

³ See <http://www.eco-innovation.eu>

⁴ See <http://ec.europa.eu/environment/ipp>

⁵ Green Jobs: Towards decent work in a sustainable, low carbon world, UNEP 2008

Ecotourism⁶ is about uniting conservation, communities, and sustainable travel. This means that those who implement and participate in ecotourism activities should follow the following ecotourism principles:

- Minimize impact.
- Build environmental and cultural awareness and respect.
- Provide positive experiences for both visitors and hosts.
- Provide direct financial benefits for conservation.
- Provide financial benefits and empowerment for local people.
- Raise sensitivity to host countries' political, environmental, and social climate.

Economic Instruments⁷ encompass a range of policy tools, from pollution taxes and marketable permits to deposit-refund systems and performance bonds. The common element of all economic instruments is that they effect change or influence behaviour through their impact on market signals. Economic instruments are a means of considering "external costs," i.e. costs to the public incurred during production, exchange or transport of various goods and services, so as to convey more accurate market signals. Those "external costs" may include natural resource depletion, environmental degradation, health impacts, social impacts, etc. Economic instruments, mainly in the form of pollution charges, are understood by the competent authorities as revenue raising tools. In some cases, their stimulating power towards the change of production patterns is limited due to their low rates.

Environmentally⁸ **harmful subsidy** is a result of a government action that confers an advantage on consumers or producers, in order to supplement their income or lower their costs but increases the levels of output/use of a natural resource and therefore increases the level of waste, pollution and natural exploitation. Harmful subsidies are mainly in place in the energy (fossil fuels) and water sectors.

2.3 Approach

This report (based on system approach) is aimed to complement the similar ones, prepared by OECD⁹ (which is focused on selected cross-cutting issues) and UNECE¹⁰ (which prefers sector approach). In addition to the regional approach (common recommendations to all countries), each partner country is tackled specifically (both in analysis and in specific recommendations).

To be able to assess both the current situation and potential opportunities to make progress towards a green economy and the introduction of eco-innovation policy instruments, **the whole system from**

⁶

http://www.ecotourism.org/site/c.orLQKXPCLmF/b.4835303/k.BEB9/What_is_Ecotourism__The_International_Ecotourism_Society.htm

⁷ <http://www.who.int/heli/economics/econinstruments/en/index.html>

⁸ Compiled from: Environmentally Harmful Subsidies: Identification and Assessment, IEEP 2009

⁹ Environmental Governance in Context of Green Growth in EECCA: Main Policy Conclusions, ENV/EPOC/EAP(2011)3, OECD May 2011

¹⁰ Draft official substantive document on greening the economy: mainstreaming the environment into economic development, ECE/CEP/S/2011/L.3, UNECE April 2011

policy through legislation, institutions and instruments to practical operations and international activities must be taken into account. Therefore, the assessment is structured along the following lines:

- a) **Policy level:** Relevant strategies, policies and (action) plans in the fields of sustainable development, environment, economy and relevant sectors (energy, manufacturing industry, mobility/transport, land management and farming, forestry, tourism).
- b) **Legislative level:** relevant existing and expected legislation.
- c) **Institutional level:** State/public administrative institutions, supporting institutions (mainly state agencies and R&D institutions), business associations, NGOs.
- d) **Instrumental level:** Regulatory instruments (permitting, integrated approach, BAT and technology based requirements), economic instruments (environmental charges, taxation, subsidies, etc.), financial instruments (state budget, environmental funds, international financial mechanisms, etc.), voluntary instruments (EMS, voluntary agreements), information instruments (environmental monitoring, environmental statistics, eco-labelling, reporting, education, awareness raising),
- e) **Operational level:** Production patterns (including “green jobs”, eco-innovation, eco-design and integrated product policy), consumption patterns – public sector (including “green procurement”), consumption patterns – households, research and development activities.
- f) **International level:** Global, regional and sub-regional MEAs, bilateral, regional and multilateral projects and other relevant activities.

In this respect, while not underestimating the importance of other stakeholders, **the role of governments in facilitating developments towards green economy and green market is understood as crucial** because they:

- Develop and implement relevant strategies, policies and plans and adopt relevant legislation,
- Introduce supporting normative, economic, market-based, financial, voluntary and information instruments,
- Introduce “green procurement” in public sector, which represents important signal to business community to change production patterns,
- May exert direct impact on production patterns in the case of state-owned companies,
- May establish favourable economic conditions to make environment friendly production patterns more attractive for business community,
- May directly and indirectly support relevant R&D activities such as eco-innovation,
- Implement public information and awareness raising activities about environmentally-friendly consumption patterns (e.g. via eco-labelling).

3. BASIC CHARACTERISTICS OF COUNTRIES

Basic characteristics

In geographic terms, Partner Countries can be divided into **two compact sub-regions**: the **East European sub-region** (Ukraine, Belarus and the Republic of Moldova) and the **Caucasian sub-region** (Armenia, Azerbaijan and Georgia), separated by the Black Sea and the area of Russian Federation.

In political terms, all countries are republics, some of them (Azerbaijan, Belarus, Georgia) with a very strong role of presidents. In all countries, **the role of central governments is stronger than usual in the EU Member States**. This can be seen in Azerbaijan and Belarus in particular.

All countries are interested in deepening their relations with the EU and have started harmonisation of their legal provisions and standards. All countries are party to the UN Economic Commission for Europe (UNECE) and their representatives are active in relevant UNECE bodies and activities (e.g. Environment for Europe process). Partner Countries – Armenia (AR), Azerbaijan (AZ), Belarus (BE), Georgia (GE), Republic of Moldova (RM) and Ukraine (UKR) – can be characterized by the selected basic indicators:

Table 1: General indicators by country

Indicator	AR	AZ	BE	GE	RM	UKR
Area (1000 km ²)	28	83	207	69	33	579
Population (million), estimate 2008-2009	3.24	8.95	9.67	4.44	3.57	46.1
Population density (capita/km ²)	116	108	47	64	108	79
HDI-Human Development Index (rank)	0.695 (76)	0.713 (67)	0.732 (61)	0.698 (74)	0.623 (99)	0.710 (69)
EPI- Environmental Performance Index ¹¹ (rank)	60.4 (76)	59.1 (86)	65.4 (53)	63.6 (59)	58.8 (86)	58.2 (87)

Sources: UN Statistical Division, UNDP (HDI), Yale University (EPI),

Data in Table 1 show that Belarus has the highest values of both HDI and EPI, while the Republic of Moldova has the lowest value of HDI and Ukraine the lowest value of EPI.

¹¹ Environmental Performance Index, prepared annually for 163 countries represents an aggregate of 25 indicators covering ecosystem vitality and environmental health. More information on <http://epi.yale.edu>

ECONOMY – PRODUCTION PATTERNS¹²

Basic economic and economy relevant indicators of partner countries are presented in Table 2:

Table 2: Basic economic indicators by country

Indicator	AR	AZ	BE	GE	RM	UKR
GDP per capita (2009) (in USD constant prices 2005)	2 770	4 871	5 090	2552	1 500	2 569
GDP per capita (2009) (in USD constant prices 2005, PPP)	4 793	8 752	11 841	4 335	2 592	5 737
Share of industry in GDP (%), 2008	13.4	55.6	28.1	13.5	18.8	27.3
Share of agriculture, hunting, forestry and fishery in GDP (%), 2007	20	6	9	11	12	7
Share of agriculture, hunting, forestry and fishing in total employment (%)	45.6 (2009)	38.4 (2009)	10.2 (2009)	53.4 (2008)	31.1 (2008)	6.9 (2009)
Energy intensity (toe/1000 USD PPP); 2007	0.176	0.188	0.281	0.173	0.364	0.451
Share of coal in tpes (%), 2008	0	0	1.8	1.8	2.8	30.0
Share of renewable in tpes (%), 2008	5.2	1.5	5.5	33.7	2.8	1.4
Share of renewable in electricity production (%), 2008	31.2	9.3	0.3	84.8	2.3	6.0
Forest area (as% of total area)	9	11	42	39	12	17
Agricultural land (as% of total area)	49	58	43	43	77	71
Share of science, research and development in total employment ¹³ (%)	0.28 (2009)	1.08 (2009)	0.7 (2009)	n.a.	n.a.	0.47 (2009)
Ease of doing business (rank amongst 25 SEE and EECCA countries) ¹⁴	8	10	15	1	19	24

Sources: UN Statistical Division, IEA (share of coal and renewable), National Statistical Yearbooks

¹² Detailed description of production and consumption patterns in the Partner Countries for the period until 2005 can be found in the report "Sustainable consumption and production in EECCA", UNEP and EEA, 2007 (available at http://www.eea.europa.eu/publications/eea_report_2007_3)

¹³ Data are not fully comparable due to different methodologies applied by particular statistical offices

¹⁴ See <http://www.doingbusiness.org>

Taking into account available information and comparing the data in Table 2, it can be concluded that:

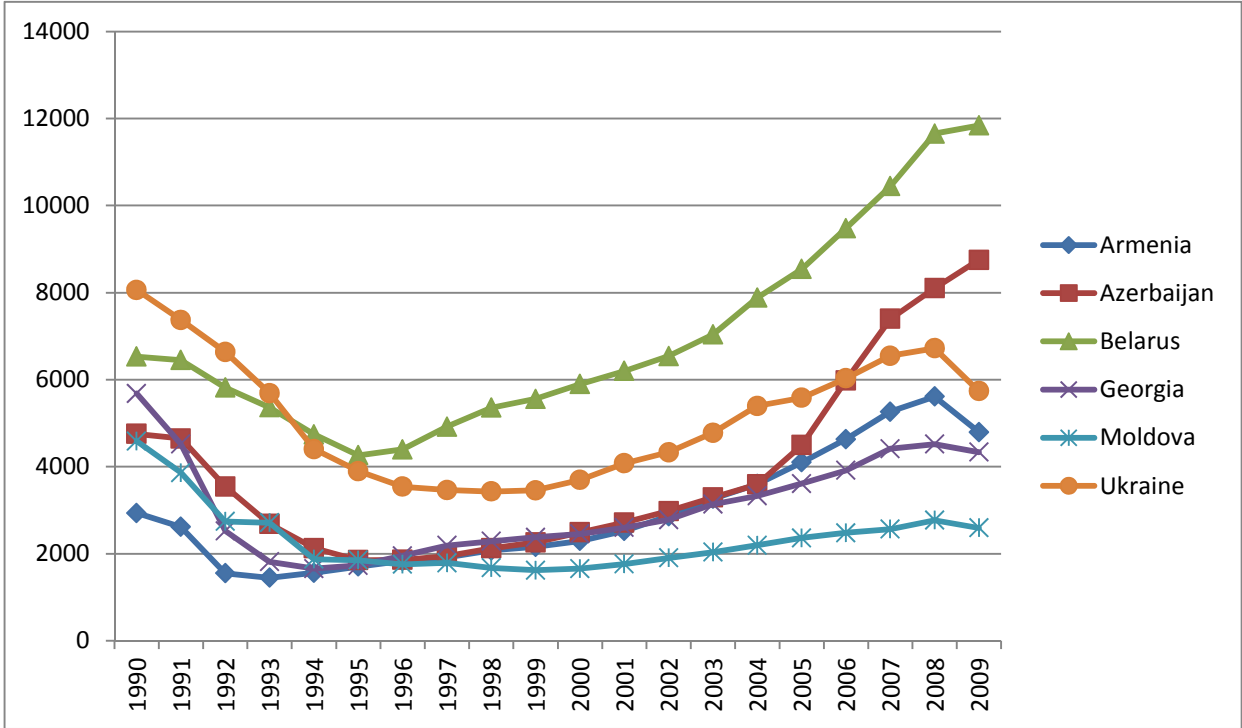
- GDP per capita differs significantly from country to country: according to the classification by the World Bank, Azerbaijan and Belarus belong to the “upper middle-income economies” while Armenia, Georgia, the Republic of Moldova and Ukraine to the “lower middle-income economies”,
- GDP per capita of Belarus is comparable with those of Bulgaria or Romania,
- Azerbaijan¹⁵, Belarus and Ukraine have rather large industrial sectors (with more than 20% share of industry in GDP) while in Armenia, Georgia and the Republic of Moldova agricultural sectors have a more important role in the countries' economy (with more than 10% share of agriculture in GDP),
- The position of Azerbaijan is specific amongst the countries (the only oil and gas rich country): despite its highest share of industry it also has the third highest share of employment in agriculture,
- The share of agriculture, hunting, forestry and fishing in total employment is higher than 30% in Armenia, Azerbaijan, Georgia and the Republic of Moldova,
- In some countries, such as Azerbaijan and Belarus, large energy and industrial companies are state-owned and supervised by line ministries,
- With the exception of Azerbaijan, all countries are to a certain extent dependent on the import of external energy sources (gas and oil),
- With the exception of Ukraine, all countries have fully or almost coal-free energy sectors; two countries (Armenia and Ukraine) operate nuclear power stations and Belarus has started preparatory works for its first nuclear power station,
- The share of renewables in both total primary energy sources and electricity production is extremely high in Georgia due to hydropower, while it is moderate in the other countries,
- Belarus and Georgia present a high percentage of forestation while the remaining countries have rather limited forest coverage¹⁶,
- The administrative conditions enabling business environment are particularly favourable in Georgia, favourable in Armenia, moderately favourable in Azerbaijan and Belarus and somehow difficult in Ukraine and the Republic of Moldova.

The development of GDP of particular countries in the period 1990 – 2009 is presented in Figure 1 below.

¹⁵ Including oil and gas industry

¹⁶ In the case of Ukraine, the total area of the country should be taken into account (area of forests reaches almost 100 thousand km²).

Figure 1: GDP per capita (USD PPP constant prices 2005) in 2000 – 2009

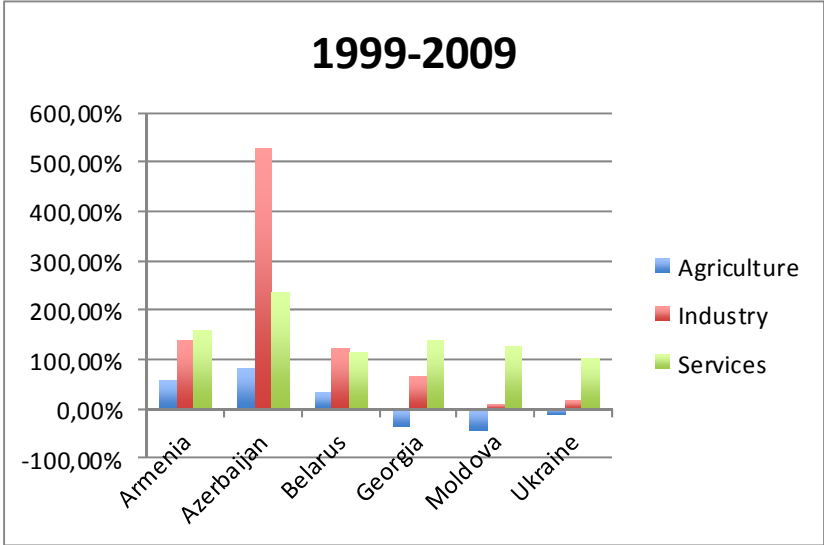


Source: World Bank, 2011 (<http://data.worldbank.org/indicator>)

Figure 1 shows that the **GDP of Georgia, the Republic of Moldova and Ukraine is still below the 1990 level. All countries, with the exception of Azerbaijan (whose rapid growth is driven by oil and gas mining and export) and Belarus, have been significantly affected by the recent global economic crisis.** The effects of the crisis have been particularly severe in Armenia and Ukraine, moderate in Georgia and the Republic of Moldova and slight in Belarus.

Growth in the main economic sectors (industry, agriculture, services) between 1999 and 2009 is presented in Figure 2:

Figure 2: Growth in the main economic sectors



Source: World Bank, 2011 (<http://data.worldbank.org/indicator>)

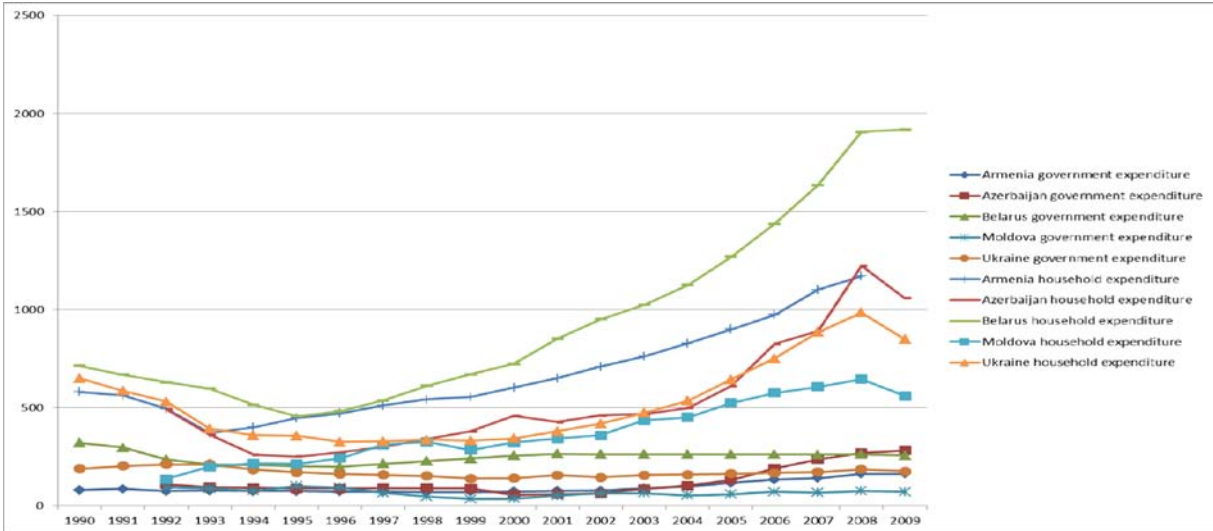
It can be seen that all countries have shown **substantial growth in services**; Armenia, Azerbaijan and Belarus also in industry (tremendous growth in Azerbaijan is given by the development of the oil and gas industry). The agricultural sector has declined in Georgia, the Republic of Moldova and Ukraine.

In the field of services, all countries have both natural and man-made conditions for the further development **of tourism**: historical places or natural areas. In addition, Azerbaijan, Georgia and Ukraine can offer seashores. Nevertheless, the necessary infrastructure is not fully developed and in some cases administrative barriers (visas) still remain. **From the point of view of green economy, ecotourism and/or eco-agro-tourism represent**, especially in combination with organic agriculture, **an option for the sustainable development of this sector**.

ECONOMY-CONSUMPTION PATTERNS

The development of government and household expenditure in Partner Countries in 1990-2009 is presented in Figure 3:

Figure 3: Trends in household and government expenditure per capita (USD constant prices 2000)

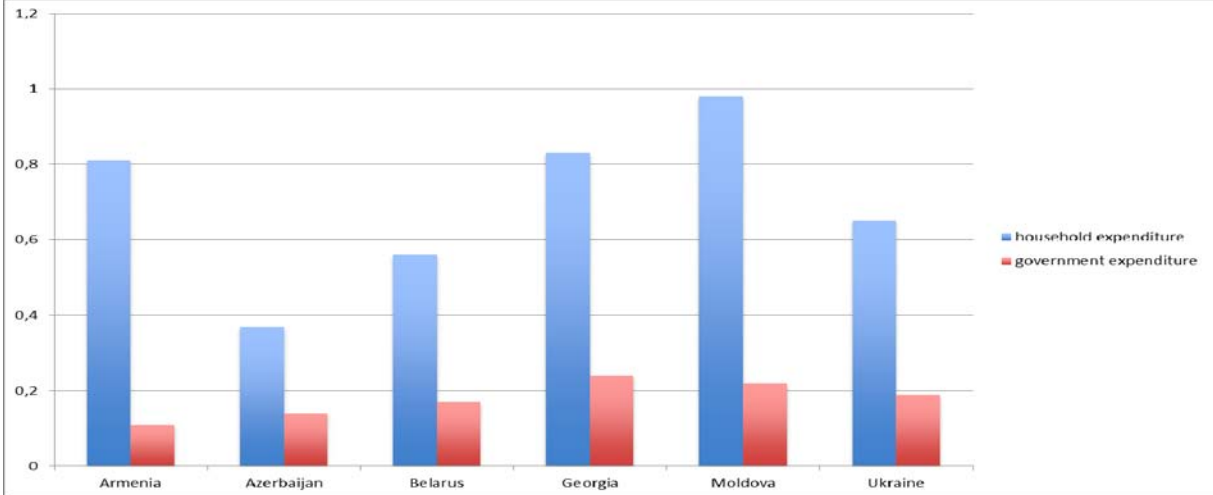


Source: WB 2011 (<http://data.worldbank.org/indicator>)

Note: Data for Georgia not available

The figure suggests that both household and government expenditure is low, the former being much higher in all countries. **Household expenditure above USD 1000 per capita per year can only be found in Belarus, Azerbaijan and Armenia**. Recent household and government expenditure as a share of GDP is presented in Figure 4:

Figure 4: Share of household and government expenditure in GDP (1 = 100%)



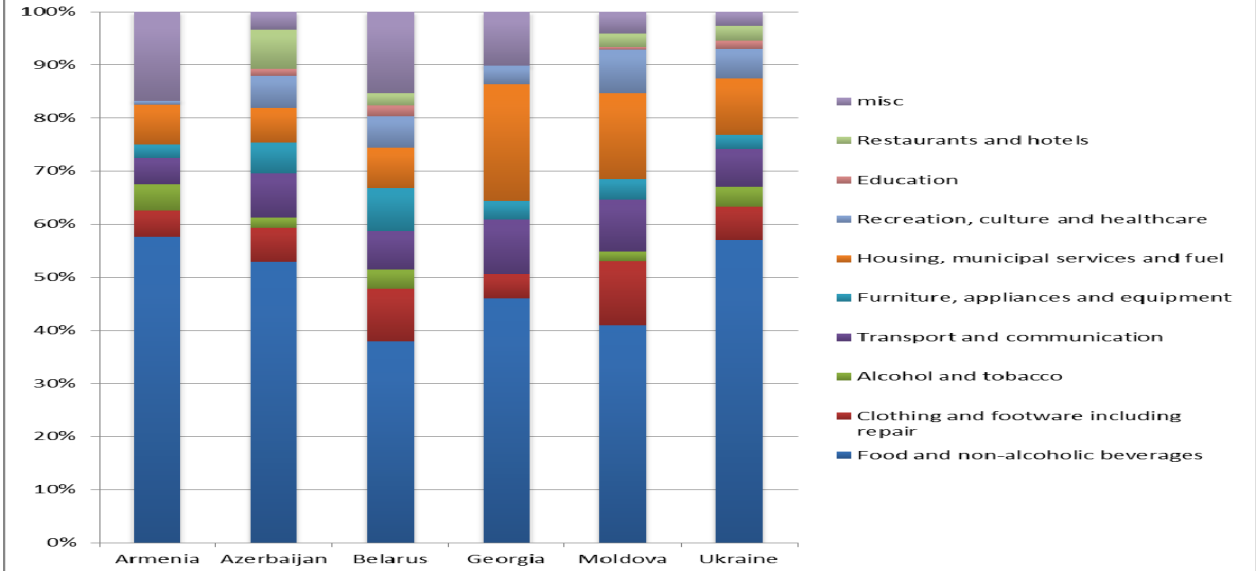
Source: WB, 2011 (<http://data.worldbank.org/indicator>)

Note: The graph does not include all elements contributing to GDP (exports, imports, investments). Hence, the two bars shown can add up to less than or be greater than 1 (100%).

It can be seen that **household expenditure is much higher than that of government**, which is typical not only for the whole EECCA region¹², but also for the EU countries (in EU 27 average for 2008, household expenditure represented 57.6% of GDP while the government expenditure 21.2% of GDP¹⁷).

Patterns of household expenditure in particular countries in 2009 (Georgia 2008, Armenia 2005) is presented in Figure 5:

Figure 5: Patterns of household expenditure



Source: National Statistical Yearbooks

¹⁷ Europe in Figures, Eurostat Yearbook 2010

It can be seen that the share of expenditure for food and non-alcoholic beverages represents between 37.9% (Belarus) to 57.5% (Armenia), which is several times higher value comparing to the EU countries (in EU 27 average for 2006, household expenditure for food and non-alcoholic beverages represented 17.7% of total expenditure only¹⁷).

In general, the development of the consumption patterns of the population seems to follow that common in the Central and Western European countries. In this respect, the increase in the number of private cars (one of the OECD core economic-environmental indicators¹⁸) can represent this trend.

Table 3: Number of private passenger cars (in thousands)

Country	2000	2005	2006	2007	2008	2009	2009/2000	2009/2008	Cars per 1000 inhabitants (2009)
Armenia ¹⁹	n.a	n.a.	n.a.	n.a.	n.a.	430	-	-	133
Azerbaijan	332	479	549	617	700	759	2.29	1.08	85
Belarus	1 385	1 737	1 931	2 085	2 191	2 349	1.70	1.07	242
Georgia	245	340	416	467	501	759	3.10	1.51	113
Moldova	256	293	319	339	366	408	1.59	1.11	114
Ukraine	5 250	5 539	5 603	5 940	6 394	6 519	1.24	1.02	145

Source: National statistical yearbooks, Ministry of Transport (Armenia)

It can be seen that **the number of cars has increased in all countries**, especially in Azerbaijan, Belarus and Georgia, but is still lower compared to that of EU countries and **additional increase is to be expected**. Taking into account the 2009/2008 figures, it can be concluded that this trend has not been influenced by the global economic crisis. This development brings about the continuing decline of interest in public transport and the increased environmental stress (air pollution, noise pollution). Therefore, all countries have implemented measures to reduce the environmental impact of growing car fleet (e.g. regulation of the import of obsolete cars or improvement of fuel quality standards).

¹⁸ See <http://www.oecd.org/dataoecd/22/14/41877753.pdf>

¹⁹ Number of cars in Armenia is not available to the public.

ENVIRONMENT

Differently from economic information, where the most important indicators are available on a yearly basis, **availability of environmental data and information is rather limited** (see Box 1), which represents a **serious barrier to the assessment of the environmental impact of measures introduced to support development towards a green economy**. National state-of-the-environment reports are not being prepared on a regular basis and some information is not available at all. A limited amount of data is available in national statistical yearbooks²⁰.

Box 1: Availability of regular data flows and indicators

- Integrated environmental monitoring systems are not in place in the majority of countries (with the exception of Belarus and partially Ukraine);
- Monitoring and statistical data collection is often carried out by several (in some countries many) different institutions under different ministries; the level of coordination is often not sufficient;
- Certain important environmental data are missing (concentrations of PM10, PM2.5, ground-level ozone in ambient air) or incomplete (emission, discharge and waste inventories);
- Self-monitoring by enterprises based on physical/chemical measurements is not common; environmental data are often reported on the basis of simple calculations using production parameters or estimates;
- Monitoring data is frequently not treated using advanced modeling techniques (e.g., extrapolation of air quality monitoring data over the country area);
- Environmental monitoring is generally not carried out in accordance with international standards, methodologies and procedures. Data quality control is often insufficient;
- Comparability of data among countries is complicated in some cases due to different classifications applied (e.g., for hazardous waste);
- Monitoring equipment is often insufficient and obsolete. The number of automated monitoring stations is very limited (with the exception of Belarus);
- Many countries do not have sufficient financial resources to upgrade their monitoring networks and to hire a sufficient number of qualified staff. On the other hand, the operation of manual monitoring stations requires much more manpower than automated stations do;
- Certain types of monitoring are not carried out on a regular basis in some countries (e.g., monitoring of soil, forests and biodiversity);
- Data transfer from monitoring stations and laboratories to analytical centres is often done via hardcopies or telephone. The application of modern communication equipment or media is not common;
- Environmental reports include statistical data and measured values without detailed (or any) interpretation and assessment;
- The development of environmental indicators is just beginning in all countries.

Source: Current Situation and Specific Needs of Six ENP-EAST Countries and the Russian Federation with regard to the Main SEIS Components (UNECE 2010)

Taking into account information available (Environmental Performance Reviews, reports to the secretariats of MEAs, *ad hoc* national and international studies and reports – see Annex II), it can be concluded that **all countries face serious environmental problems**, especially with regard to air, water, waste, soil, forests, and biodiversity.

²⁰ Certain countries (Armenia, Azerbaijan) publish annual environmental statistical publications.

Selected basic environmental indicators available that are relevant to the green economy are presented in Table 4.

Table 4: Basic Environmental Indicators

Indicator	AR	AZ	BE	GE	RM	UKR
per capita CO₂ emissions (t) (without sinks)	1.65 (2007)	3.6 (2008)	6.2 (2008)	2.77 (2006)	3.16 (2005)	9.30 (2008)
Per capita SO₂ emissions (kg)	7.1 (2009)	1.0 (2009)	14.8 (2009)	3.5 (2008)	3.13 (2005)	33.3 (2008)
Per capita NO_x emissions (kg)	4.9 (2009)	3.0 (2009)	18.4 (2009)	6.5 (2008)	8.40 (2005)	20.3 (2007)
Per capita NMVOC emissions (kg)	8.9 (2009)	14.1 (2009)	30.1 (2009)	28.2 (2008)	n.a.	n.a.
Per capita NH₃ emissions (kg)	n.a.	1.0 (2009)	2.1 (2009)	5.9 (2008)	n.a.	n.a.
Per capita TSP emissions (kg)	0.8 (2009)	2.2 (2009)	8.4 (2009)	9.7 (2008)	1.3 (2008)	n.a.
Household water consumption index (l/capita/day)	49 (2009)	100 (2008)	145 (2009)	272 (2008)	95 (2008)	n.a.
Total water consumption (m³/capita)	468 (2009)	853 (2009)	166 (2009)	141 (2008)	222 (2008)	296 (2009)
Intensity of water use (water abstraction/accessible resources) (%)	n.a.	35.7 (2009)	2.7 (2009)	4.9 (2008)	n.a.	n.a.
Untreated waste water (% of total waste water)	73.5 (2009)	97 (2009)	30 (2009)	n.a.	n.a.	n.a.
Population with access to safe drinking water (%)	88.6 (2007)	78	86 (2009)	80 (2008)	n.a.	n.a.
Municipal waste (kg/capita/year)	n.a.	688 (2008)	320 (2009)	n.a.	597 (2008)	n.a.
Hazardous waste (1000 t/year); 2008	n.a.	16.0	n.a.	24.2	1.1	1230
Ecological footprint (global hectares per capita)	1.8	1.9	3.8	1.8	1.4	2.9
Total bio-capacity (global hectares per capita)	0.7	0.8	3.3	1.2	0.7	1.8
Environmental expenditure (% of GDP)	0.10 (2008)	0.15 (2008)	1.2 (2009)	n.a.	0.33 (2008)	n.a.

Sources: UN Statistical Division, UNECE-2nd EPR of Azerbaijan (2011), UNECE-2nd EPR of Georgia (2010), EAP Task Force (environmental expenditure), The State of the Environment in the Republic of Belarus, MNRE, Minsk 2010.

Table 4 suggests that emissions of both carbon dioxide and air pollutants are mainly due to the structure of primary energy sources as well as to the structure of national economy (share of industry) – see Table 2. Supply of safe drinking water and especially waste water treatment is an issue for all countries where data is available. The ecological footprint is rather low than in EU or OECD countries. Nevertheless it exceeds particular values of total bio-capacity.

Multilateral Environmental Agreements (MEAs) represent a very important tool to improve state of the environment in the countries and some of them can support the developments towards green economy substantially. The status of ratification of “green economy relevant²¹” MEAs is presented in Table 5:

Table 5: Participation in relevant global and regional MEAs and programmes

MEA/programme	AR	AZ	BEL	GE	RM	UKR
UN Framework Convention on Climate Change (UNFCCC)	R	R	R	R	R	R
Kyoto Protocol	R	R	R	R	R	R
Vienna Convention on the Protection of the Ozone Layer	R	R	R	R	R	R
Montreal Protocol + Amendments	R	R ²²	R	R	R	R
Convention on Persistent Organic Pollutants (POPs) (Stockholm Convention)	R	R	R	R	R	R
Convention on the Control of Trans-boundary Movements of Hazardous Waste (Basel Convention)	R	R	R	R	R	R
FAO Global Forests Resources Assessment	P	P	P	P	P	P
Convention on Long-range Trans-boundary Air Pollution (CLRTAP)	R	R	R	R	R	R
Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP)			R			R
1985 Protocol on the Reduction of Sulphur Emissions			R			R
Protocol concerning the Control of Nitrogen Oxides			R			R
Protocol concerning the control of emissions of Volatile Organic Compounds (VOCs)						S
1994 Protocol on Further Reduction of Sulphur Emissions						S
Protocol on Heavy Metals	S				R	R
Protocol on Persistent Organic Pollutants	S				R	S
Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol)	S					S
International Cooperative Programme (ICP) on Forests (ICP Forests)			D		D	D
Convention on the Protection and Use of Trans-boundary Waters and International Lakes (Water Convention)		R	R		R	R
(Espoo) Convention on Environmental Impact Assessment in a Trans-boundary Context	R	R	R		R	R

Source: UNECE

Note: P – participation, S – signature, R – accession, acceptance, approval or ratification, D – data reporting

²¹ i.e. those whose implementation leads to the change of production patterns.

²² With the exception of the Beijing Amendment.

It can be seen that all countries are parties to all relevant global multilateral environmental agreements (MEAs) and regularly report to their secretariats. However, only some relevant MEAs have been ratified. From the point of view of the green economy, a major gap lies in the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, the Protocol on Heavy Metals and the Protocol on Persistent Organic Pollutants to the UNECE Convention on Long-range Trans-boundary Air Pollution (CLRTAP) whose requirements represent considerable challenge for the introduction of modern technologies. Major barrier to the ratification of these protocols lies in very high implementation costs expected.

Introduction of environment friendly technologies is one of the most important factors of the development towards green economy. In this respect, environmental permitting is the major regulatory instrument. In all countries, the permitting procedure is more or less fully based on the *ad hoc* approach developed in the former Soviet Union (see Box 2). **Generally binding technology based environmental requirements** (e.g. emission limit values for particular technologies or quantified technical requirements for the operation of installations, as provided for by the Directive 2010/75/EC on Industrial Emissions) **are not in place** (with partial exception of Belarus and Ukraine).

Box 2: Typical environmental permitting procedure in Partner Countries:

Each installation, which is expected to have impacts on the environment, is subject to permit issued by the Competent Authority (obviously the ministry responsible for the environment). The Competent Authority decides whether intent should pass through the environmental impact assessment (EIA) process and whether full or limited EIA is to be carried out. In the case of intents with low environmental impacts, technical documentation is only required. Based on the results of EIA process or of the assessment of technical documentation, the permit is being issued. Together with the permit, two normative documents are being prepared and approved:

- Maximum allowable emissions into the air with obvious validity of 5 years
- Maximum allowable discharges of waste water with obvious validity of 3 years.

After the expiry of these permits or in the case of substantial change, the operator has to apply for a new permit (which may be either identical with the previous one or includes new requirements reacting to the change implemented).

The maximum allowable emissions (MAE) for each relevant pollutant, expressed in mass units per time (tons per year or grams per second) are calculated on the basis of maximum allowable concentrations (MACs) using the EKOLOG dispersion model. Pollutants are divided among several classes depending on their health and environmental impacts. When the maximum allowable emissions cannot be achieved for some objective reasons, the enterprise is requested to decrease concentrations in stages until the maximum allowable emissions are reached.

Maximum allowable discharges are calculated on the basis of MACs using the OSES dilution model. When the maximum allowable discharges cannot be achieved for some objective reasons, the industry is requested to decrease concentrations in stages until the maximum allowable discharges are reached.

In the case of waste waters, the permit is required only in the case that waste water is not discharged into public sewers. For waste, the Competent Authority issues permits for the disposal or treatment of waste at specific sites.

Before starting the operation of the installation, an environmental passport must be developed. The environmental passport shows a collection of all relevant environmental information: emissions into the air, waste water discharges, solid waste generation and also resource consumption, waste management, recycling or effectiveness of pollution abatement techniques. The draft environmental passport is submitted to the Competent Authority for approval. The validity of the environmental passport is five years but a new passport must also be prepared and submitted in the case of change.

As a part of permitting procedure, **charges for air and water pollution** are calculated and laid down by the Competent Authority.

Note: MACs are obviously the old Soviet hygienic limit values set for many dozens of air and water pollutants; the majority of them not being monitored.

Source: Environmental Performance Reviews of Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine

Economic and market-based instruments represent another crucial factor in the development towards a green economy. Certain economic instruments (mainly charges for air pollution, charges for water pollution) are being used in all countries since the early 1990s. Nevertheless, their low rates and insufficient collection reduce their environmental effectiveness significantly and most of them play a marginal revenue raising role. Several countries are currently considering the introduction of new economic instruments (e.g. payment for ecosystem services).

Harmful environmental subsidies, which represent a serious barrier for development in the direction of a green economy, are common for all Partner countries. Fossil fuel subsidies especially, but also water use subsidies and agricultural production subsidies are considered the most harmful ones, giving strong signals for both unsustainable production and unsustainable consumption which leads to inefficient use of natural resources and to increased environmental pressure. According to the IEA, the fossil fuel consumption subsidy represents 1.6% of GDP in Azerbaijan and 4.7% of GDP in Ukraine. However all countries understand the need of getting rid of such subsidies, their removal is considered hardly feasible by the governments due to serious direct (increased prices of energy and water for households) and indirect (increased prices of products and services due to increased prices of energy) social impacts.

4. ANALYSIS - COUNTRY SPECIFIC ISSUES

ARMENIA

Note: Detailed description of national economy and other green economy relevant issues can be found in the 2010 2nd National Communication on Climate Change²³.

Strategic level

The 2008 Sustainable Development Program represents the major strategic document. The 2008 National Environmental Action Plan is the main environmental policy document (being revised in 2011). Sector strategic documents have been adopted (e.g. the 2005 Energy Sector Development Strategy or the 2007 National Plan for Energy Saving and Renewable Energy) or are being drafted (e.g. Strategy for Sanitary and Phyto-sanitary Sector, Industrial Development Policy or Strategy on the Intellectual Property Rights). In addition, preparation of a special strategic document on the green economy is being considered by the Ministry of Environmental Protection.

Legislative level

Basic environmental legislation is from 1990s and the first half of 2000s and it is planned to update it. A new environmental codex (framework law on the environment) is being drafted by the Ministry of Environmental Protection, which represents an opportunity to introduce provisions relevant to green economy (new or revised economic instruments are expected to be provided for: Environmental insurance, payments for the production or import of non-environmental products, increased air and water pollution charges). On the basis of this framework, particular environmental legislation (air, water, waste) is planned to be updated consequently. In the energy sector, the 2001 Law on Energy and the 2004 Law on Energy Savings and Renewable Energy are in force.

Institutional level

Relevant ministries (Ministry of Environmental Protection, Ministry of Economy, Ministry of Energy and Natural Resources, Ministry of Transport and Communication, Ministry of Agriculture) are complemented by supporting bodies (e.g. Armenian Development Agency). Coordination of activities among the ministries is often not sufficient. Both business associations (Chamber of Commerce and Industry) and NGOs (e.g. ECOGLOBE or Woman's Environmental Organization) are well developed and active. REC Caucasus is active in Armenia in fields relevant to green economy (e.g. regional training in cleaner production, LEAPs or "eco-village").

Instrumental level

Environmental permitting is based on the obsolete Soviet practice. Technology based environmental requirements are not in place but their introduction is being prepared by the Ministry of Environmental Protection. Economic instruments (air emissions charges, water pollution charges) provided for by legislation are rather inefficient mainly due to low rates which do not create sufficient motivation to reduce pollution.

Operational level

Production patterns: Mining (copper, molybdenum, gold) represents an important part of industry but no policy has been adopted for this sector. Partial National Cleaner Production Strategy has been drafted for chemical industry with support of UNIDO (this strategy includes an assessment of 13

²³ See <http://unfccc.int>

companies of different size and subsequent proposal of both general and specific measures to improve material efficiency and reduce harmful environmental impacts). SME sector represents 41.7% of GDP (2008). Emerging innovation business are present in the country (innovation centre, technology parks, and incubators – e.g. BARVA Innovation Centre, producing solar heating systems or anti-frost systems for the protection of fruit trees, VIAS techno park with 700 employees focused on IT, Gyumri Technopark expected to operate in high-tech manufacturing industry or Free economic zone and the agriculture logistic centre close to the Zvartnots National Airport). Certification of organic agricultural products has started. The total area under organic agriculture in 2009 was 2,000 hectares, of which 1,500 hectares were certified. Projections indicate that organic agriculture could reach 50,000 hectares of arable land under organic management, representing 2.5% of the agricultural land in Armenia. In addition 6,000 to 10,000 hectares of pasture could be brought into organic management. As around 45% of economically active population works in agriculture, the development of organic agriculture may lead to the increased number of “green jobs” (transfer of non-green jobs to the green ones).

Box 3. Certification of organic products in Armenia

ECOGLOBE LTD is an internationally recognised organic certification body founded in 2002. It is pioneering in Armenia and other countries of the CIS and EECCA region within emerging markets. The organisation promotes local organic markets and opens access to global markets. **ECOGLOBE** takes the initiative in development and enforcement of public and private standards. It creates professional capacities to assess the compliance and to provide competent and recognized certification. **ECOGLOBE** is accredited by DAP for the EU market and by the USDA National Organic Program. **ECOGLOBE** is organic certification body compliant with ISO Guide 65 and EN 45011.

By May 2011, certificates for 33 Armenian agricultural companies have been issued, mostly for primary agricultural production.

Source: <http://www.ecoglobe.am>

Consumption patterns: Green procurement is not in place in the public sector and eco-labelling is not introduced. 30% of vehicles are gas fired. The major share of household consumption lies in food and non-alcoholic beverages (57.5%), which is the highest value amongst all partner countries. Public transport use has declined (with the exception of the underground in Yerevan) in connection with increased number of cars. Certain tram lines have been closed down.

Research and development activities: A network of state Research and Development Institutes and institutes of the National Academy of Sciences is well developed. However, information on any institution specialized in environmental economy or eco-innovations is not available.

International level²⁴

At the project level, the majority of international institutions (EU, WB, UNDP, and UNIDO) and certain donor countries have implemented projects that are relevant for the development of green economy. Some examples are provided below:

- EC: Socio-economic Benefits of Environmental Protection in ENP Policy Area, Water Governance, Waste Governance, Air Quality Governance, Co-investment funding in the Field of Water and Sanitation, Support to Kyoto Protocol Implementation, Trans-boundary River

²⁴ Status of ratification of relevant Multilateral Environmental Agreements can be found in Table 5

Management for the Kura River

- UNDP: Projects in the field of Climate change mitigation and adaptation, sustainable forestry,
- UNIDO (office in Yerevan): Cleaner Production (1st phase completed, follow-up being prepared),
- CDM: 5 projects in progress, 6 additional projects approved

Table 6: SWOT Analysis of Armenia

Strong points	Weak points
<p><i>External factors</i> Support by Armenians living / working abroad.</p> <p><i>Internal factors</i> Low carbon energy sector (nuclear, hydro, gas), High percentage of gas fuelled vehicles (30%), Well developed strategies and legislation in energy and economy sectors, Emerging eco-innovation business (innovation company, technology parks, innovation centres, incubators), Certification system for organic food in place, Active and well structured Chamber of Commerce and Industry, Well developed and active environmental NGOs, Well developed mechanisms under the UN FCCC (national communications, CDM projects).</p>	<p><i>External factors</i> Tensions with some neighbouring countries, High dependence on external energy sources, High dependence on foreign donors,</p> <p><i>Internal factors</i> Part of environmental legislation is obsolete (inherited from the Soviet period), Low area of forests (8-11% of total country area), Insufficient waste management (lack of recycling, unsafe landfills), Insufficient drinking water supply and waste water treatment, especially in rural areas, Importance of air quality management is underestimated (regardless of the poor air quality in cities), Declined public transport.</p>
Threats	Opportunities
<p><i>External factors</i> Continuing or even worsening tensions with some neighbouring countries, Economic vulnerability, Vulnerability to climate change and to natural hazards, Decline of interest by foreign donors.</p> <p><i>Internal factors</i> Insufficient implementation of policies, Lack of domestic funding to implement development plans.</p>	<p><i>External factors</i> Mitigation of tensions with neighbouring countries Attraction of FDI.</p> <p><i>Internal factors</i> Implementation of existing strategies and policies in economic and energy sectors, Adoption and implementation of new National Environmental Policy, Environmental Codex harmonized with the EU legislation, Optimization of economic instruments of environmental policy, Utilization of national potential in hydro power (30% of national consumption of electricity could be covered by 2025), Industrial development respecting green economy issues, Establishment of free economy zones with focus on green economy, Further development of “bottom-up” activities by private sector (certification of products, introduction of CSR, eco-innovations), Development of organic agriculture and food industry (including certification).</p>

Conclusions

Armenia has **opportunities** for green growth especially in the field of **energy savings (including housing), renewable energy, agriculture (organic farming), mining and manufacturing industry (through the introduction of environment friendly technologies). Tourism (ecotourism, eco-agro-tourism) could be targeted as well.** At the strategic level, several strategies, programs and plans have been developed. Legislation is developing towards harmonisation with EU legislation and certain important provisions have been adopted or will be adopted soon. Potential exists for the introduction of integrated permitting (including technology based requirements and best available techniques) and for increased application of economic and market instruments, especially air and water pollution charges or charges for the import/production of environmentally harmful products. High potential can also be found in change of the consumption patterns of the public sector (green procurement). On a longer-term horizon, certain change in households' consumption patterns could be achieved via more extended awareness raising activities.

Priorities as presented by national authorities and other stakeholders (consensual for all):

- Increase of the share of industry in GDP (up to 30%, as planned by the Ministry of Economy), which could become an opportunity for the introduction of modern or more environment-friendly technologies,
- Promotion of export (mainly agricultural products),
- Energy safety (through increased energy efficiency),
- Balanced regional development (reduction of regional disparities),
- Improvement of waste management (development of infrastructure),
- Improvement of water management (development of infrastructure).

Specific needs for assistance, specified by national authorities and other stakeholders:

- Transfer of know-how in the field of climate change adaptation measures (mainly impacting on the water sector and agriculture) and natural risks (related to climate change) prevention,
- Methodology for advanced environmental impact assessment (including the modelling techniques).

Potential institutions for cooperation (besides relevant ministries):

- National Statistical Service (strong interest in further development of environmental statistics),
- REC Caucasus – Yerevan Office (strong interest in green economy),
- ECOGLOBE (interest in organic agriculture),
- Chamber of Commerce and Industry (IT, food industry, manufacturing industry).

AZERBAIJAN

Note: Detailed actual information about the country relevant to green economy can be found in the 2nd Environmental Performance Review of Azerbaijan²⁵, prepared by the end of 2010.

Strategic level

The Sustainable Development Strategy 2008–2015 represents the main strategic document of Azerbaijan. No far-reaching environmental policy document has been adopted (the previous documents, namely the National Programme on Environmentally Sustainable Social and Economic Development for the period 2003–2010 and the Comprehensive Action Plan on Improvement of the Environmental Situation for the period 2006–2010, have expired) but special strategies are in place (e.g. State Hazardous Waste Management Strategy or State Programme on Renewable and Alternative Sources of Energy for 2008–2015 and Concrete Action Plan for alternative sources for 2010–2020). Policy and strategic documents in the water sector are lacking. An Additional Action Plan of Environmental Measures for the period 2011–2015 is being adopted by the President, which consists of ten substantive sections, which are however unevenly developed. The most extensively developed section focuses on development of green areas, such as urban areas, along the roads. It includes 15 projects, all of which have cost estimates. Other well-developed sections are wastewater management (ten projects, only one of which has cost estimates); industrial and household waste management (eight projects, two of which have cost estimates); restoration of lakes and surrounding areas polluted by oil waste and other hazardous substances (six projects, only one of which includes cost estimates), and improvement of legislation (nine projects, none of which includes cost estimates).

Legislative level

Most legislation had been adopted in 1990s and subsequently updated. The Government has adopted a detailed State Program on Legal Approximation of the Legislation of the Republic of Azerbaijan with the EU Acquis, which includes the majority of relevant directives in all sectors. Its implementation will bring about the introduction of many legal provisions which could support developments towards a green economy (permitting based on technology based requirements, improvement of waste and water management). An example of a transposition schedule for selected relevant directives is presented in Table 7:

Table 7: Selected directives to be transposed²⁶

Directive	Tentative deadline
Directive 2008/1/EC on Integrated Pollution Prevention and Control (IPPC)	I.Q.2012
Directive 2000/60/EC establishing a Framework for Community Action in the Field of Water Policy ("Water Framework Directive")	I.Q.2011
Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe ("Air Quality Framework Directive")	I.Q.2011

²⁵ See <http://www.unece.org/publications/environment/epr>.

²⁶ Directive 2010/75/EC on industrial emissions has been adopted after the adoption of this program.

Directive 2008/98/EC on Waste	I.Q.2012
Directive 2000/76/EC on the Incineration of Waste	I.Q.2012

Source: State Program on Legal Approximation of the Legislation of the Republic of Azerbaijan with the EU Acquis

Institutional level

Relevant ministries (Ministry of Economic Development, Ministry of Ecology and Natural Resources, Ministry of Agriculture, Ministry of Industry and Energy, Ministry of Transport) are supported by several institutions (AZPROMO - Azerbaijan Export and Investment Foundation, State Agency for Alternative and Renewable Energy, National Academy of Sciences). Both business associations (Chamber of Commerce) and NGOs (e.g. SDPO, Ecological Society Ruzgar) are developed and active (e.g. coalition of NGOs on the assessment of environmental behaviour of enterprises). REC Caucasus is active in Azerbaijan as well.

Instrumental level

Environmental permitting is fully based on obsolete Soviet practice. Technology based environmental requirements are not introduced. Economic instruments – air and water pollution charges - are rather inefficient due to low rates. Tariffs in the energy sector have become more cost reflective in recent years. Water tariffs are still low and do not promote efficient use of water. Euro standards for vehicles and fuel quality standards are being introduced and enforced gradually (see Box 4).

Box 4. Improvement of Vehicle Fleet in Azerbaijan

Transition to European standards. The Cabinet of Ministers of the Republic of Azerbaijan adopted Resolution No. 45, dated 6 March 2010, “Conforming the requirements on harmful substances released into the atmosphere by auto-transportation means put in motion in the territory of the Republic of Azerbaijan (imported and manufactured in the Republic of Azerbaijan) with European standards”. With this resolution, decision is made to transition to Euro 2 ecological standards in the country as of 1 July 2010 and to take the necessary measures to transition to Euro 3 and higher standards. SOCAR as a fuel producer declared that the petrol and diesel fuel produced in its enterprises are conform to Euro 2 ecological standards and no price increase is expected. Standards on certification and testing of vehicles imported in the country have been prepared and they are expected to be adopted soon.

Source: Priorities of Environmental Protection. Summary Report, ECOLEX Baku 2010

Operational level

Production patterns: Decision by the President on the implementation of best available technologies. The implementation of national policy of the development of non-oil and gas economy (**sectors**) represents a huge opportunity for moving towards green economy. Displacement of industrial installations from populated areas connected with their reconstruction (e.g. oil refineries) is in progress and is linked to the introduction of more advanced technologies. The established large and growing environmental company (EKOL Engineering Services, a joint venture of the SOCAR State Oil Company and certain Western companies) covers not only clean-up of soils, but also provides advanced environmental consultancy.

Consumption patterns: Food and beverages represent around 53% of total household consumption. The number of cars has increased by factor of 2 between 1990 and 1999. Public transport is declining (with the exception of underground in Baku).

Research and development activities: the network of the state Research and Development Institutes and institutes of National Academy of Sciences is well developed. The Academy of Sciences plays an active role in research related to green economy (e.g. participation in UNEP activities).

International level²⁷

At the sub-regional level, Azerbaijan is a party to the (Tehran) Framework Convention for the Protection of the Marine Environment of the Caspian Sea.

At the project level, the majority of international institutions (e.g. EC, UNDP) and certain donor countries have implemented projects relevant for the development of green economy. The majority of projects relates to the energy sector (energy efficiency, renewable energy). Some examples are provided below:

- EC: Socio-economic Benefits of Environmental Protection in ENP Policy Area, Water Governance, Waste Governance, Air Quality Governance, Support to Kyoto Protocol Implementation, Trans-boundary River Management for the Kura River, Energy Reform Support Program,
- UNDP: Promoting Development of Sustainable Energy in Azerbaijan, Solid Waste Management Project,
- WB: Solid Waste Management.

Table 8: SWOT Analysis of Azerbaijan

Strong points	Weak points
<p><i>External factors</i> Revenues from export of gas and oil Interest of foreign investors.</p> <p><i>Internal factors</i> Good economic condition of the country, Energy safety (oil and gas), Strong interest of the President in environmental issues, Detailed State Program adopted for harmonization of national legislation with the EU legislation, Well established leading and growing environmental engineering company (ECOL Engineering Services - joint venture between State Oil Company SOCAR and certain Western companies; 500 employees), Developed NGO sector (coalition of NGOs for environmental control of industry),</p>	<p><i>External factors</i> Tensions with one neighbouring country.</p> <p><i>Internal factors</i> Non-equilibrated society (in social terms), No state environmental policy document (only plans of particular actions), Part of environmental legislation is obsolete (inherited from the Soviet period), Harmful subsidies are still in place, Air quality management is still underestimated (regardless rapidly growing number of cars in the country), Drinking water supply and wastewater treatment still underdeveloped (missing infrastructure), Waste management still underdeveloped (missing infrastructure), Low area of forests (11%), Contaminated areas (result of former oil mining).</p>
Threats	Opportunities
<p><i>External factors</i> Vulnerability related to gas and oil prices, Impacts of climate change (water sector, agriculture).</p>	<p><i>External factors</i> Continuing interest of foreign investors, Continuing revenues from oil and gas export which could be used to support the development of green economy.</p>

²⁷ Status of ratification of relevant Multilateral Environmental Agreements can be found in Table 5

<p><i>Internal factors</i> Underestimation of environmental issues due to the intent of achieving high economic growth, Failure in the development on non-oil economy, Inefficient state administration.</p>	<p><i>Internal factors</i> Development of non-oil economy in the “green way”, Completion of harmonization of national legislation with the EU legislation, Improvement of efficiency of economic instruments, Step-wise elimination of harmful subsidies in energy and water sectors, Development of water infrastructure (drinking water supply, waste water treatment), Development of “environmental” transport, Improvement of waste management system, Introduction of green economy issues into emerging “special economic zones”.</p>
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Conclusions

Opportunities for green growth in Azerbaijan mainly relate to the **development of a non-oil based economy**, which could be supported by the revenues from oil and gas industry). Agriculture, food industry, qualified chemistry and tourism are considered priorities by the Ministry of Economic Development. **Opportunities can also be found in energy savings (including housing), renewable energy, organic agriculture and ecotourism/eco-agro-tourism.** At the strategic level, certain strategies, programs and plans are developed. Legislation is developing towards approximation with the EU legislation and certain important provisions have been adopted or will be adopted soon (see Table 7). Potential exists for the introduction of integrated permitting (including technology based requirements and best available techniques) and for increased application of economic and market-based instruments.

Priorities as presented by national authorities and other stakeholders (consensual for all):

- Development of a non-oil economy,
- Introduction of advanced technologies (e.g. chemistry, construction materials),
- Promotion of energy efficiency,
- Soil decontamination,
- Improvement of waste management,
- Improvement of water management,
- Improvement in air quality management,
- Organic agriculture.

Specific needs for assistance indicated by national authorities and other stakeholders:

- More information on the green economy,
- More information on environmental technologies and eco-design,
- Transfer of know-how in the field of economic and market based instruments of environmental policy,
- Transfer of know-how in the field of climate change adaptation and natural risks prevention,
- Cooperation in R&D on the economic aspects of environmental protection and energy.

Potential institutions for cooperation (besides relevant ministries):

- National Academy of Sciences (economic research, energy),
- The Azerbaijan Republic Chamber of Commerce,
- AZPROMO (Azerbaijan Export and Investment Agency),
- EKOL – Engineering Services (environmental technologies).

BELARUS

Note: Detailed description of national economy and other green economy relevant issues can be found in the 2009 5th National Communication on Climate Change²⁸.

Strategic level

The basic strategic document of the country is the National Sustainable Socio-economic Strategy until 2020, which is accompanied by 5-year programs and annual plans. Within this framework, medium-time and short-term strategic, programming and planning sectoral documents are being prepared regularly (e.g. national energy efficiency program or national strategy for implementation of integrated environmental permitting or national program for innovations). An environmental policy document is currently being drafted and so is a Strategy of regional development until 2025.

Legislative level

Legislation is still partially inherited from the Soviet times (adopted and partially updated in the 1990s and the first half of the 2000s) but approximation with the EU legislation is in progress. A new Law on Waste Management was adopted in 2007. In December 2010 a new Law on Renewable Energy was adopted and the Law on State Environmental Expertise has been updated substantially.

Institutional level

A high number of ministries (21) and state committees (6) are supported by state scientific and research institutes as well as by the institutes of the Academy of Sciences. Besides the relevant ministries (economy, energy, industry, transport, agriculture and food, natural resources and environmental protection), the State Committee for Science and Technologies plays an important role as it is responsible for science, research and development and innovation. An important role is also being played by the State Committee for Standardization, which is responsible for issuing standards. The State Agency for Investments and Privatization was established in 2011, whose role lies in preparing selected enterprises for privatization by foreign investors. Business associations of private companies as well as environmental NGOs (e.g. Green Alliance) are developed and active; the latter especially in the EIA processes.

Instrumental level

The regulatory system is almost fully “command-and-control” based with a very strong position of central government. Environmental permitting is almost fully based on old Soviet practice but the first steps to switch to integrated permitting as well as introduction of technology based environmental requirements are being made (National Strategy on Introduction of Integrated Environmental Permits for 2009 - 2020. Economic instruments (air and water pollution charges, industrial and household waste disposal charges, compensation for environmental damage, fees for reprocessing of plastic packaging waste; and pollution fines) are, regardless of certain very high rates, not very efficient in the conditions of non-market economy, where the main polluting industries are still state owned. Voluntary instruments are in place, namely ISO 14000, but also certificates for renewable fuel. Cross-subsidies in energy sector are still pertaining but a plan exists to eliminate them during next five years. The system of environmental monitoring and environmental statistics is the best developed among the six Partner Countries.

²⁸ See <http://unfccc.int>

Box 5. Environmentally friendly vehicles production in Belarus

The JSC “Minsk Automobile Plant” (MAZ) development program involves the creation of alternative fuels for vehicles. More specifically, MAZ plans to produce trucks and buses using semi-digital propulsion systems with the possibility of power recovery. In the long term the project of brand new vehicles fitted with alternative energy sources (hybrid engines, electric omnibuses, etc.) using an intelligent security system based on complex microprocessor control systems will be carried out. The implementation of this policy is expected to allow sales of 41,000 vehicles per year (in comparison with 19 thousand in 2010), including 36,600 for export. In the medium term the production of over 12 base models of trailers, 6 models of special vehicles and 9 models of passenger vehicles is planned.

Source: Minsk Automobile Plant (<http://www.maz.by>) 11.02.2011

Operational level

Production patterns: Belarus is a highly industrialised country with prevailing manufacturing industry (buses, heavy duty vehicles, tractors, mobile machinery, see Box 5). The majority of big industrial companies and agro-complexes are still state owned and managed directly by the Ministry of Industry, the Ministry of Transport and the Ministry of Agriculture and Food Industry. However, privatization of selected companies is being prepared. National industrial policy is export-oriented, which has led to the issuance of a high number of ISO 14000 certifications (more than 300 at national level). Increase in competitiveness in the international markets is the priority of state industrial policy which leads to a particular interest in innovation. The SME sector is rather weak (9.5% of GDP in 2009). The state-owned energy sector is almost fully coal-free as it is mostly based on imported natural gas. The national energy policy is focused on increasing energy safety via energy efficiency measures, construction of the first nuclear power station and partial introduction of renewable energy sources. The transport sector includes high shares of railway and water transport. The railway network is still not fully electrified. Agriculture is mostly based on large enterprises (agro-complexes) having roots in collective agriculture from the Soviet times. Having assured national food-safety, national agricultural policy is export-oriented. Organic farming is not in place.

Consumption patterns: Public sector in the country is extensive, as the majority of industrial and agricultural enterprises are still state owned. The potential for green public procurement is therefore very high. The share of household expenditure devoted to food and non-alcoholic beverages is the lowest amongst all partner countries (37.9%). Eco-labelling is at the very beginning (4 products only).

Research and development activities: A network of state scientific research institutes and institutes of Academy of Sciences is well developed. A major role in strategic planning is played by the Research and Development Institute of Economy (under the Ministry of Economy), which is responsible for drafting basic national socio-economic strategies and programs. Under the State Committee for Science and Technologies, a special Belarus Innovation Fund has been operated since 1998. Recently, the first “high-tech” park has been established in Minsk, specialized in IT (94 resident companies).

International level²⁹

At the project level, the majority of international institutions (EU, WB, UNDP) and certain donor countries have implemented/are implementing projects relevant for the development of green

²⁹Status of ratification of relevant Multilateral Environmental Agreements can be found in Table 5

economy. Some examples are provided below:

- EC: Socio-economic Benefits of Environmental Protection in ENP Policy Area, Water Governance, Waste Governance, Air Quality Governance, Support to Kyoto Protocol Implementation,
- UNDP: Small grants for economic activities (including eco-tourism), Restoration of peat-lands, Energy efficiency in residential buildings (in cooperation with GEF)

Table 9: SWOT Analysis of Belarus

Strong points	Weak points
<p><i>Internal factors</i> Well prepared National Sustainable Socio-economic Development Strategy and related Implementation program and plans, Well developed manufacturing industry (e.g. heavy duty vehicles, buses and mobile machinery), Assured food safety, Established National Agency for Privatization and Investments, Start of the implementation of integrated environmental permitting (including introduction of certain technology based emission limit values, Start of the introduction of "high-tech" infrastructure (innovation incubators, clusters), High number of companies certified ISO 14000, High professional level of state administration, Well developed research and development and innovation infrastructure, Well developed system of environmental monitoring and environmental statistics.</p>	<p><i>External factors</i> Dependence on external sources of energy Low level of FDI,</p> <p><i>Internal factors,</i> Too centralized national economy with rather low share of private sector, Weak SME sector, Pertaining cross-subsidies in energy sector, Agriculture is not prepared for organic farming, Underdeveloped water infrastructure (drinking water supply, waste water treatment), High percentage of country's area (27%) is affected by the Chernobyl disaster and partially or even fully (6%) closed for human activities.</p>
Threats	Opportunities
<p><i>External factors</i> Political isolation of the country, High dependence of energy sector on external sources.</p> <p><i>Internal factors</i> Lack of national financing for implementation of well prepared strategies, programs and plans. Insufficient level of privatization, Low level of FDI, Continuing destruction of wetlands (mining of peat),</p>	<p><i>External factors</i> Attraction of FDI, Privatization of selected state-owned companies (with emphasis on environmental requirements).</p> <p><i>Internal factors</i> Continuing introduction of technology based environmental requirements and integrated permitting, Introduction of economic instruments, Elimination of cross-subsidies in energy sector, High opportunity in organic agriculture, High opportunity in ecotourism and eco-agro-tourism Introduction of DBOFT projects.</p>

Conclusions

Besides **energy efficiency** and **renewable energy**, **Belarus** has high opportunity for green growth especially in **manufacturing, agriculture, food industry, forestry, and tourism** (ecotourism, eco-agro-tourism). At the strategic level, the system of strategies, programs and plans is well developed. Legislation is developing towards harmonisation with EU legislation and certain important provisions have been adopted or will be adopted soon (e.g. technology based emission limit values for water and

air). Opportunity exists for the introduction of integrated permitting (including technology based requirements and best available techniques) and for increased application of economic and market (in the case of ongoing privatization) instruments. High opportunity can also be found in change of consumption patterns of both public sector (green procurement) and households.

Priorities as presented by national authorities and other stakeholders (consensual for all):

- Energy safety (supported by increased energy efficiency),
- Food safety,
- Increase in exports (supported by innovation),
- Development of the SME sector,
- Increase in FDIs (manufacturing industry, agriculture),
- Harmonisation of standards and legislation with those of the EU,
- Adaptation to climate change (water sector, agriculture),
- Improvement of waste management,
- Improvement of water management,
- Rehabilitation of areas affected by the Chernobyl disaster and their use (Belarus authorities are considering solar electricity units or planting energy crops).

Specific needs for assistance indicated by national authorities and other stakeholders:

- Rehabilitation and use of "Chernobyl areas" (at sub-regional level),
- Transfer of know-how (financial instruments to support innovation business, economic instruments of environmental policy, advanced socio-economic and environmental modelling tools, platforms, commercialisation of research and development products, best available techniques, PPP and DBOFT, categorization of vehicles),
- Harmonisation of legislation (namely research and development, environment),
- Development of adaptation strategies to climate change (forestry, agriculture, water management),
- Speeding-up implementation of prepared and approved international projects.

Potential institutions for cooperation (besides relevant ministries):

- State Committee for Science and Technologies (eco-innovation, environmental technologies),
- Scientific Research Institute of Economy under the Ministry of Economy (environmental economy, strategic planning),
- Green Alliance (awareness raising).

GEORGIA

Note: Detailed actual information about the country relevant to green economy can be found in the 2nd Environmental Performance Review of Georgia³⁰, prepared in 2010.

Strategic level

Neither a general development strategy nor an environmental strategy is in place in Georgia. Certain strategic documents have been recently adopted (e.g. the 2010 State Strategy of Regional Development) while others are being prepared and/or are waiting to be adopted (e.g. the National Environmental Action Plan 2011–2015; the Water Supply and Sanitation Action Plan; the Agriculture Development Strategy and the Energy Efficiency Strategy). A National Innovation Concept is being drafted by the Ministry of Regional Development, which provides for innovation explicitly. No policy on sustainable development or on green economy exists.

Legislative level

A considerable part of legislation is still based on old Soviet legislation. Waste management legislation is missing and so is legislation in the field of energy efficiency and renewable energy. The Ministry of Environment is drafting an Environmental Codex, the basic environmental law which should create a framework for updated or newly prepared special environmental legislation.

Institutional level

Central government includes relevant ministries (the Ministry of Economy, recently renamed as Ministry of Economy and Sustainable Development, the Ministry of Energy, the Ministry of Agriculture, the Ministry of Environment or Ministry of Regional Development and Infrastructure) that are complemented by several supporting institutions (scientific research institutes, Academy of Sciences). In February 2011 competencies of the Ministry of Environment have been reduced dramatically: in fact, responsibilities for natural resources including forestry have been transferred to the Ministry of Energy. The business community is well organised and active (Chamber of Commerce). Environmental NGOs are well developed and active (e.g. the Caucasus Environmental NGOs Network or Energy Efficiency Centre). In addition, the REC Caucasus is engaged in projects relevant to green economy (e.g. a study on quality of vehicles and fuels in the EECCA countries).

Instrumental level

Permitting is based on old Soviet practice; integrated permitting and technology based environmental requirements are not in place. Economic instruments of environmental policy are not in place. The 2005 Tax Code abolished charges for emissions of air and water pollutants alongside the tax on the use of natural resources, road transit fees on foreign motor vehicles and a tax on fuel imports. Feed-in tariffs for renewable electricity are in place. Eco-labelling is provided for by legislation, but not implemented.

Operational level

Production patterns: The number of larger industrial plants is rather limited. The hydro power sector is well developed (with one of the highest shares in electricity production worldwide) but considerable additional potential is available. Promising bottom up activities exist (e.g. in construction sector, with a prize for sustainable building design introduced by the Association of Architects). The agricultural

³⁰ See <http://www.unece.org/publications/environment/epr>

sector represents the highest share in total employment amongst Partner countries (more than 53%). Administrative conditions for “doing business” are the best amongst all Partner countries.

Consumption patterns: The government has undertaken the first steps in green procurement (approved purchase of electro-mobiles for the state administration – see Box 6). Household expenditure for food and non-alcoholic beverages represents 46% of total household expenditure. Public transport has declined (with the exception of metro in Tbilisi); the number of cars is increasing dramatically.

Box 6. Green procurement in Georgia

The Renault-Nissan Alliance will start supplying the Georgian government’s car park with electric cars from 2012. The Georgian government signed an agreement with the company on 18 March 2011. The French carmaker will initially conduct feasibility studies and help Georgia to develop the needed infrastructure. Vera Kobalia, Georgia’s Minister of Economy and Sustainable Development said that increasing fuel prices would make it likely that ordinary people will replace their traditional vehicles with electric ones.

According to Ms Kobalia, the Government plans to buy about 4,000 electric cars from various manufacturers over the next years. All cars in the government’s auto park will be replaced by electric cars. Additionally, the current number of cars will be reduced by three times to help cut spending. Unused cars will be auctioned.

In a country with a great hydropower potential, the government hopes that the move will encourage the development of alternative energy resources and help to reduce dependence on traditional fossil fuels. Electric cars can significantly reduce air pollution as they have zero tail pipe emissions. The Georgian government has been campaigning to make Tbilisi and the country at large more eco-friendly: the plan is to introduce green cars and build recharging and service stations. Tbilisi Municipality joined the EU Covenant of Mayors in April this year in a bid to help cut CO₂ emissions in the capital. The municipality has recently announced a project to re-introduce trams in Tbilisi over the next four years.

Source: Georgia Today, 25.3.2011

Research and development activities: A network of state Research and Development Institutes and institutes of Academy of Sciences is well developed. However, information on any institution specialised in environmental economics or eco-innovation is not available.

International level³¹

At the sub-regional level, Georgia is a party to the (Bucharest) Convention on the Protection of the Black Sea Against Pollution and its three protocols.

At the project level, the majority of international institutions (e.g. EU, EBRD, EIB, UNEP) and certain donor countries have implemented/are implementing projects relevant for the development of green economy (mainly in the field of water management and climate change mitigation). Some examples are provided below:

- EC: Socio-economic Benefits of Environmental Protection in ENP Policy Area, Water Governance, Waste Governance, Air Quality Governance, Co-investment funding in the Field of Water and Sanitation, Support to Kyoto Protocol Implementation, Trans-boundary River

³¹Status of ratification of relevant Multilateral Environmental Agreements can be found in Table 5.

Management for the Kura River, Environmental Collaboration for the Black Sea, Disaster Risk Management,

- EBRD and EIB: Water sanitation in 6 Cities,
- UNEP: Fuel Economy in Transport Sector (including Action Plan for Georgia).

The City of Tbilisi is participating in the Covenant of Mayors³².

Table 10: SWOT Analysis for Georgia

Strong points	Weak points
<p><i>Internal factors</i> Recent strong political support to green economy (President). Change of thinking towards green economy at the top level of state administration, High potential for green economy in selected sectors – hydro power, agriculture, forestry, transportation, Promising activities at municipal level (active engagement of Tbilisi municipality in the Covenant of Mayors).</p>	<p><i>External factors</i> Tension with neighbouring country.</p> <p><i>Internal factors</i> Intra-country tension, Implementation lagging behind existing legislation, Government seems to rely on market forces predominantly and to underestimate regulation, Agricultural sector is underdeveloped (fragmented, under-financed), Air quality management is still underestimated (regardless of the rapidly growing number of cars in the country), Problems in water management (missing infrastructure), Problems in waste management (missing infrastructure), Lack of national funding; majority of projects depends on foreign assistance,</p>
Threats	Opportunities
<p><i>External factors</i> Continuing tensions with neighbour country, Impact of climate change (water, agriculture) Decreased interest of foreign donors.</p> <p><i>Internal factors</i> Continuing intra-country tension, Continuing underestimation of regulatory instruments, Insufficient implementation of policies and measures,</p>	<p><i>External factors</i> Attraction of foreign investors in (manufacturing) industry sector via offer of clean electricity, Foreign assistance related to green economy,</p> <p><i>Internal factors</i> Transformation of present strong political support into concrete action, Further development of green energy sector (Georgia has a good chance of becoming the regional leader in green energy production), Development of green transportation sector, Development of organic agriculture, Implementation of Regional Development Strategy (adopted) with respect to innovations, Opportunity for ecotourism and eco-agro-tourism.</p>

³² The Covenant of Mayors is the mainstream European movement involving local and regional authorities, voluntarily committing to increase energy efficiency and use of renewable energy sources on their territories. By their commitment, Covenant signatories aim to meet and exceed the European Union 20% CO₂ reduction objective by 2020 (see http://www.eumayors.eu/index_en.html)

Conclusions

Georgia has **very high potential for growth in renewable energy**. Opportunities can also be found in **energy savings (including housing), agriculture, food industry, forestry, and tourism** (ecotourism, eco-agro-tourism). At the strategic level, certain strategies, programmes and plans are being developed. Legislation is developing towards approximation with EU legislation and certain important provisions have been adopted or will be adopted soon. Potential exists for the introduction of integrated permitting (including technology based requirements and best available techniques) and for increased application of economic and market instruments. High potential can also be found in the change of consumption patterns of both the public sector (green procurement) and households.

Priorities as presented by national authorities and other stakeholders (consensual for all):

- Development of "green economy",
- Attraction of FDI (via offer of zero-carbon hydro power),
- Further development of hydro power sector,
- Further development/application of Green procurement,
- Organic agriculture,
- Ecotourism, eco-agro-tourism,
- Improvement of waste management,
- Improvement of water management.

Specific needs for assistance indicated by the national authorities and other stakeholders:

- More information on green economy in general,
- Preparation of a Sustainable Development Strategy,
- Municipal development plans,
- Transfer of know-how in the field of economic instruments of environmental policy,
- Transfer of know-how in the field of climate change adaptation (water, agriculture) and natural risks prevention.

Potential institutions for cooperation (besides relevant ministries):

- REC Caucasus (sub-regional projects),
- CENN – Caucasus Environmental NGO Network (sub-regional projects),
- Energy Efficiency Centre Georgia,
- Tbilisi City Hall (Covenant of Mayors).

THE REPUBLIC OF MOLDOVA

Note: Detailed description of national economy and other green economy relevant issues can be found in the 2009 2nd National Communication on Climate Change³³.

Strategic level

The strategic document “Rethink Moldova: Priorities for Medium-term Development” has been adopted in 2010, preceded by the National Development Strategy for Moldova 2008–2011, adopted by special law in 2008. The National Environmental Strategy, Low Emissions Development Programme, the Integrated Local Development Programme and the National Climate Change Adaptation Strategy are being drafted.

Legislative level

Most of the relevant legislation is from 1990s. The Law on Energy Efficiency has been adopted in 2010 and several new legal acts are being drafted by the Ministry of Environment (Law on Environmental Protection, Law on Environmental Impact Assessment, Law on Wastes, Law on Waters). Detailed guidelines on policy and law approximation to EU standards have been prepared with the support by the EC for all relevant sectors (e.g. environment, energy, transport, agriculture and food).

Institutional level

Relevant ministries (environment, economy, agriculture and food) are complemented by supporting institutions (e.g. Energy Efficiency Agency, Climate Change and Energy Efficiency Office or Academy of Sciences). An important role is being played by the State Chancellery in the field of coordination of strategies, policies, plans and international aid. Both business associations (Chamber of Commerce and Industry) and NGOs (Regional Development Program Office, and National Cleaner Production Program) are developed and active. In addition, REC Moldova plays an important role, especially in environmental education and public awareness raising.

Instrumental level

Permitting is based on old Soviet practice; integrated permitting or technology-based environmental requirements are not in place. Environmental charges (air, water) are provided for by legislation but are not very efficient due to their low rates. Eco-labelling is not in place in Moldova.

Operational level

Production patterns: The number of large industrial plants is limited. A National Cleaner Production Program was started with the support of UNIDO, Austria and the Czech Republic with the aim to implement demonstration projects in food industry and construction materials production. The organic agriculture sector has expanded very rapidly in the period 2005 to 2009 (see Box 7), in this context, two accredited local organic certification companies have also been established and are authorised to act in the local market: Certificate–ECO and Centre for Applied Pedology CRPA-Inspect. 2% of the total subsidies allocated to agriculture in 2010 are addressed specifically to the organic sector. Two technology parks are in place (chemical industry, manufacturing industry) and one is being prepared (IT).

³³ See <http://unfccc.int>

Box 7. Organic farming in the Republic of Moldova

The organic sector has expanded very rapidly in the period 2005 to 2009, a growth of approximately 35 times in area. The main reasons for this growth are the market demand and the conducive policies of the government. The area under organic production is today 1.94% of total arable land. Over the last 5 years there has been a positive growth in the organic production and export of organic certified products: as of the end of 2009, 32,374 tons of organic products were exported, for a 580,7 million lei (34,6 million Euro) value. This accounted for 11% of the total agriculture export value. The main certified and exported organic products are: wine, shelled walnuts, dried fruits, sunflower seeds, sunflower oil, soy seeds, wheat for animal fodder, lavender essential oil, beans, and barley. The main market for Moldovan organic products is the EU, where the main importers are Austria, Germany, the Netherlands, Belgium, France, Italy, Greece, Spain, Portugal, Poland and Bulgaria. Moldova preponderantly exports raw material and products for the first steps of processing due to the limited capacity of Moldovan companies to manage final products processing.

Source: Potential of Organic Agriculture in the Republic of Moldova for Transitioning to a Green Economy, draft report, UNEP 2011

Consumption patterns: Green procurement is not in place. Household expenditure for food and non-alcoholic beverages represents 41% of total household expenditure. Consumption patterns seem to follow the Western and Central European patterns, which can be visible in the increasing number of cars (see Table 3). A specific feature of the country is a high number of citizens working abroad who are remitting money to the country.

Research and development activities: A network of state Research and Development Institutes and institutes of Academy of Sciences is well developed. The Agency for Innovation and Technology Transfer operates as part of the National Academy of Sciences.

International level³⁴

At the sub-regional level, the Republic of Moldova is a party to the Danube River Protection Convention. In addition, Moldova is a Contracting Party to the Energy Community Treaty³⁵.

At the project level, majority of international institutions (EU, UNDP, UNIDO) and certain donor

³⁴ Status of ratification of relevant Multilateral Environmental Agreements can be found in Table 5

³⁵ In agreeing to establish Energy Community, the Contracting Parties have taken on a legally binding obligation to implement the relevant *acquis communautaire*, to set up regulatory structures, and to liberalise their energy markets. This requires a strong commitment by the Contracting Parties towards market oriented reforms in order to improve overall energy conservation and efficiency, reduce an excessively high energy intensity of production compared to international standards, strengthen national institutional capacities and adapt legislation and regulation to EU norms and practices. See <http://www.energy-community.org>

countries have implemented/are implementing projects that are relevant for the development of the green economy. Some examples are provided below:

- EC: Socio-economic Benefits of Environmental Protection in ENP Policy Area, Water Governance, Waste Governance, Air Quality Governance, Support to Kyoto Protocol Implementation, Environmental Collaboration for the Black Sea, Budget Support Program
- UNDP and EC: Biomass in Heating
- UNIDO: National Cleaner Production Program,
- CDM: 5 projects in progress, 4 in preparation (mainly energy efficiency and biomass).

Table 11: SWOT Analysis for Moldova

Strong points	Weak points
<p><i>External factors</i> High level of remittance from citizens working abroad, High level of ODA, Easy access to relevant information from the EU (the same language with Romania),</p> <p><i>Internal factors</i> Existing infrastructure for innovations and technology transfer (agency, two industrial parks, incubator), Existing infrastructure to support for cleaner production (national program established, first projects implemented), Emerging infrastructure for energy efficiency (agency established).</p>	<p><i>External factors</i> Dependence on external energy sources.</p> <p><i>Internal factors</i> General socio-economic situation of the country (poverty, unemployment, grey economy, high dependence on remitted financial means), High vulnerability to risks (political, economic and natural), No environmental policy document, Part of legislation obsolete, Implementation lagging behind existing legislation, Obsolete and underdeveloped infrastructure (roads, waste water, waste), Air quality management underestimated, Lack of national financing; majority of projects depends on foreign assistance.</p>
Threats	Opportunities
<p><i>External factors</i> High vulnerability to climate change, Decreased interest of foreign donors.</p> <p><i>Internal factors</i> Political instability, Continuing economic problems, Insufficient implementation of policies and measures.</p>	<p><i>External factors</i> Foreign assistance related to green economy, Attraction of foreign investors.</p> <p><i>Internal factors</i> High opportunities for green economy in selected sectors – biomass, agriculture, food industry, transportation, Development of green transportation sector, Exploitation of potential in biomass, Further development of organic agriculture and food production, Support to existing institutional infrastructure (innovations, technology transfer, energy efficiency).</p>

Conclusions:

Moldova has opportunities for green growth especially in **energy savings (including housing), renewable energy, agriculture, food industry**. At the strategic level, certain strategies, programs and plans are developed. Legislation is developing towards harmonization with EU legislation and certain important provisions have been adopted or will be adopted soon. Opportunity exists for the introduction of integrated permitting (including technology based requirements and best available techniques) and for increased application of economic and market instruments. High opportunity can also be found in change of consumption patterns of both public sector (green procurement) and households.

Priorities (consensual for all stakeholders):

- Approximation of legislation,
- More extensive application of energy efficiency,
- Development of renewable energy (mainly biomass),
- Organic agriculture and food production,
- Improvement of waste management,
- Improvement of water management,
- Adaptation to climate change,

Specific needs for assistance indicated by national authorities and other stakeholders:

- More information on green economy (recommendations expected by the Ministry of Environments well as by other governmental agencies),
- Transfer of know-how in the field of economic instruments of environmental policy,
- Transfer of know-how in the field of climate change adaptation and natural risks prevention.

Potential institutions for cooperation (besides relevant ministries):

- The Agency for Innovation and Technology Transfer operates under the National Academy of Sciences,
- National Cleaner Production Program,
- Chamber of Commerce and Industry of the Republic of Moldova.

UKRAINE

Strategic level

The 2004 Strategy for Economic and Social Development of Ukraine 2004–2015 “On the Way to European Integration” is the main strategic document of the country. In addition, several sector specific strategies, policies and plans are in place: the 2004 Concept of State Policy in the Field of Product and Services Quality Management (Resolution of the Cabinet), the 2004 Program for the Phase-out of Ozone Depleting Substances for 2004 – 2030, the 2006 Ukraine’s National Energy Strategy, the 2007 State Implementation Program for Integrated Environmental Monitoring (Cabinet) or the 2007 State Program of Industrial Development till 2017. A new State Environmental Strategy has been adopted by a special law at the end of 2010 (see Box 8). In its frame, the formulation of an action plan is in progress and provisions for “cleaner production” are expected to be included.

Box 8: The fundamental principles of the National Environmental Policy:

- strengthening the role of environmental management within the system of Ukraine's public administration in order to achieve equality between the three development components (economic, environmental and social), which makes necessary focusing on the sustainable development priorities;
- **taking into consideration environmental consequences at the time of managerial decision-making, when developing documents establishing political and/or policy principles of state, sectoral, regional and local development;**
- Inter-sectoral partnership and engagement of concerned parties;
- preventing natural and anthropogenic emergency situations, including analysis and forecasting of environmental risks based on results of the strategic environmental assessment, as well as State monitoring of the environment;
- ensuring environmental safety and maintaining environmental balance on the Ukrainian territory, elimination of the consequences of the Chernobyl catastrophe;
- Responsibility of the current generation for the preservation of the environment for the sake of future generations;
- Participation of the public and economic entities in the environmental policy formulation and implementation, as well as consideration of their proposals in the process of improvement of environmental legislation;
- Unavoidability of responsibility for violating environmental legislation;
- **Priority of the requirement "the polluter of the environment and the user of natural resources shall pay the full price";**
- Responsibility of the executive bodies for accessibility, timeliness and reliability of environmental information;
- Accessibility, reliability and timeliness of environmental information;
- **State support to and encouraging of domestic economic entities carrying out production modernization aimed abating negative environmental impact.**

Source: Law of Ukraine on the Fundamental Principles (Strategy) of Ukraine's State Environmental Policy (2010); in-official translation provided by the EU Delegation to Ukraine

Legislative level

Legislation is still partially inherited from the Soviet times but approximation with the EU legislation is in progress. Recently, new technology based emission limit values for large combustion plants and for

cement kilns have been adopted. A Draft Law on Energy Efficiency has been prepared which includes provisions to establish a national carbon market.

Institutional level

Relevant ministries (environment and natural resources, economy, transport, industry, agriculture) are complemented by supporting institutions (State Environmental Investment Agency, National Academy of Sciences). Both business associations (European Business Association) and NGOs (Energy Innovation Network, Association of Energy Efficient Cities, Clean Technologies Centre, MAMA-86) are well organised and active in innovation and green economy issues (see Box 9).

Box 9. Conference on Green Economy in Ukraine

On 16 December 2010, MAMA-86 - a Ukrainian National Environmental NGO – organised the international conference “Green Economy – the European Choice of Ukraine”. The event was held in cooperation with the United Nations Environmental Program (UNEP) and the Civic Expert Council within the Ukrainian part of the EU-UA Cooperation Committee.

The conference gathered together about 90 participants and was attended by representatives of Ukrainian and international agencies, businesses, CSOs and academia – i.e. representatives of stakeholders whose mainstream activities include issues relating to the green economy and who may influence the process of greening of the Ukrainian economy. High interest in the topic makes the organizers hope that the dialogue so initiated will be continued and extended outside the narrow expert community onto the whole society and political circles. The main aim of the event was to raise awareness of both public officials and members of the general public on basic contents of the green economy concept and to conduct an inter-sector discussion on prospects of “green growth” of the Ukrainian economy. The discussion was based on the UNEP Green Economy Concept, the background of the EU Strategy 2020, the “Green New Deal for Europe” Report of the Green European Foundation and focused on the environmental component of European Neighborhood Policy and Eastern Partnership Initiative.

Source: [http:// www.mama-86.org.ua](http://www.mama-86.org.ua)

Instrumental level

The regulatory system can be described as almost fully “command-and-control” based. Environmental permitting is almost fully based on old Soviet practice but the first steps to switch to integrated permitting as well as introduction of technology based environmental requirements are being made (e.g. technology based emission limit values in energy sector). Economic instruments are implemented (e.g. air and water pollution charges, charges on industrial waste disposal, taxes on natural resources and fuels) but their effect lies rather in revenue raising than in motivation to environmentally friendly patterns. Harmful subsidies in the energy sector represent almost 5% of national GDP. Voluntary instruments are in place, namely ISO 14000.

Operational level

Production patterns: Big companies understand the necessity of environmental measures (e.g. compliance with the newly adopted emission limit values for dust, sulphur dioxide and nitrogen oxides for large combustion plants), but report insufficient resources for their financing. Organic farming is developing: areas under organic agriculture are constantly increasing in Ukraine and reached some 270,000 hectares in 2010, making Ukraine the country with the 20th biggest organic area in the world. Yet this figure represents only 0.7% of arable land in Ukraine.

Consumption patterns: Green procurement is not in place. Household expenditure for food and non-alcoholic beverages represents 57% of total household expenditure. The number of cars is increasing dramatically.

Research and development activities: A well developed structure of scientific research institutes and institutes under the Academy of Sciences. The main role in research in the field of green economy is played by the Institute for Market Problems and Economic and Ecological Research of the National Academy of Sciences.

International level³⁶

At the sub-regional level, Ukraine is a party to the (Bucharest) Convention on the Protection of the Black Sea Against Pollution (including its three protocols), the Danube River Protection Convention and the Convention on the Protection and Sustainable Development of the Carpathians (including its protocol).

Ukraine is a Contracting Party to the Energy Community Treaty (see footnote 35).

At the project level, majority of international institutions (EU, UNDP) and certain donor countries have implemented/are implementing projects relevant for the development of green economy. Some examples are provided below:

- EC: Socio-economic Benefits of Environmental Protection in ENP Policy Area, Water Governance, Waste Governance, Air Quality Governance, Co-investment funding in the Field of Water and Sanitation, Support to Kyoto Protocol Implementation, Environmental Collaboration for the Black Sea,
- UNDP: Cleaner Production in the Dnipra Basin,
- JI (Joint Implementation): 32 registered projects,
- GIS (Green Investment Scheme): 238 projects prepared for implementation,

Table 12: SWOT Analysis for Ukraine

Strong points	Weak points
<p><i>External factors</i> Strong geo-political position.</p> <p><i>Internal factors</i> Good and ambitious State Environmental Strategy adopted recently (end of 2010), Specialized agency for environmental investments, Specialized agency for managing large national projects, Ukraine joint the Energy Community Treaty, Green investment fund within the framework of the state budget, Established framework for implementation of projects under the Kyoto Protocol (Joint Implementation, Green Investment Scheme), Manifold bottom-up activities (mostly by the private/non-governmental sector),</p>	<p><i>External factors</i> High dependence on external energy sources (natural gas), Dependence on water from abroad,</p> <p><i>Internal factors</i> Insufficient legislation in many areas (environment, public procurement), Insufficient coordination among ministries/governmental agencies, Over-regulation of business environment (complicated permitting procedures), No links between energy efficiency activities and activities focused on reduction of GHGs emissions, Extremely weak SME sector, Highly energy intensive economy, Underdeveloped water and waste infrastructure,</p>

³⁶Status of ratification of relevant Multilateral Environmental Agreements can be found in Table 5

Well organized business community (European Business Association), Well organized and active NGOs (interested in green economy).	Areas affected by the Chernobyl disaster.
Threats	Opportunities
<p><i>External factors</i> High impact of climate change (mainly due to water dependency).</p> <p><i>Internal factors</i> Non-stabilized state/public administration, Continuing over-regulation of business environment, Non-growing SME sector.</p>	<p><i>External factors</i> Attraction of foreign investors (with focus on the introduction of modern technologies).</p> <p><i>Internal factors</i> High opportunities for “green economy” (energy, industry, transport, agriculture, forestry, tourism), Implementation of newly adopted State Environmental Strategy, Development of SME sector, Improvement of conditions for “doing business”.</p>

Conclusions

Ukraine has opportunities for green growth especially in **energy savings (including housing), renewable energy, manufacturing, agriculture, food industry, forestry and tourism**. At the strategic level, the certain strategies, programs and plans are developed. Legislation is developing towards approximation with the EU legislation and certain important provisions have been adopted or will be adopted soon (e.g. technology based emission limit values for further industries). The system of both state administration bodies and supporting institutions is well developed. In the regulatory system, opportunity exists for continuing introduction of integrated permitting (including technology based requirements and best available techniques) and for increased application of economic and market instruments. High opportunity can also be found in change of consumption patterns of both public sector (green procurement) and households.

Priorities as presented by national authorities and other stakeholders (consensual for all):

- Improvement of business enabling environment (reduction of administrative burden),
- More extensive application of energy efficiency,
- Organic agriculture,
- Rational use of natural resources,
- Improvement of Waste management,
- Improvement of Water management,
- More effective application of economic instruments of environmental policy.

Specific needs for assistance specified by national authorities and other stakeholders:

- More information on green economy,
- Transfer of know-how in the field of economic instruments of environmental policy,
- Transfer of know-how in the field of climate change adaptation and natural risks prevention
- Advanced modelling tools (economy, environment),

Potential institutions for cooperation (besides relevant ministries):

- The Institute for Market Problems and Economic and Ecological Research of the National Academy of Sciences (research in the field of environmental/green economy,
- State Environmental Investment Agency (energy efficiency, renewable energy)
- MAMA-86 (awareness raising),
- Greencubator (energy efficiency, renewable energy),
- European Business Association (equivalent of chamber of commerce),
- Clean Technologies Centre.

5. ANALYSIS - COMMON ISSUES

Regardless the fact that the concept of green economy/green growth is rather new for all Partner Countries, both top-down (government, municipalities) and bottom-up (business community, NGOs, academia) activities contributing to developments in this direction can be found in each country (see Chapter 4).

Policy level

No country has so far adopted specific strategic document on the green economy, sustainable production and consumption or cleaner production. However, the majority of countries has some kind of general socio-economic development strategy, and many of them have in force (Armenia, Ukraine) or prepare/update (Azerbaijan, Belarus, Georgia, the Republic of Moldova) special environmental strategic documents. Sector strategies are in place in all countries for the majority of the relevant sectors (energy, transport, industry, agriculture and food). Certain countries have developed (e.g. Belarus) or are drafting (e.g. Georgia) national innovation strategies.

Legislative level

The main part relevant legislation dates back s from the 1990s or the first half of 2000s. Newly prepared legal acts are often partially harmonized with the EU legislation. New pieces of legislation are often being adopted in the field of energy efficiency and renewable energy. Certain countries (e.g. Azerbaijan) have adopted detailed harmonisation plans, while others have available detailed harmonization guidelines, obviously prepared with the support of the EC (e.g. Moldova). In several countries, important legal provisions are missing (e.g. waste management legislation in Georgia).

Institutional level

All countries have ministries in charge of environment, economy, energy, transport, agriculture and forestry. Coordination among these ministries is sometimes insufficient as inter-ministerial coordination bodies are either missing or exist with insufficient competencies (with the exception of the Republic of Moldova), which creates barriers to the integration of environmental/green economy issues into sector strategies and policies. In some countries (e.g. Belarus), an important role is also played by state committees. Ministries and state committees are supported by specialized institutions (institutes, agencies). All countries have state financed national academies of sciences and scientific research institutes mostly dealing with “traditional” research areas which represent certain intellectual and knowledge potential. Nevertheless, financing of these institutions is not sufficient as a result of general economic conditions of the countries. In addition, as the innovation business is at its very beginning (with partial exception of Belarus), the demand by the industry and other businesses for R&D results is very low. Business community is organised in all countries (chambers of commerce). In Ukraine, the European Business Association plays an important role. NGOs are developed and active in all countries, some of them acting at sub-regional level (e.g. CENN). Many NGOs implement small scale projects relevant to green economy. The RECs are active in the Republic of Moldova and in the Caucasus countries, including green economy related projects.

Instrumental level

The current environmental permitting system is fully or almost fully based on the obsolete Soviet system. Integrated permitting or technology based environmental requirements (e.g. emission limit values) are not in place (with partial exception of Belarus and Ukraine). Economic instruments of environmental policy (mainly air and water pollution charges) are obviously provided for by legislation but are often not efficient or even not fully implemented. Harmful subsidies are still pertaining, mainly in the energy and water sectors. Environmental Impact

Assessment (EIA) is being carried out in all countries but its role in the permitting process is often not clearly defined (depending on the decision by the Competent Authority which issues environmental permits – see Box 2). Strategic Environmental Assessment (SEA) is rather rare in the procedure of preparing strategic documents. Voluntary instruments are being applied especially in countries with exporting industries (e.g. ISO 14000 in Belarus). Systems of environmental monitoring and environmental statistics are rather underdeveloped (with the exception of Belarus).

Operational level

Production patterns: In all countries bottom-up activities relevant to green economy can be found. Exporting companies are certified according to the ISO 14000 standard and processes of certification of organic products are being developed by private entities. All countries implement measures to increase energy efficiency and to introduce renewable energy sources, obviously with the aim to reduce their dependence on external energy sources.

Organic farming is developing rapidly in several countries (Armenia, the Republic of Moldova Ukraine) Taking into account the percentage of population working in agriculture (see Table 2) further development of organic agriculture could generate substantial amount of “green jobs”.

Certain companies, especially those focused on export of their products to mature markets, start to produce environmental friendly products, compliant with international product standards.

Activities related to innovation can be found in all countries, some of them having first technology parks, business incubators or specialised institutions promoting innovations (e.g. Belarus or the Republic of Moldova).

Several countries (Armenia, Azerbaijan, Belarus) have prepared ambitious industry development plans which could provide good opportunities to follow the way of green growth.

Consumption patterns – public sector: “Green procurement” is in general not in place but the first steps are being prepared in certain countries (e.g. Georgia - see Box 6). Taking into account the strong position of central governments in all partner countries, introduction of green procurement/ green purchasing could play a very important role.

Consumption patterns – households: Strong willingness of the majority of population in partner countries to achieve the material standard typical for Central and Western European countries represents the major barrier in development towards more sustainable consumption patterns.

Research and Development Activities

All countries have available certain intellectual potential in scientific research institutes and in national academies of sciences. In certain countries, bottom-up activities in the field of eco-innovation business can be found. Several countries (e.g. Belarus or the Republic of Moldova) have institutions specialised in innovation and technology transfer. In Ukraine, a special institute (the Institute for Market Problems and Economic and Ecological Research of the National Academy of Sciences) is dealing with environmental economy.

International level³⁷

All countries are parties to the majority of relevant global MEAs and report to their secretariats on a regular basis. With respect to the UNFCCC, Belarus and Ukraine are Annex I Parties, while the resulting countries are non-Annex I parties. However, only a limited number of relevant regional MEAs have been ratified (see Table 5). As for sub-regional MEAs, countries are parties to geographically relevant conventions. Two countries (the Republic of Moldova, Ukraine) are contracting parties to the Energy Community Treaty.

In four Partner Countries cities have signed the Covenant of Mayors: Armenia (1), Georgia (1 - Tbilisi), Moldova (5), Ukraine (16). However, only one capital (Tbilisi) is part of the Covenant.

At the project level, the majority of international institutions (EU, WB, UN agencies) and certain donor countries have implemented projects relevant for the development of the green economy in each country (obviously in energy efficiency, renewable energy, waste and water sectors). Obviously, projects in the framework of the UNFCCC and the Kyoto Protocol are being implemented in all countries.

Relevant projects supported by the European Commission include:

- Azerbaijan: Strengthening the regional environmental governance capacity of the Caspian Sea (EC, in progress),
- Georgia, Ukraine: Environmental collaboration for the Black Sea (EC, completed in 2009),
- All 6 ENPI East Countries: CIUCAD – Cooperation in urban development and dialogue (EC, in progress),
- All 6 ENPI East Countries: Towards a Shared environmental information system (SEIS) in the European Neighbourhood (EC, in progress),
- All 6 ENPI East Countries: Air Quality Governance in ENPI East Countries (EC, in progress)
- All 6 ENPI East Countries: Waste Governance in ENPI East (EC, in progress),
- All 6 ENPI Countries: Analysis of ENPI Countries on social and economic benefits of environmental protection (EC, in progress),
- All 6 ENPI East Countries: FLEG-Forest law enforcement and governance in the ENPI region (EC, in progress),
- All 6 ENPI East Countries: Water Governance in the Western EECCA countries (EC, finished 2009),
- All 6 ENPI East Countries: Support to OECD Water Governance project (EC, completed in 2009),
- All 6 ENPI East Countries: Programme INOGATE – support to particular projects in the energy sector (EC, in progress).

³⁷ Status of ratification of relevant Multilateral Environmental Agreements can be found in Table 5

Regional and sub-regional level³⁸

At the regional level, **air quality management** provides a good opportunity for the introduction of the "green economy" concept in practice. In this respect, the running project on Air Quality Governance could play an important role in coming three years as its priorities include support to the introduction of integrated permitting (IPPC), technology based environmental requirements as well as support to the ratification and implementation of recent protocols to UNECE CLRTAP.

The **Towards a Shared Environmental Information System** (SEIS) project in the European Neighbourhood should assist the Partner Countries in developing and upgrading their environmental monitoring systems as well as their systems of environmental statistics, which represents the basic pre-condition for the assessment of the environmental impact of the measures introduced to support the development towards green economy.

Potential for regional and sub-regional cooperation in the **energy sector** is being assessed in detail within the INOGATE Programme.

Considerable opportunities can be found in the **water sector** – both in the case of **trans-boundary rivers** and in the case of the **Black Sea**. Reduction of water pollution may bring about not only the introduction of advanced waste water treatment technologies but also the use of closed-cycle technologies.

Due to the similarity of legal systems and regulatory instrument mixes, opportunity for regional approach to support can be found in these fields as well.

Features common to all countries³⁹ that are relevant to the green economy are summarised in the SWOT analysis format in Table 13:

³⁸ Harmonization of standards and quantified requirements with those of the EU is the basic precondition for common action at sub-regional and regional level, especially in the case of air quality and water quality management and in the energy sector.

³⁹ Exceptions are presented in brackets

Table 13: Common SWOT Analysis – all countries⁴⁰

Strong Points	Weak Points
<p><i>External factors</i> Potential attractiveness for FDI, ODA.</p> <p><i>Internal factors</i> High potential in energy efficiency (including housing sector), Opportunities in organic agriculture and food industry, Potential in renewable energy, Opportunities in “green” transport, Opportunities in ecotourism and eco-agro-tourism, Developed R&D infrastructure: Scientific research institutes, academies of sciences, Armenia, Azerbaijan, Belarus and Ukraine have high opportunities in industry, Belarus, Georgia and Ukraine have high opportunities in forestry.</p>	<p><i>External factors</i> Dependence on external energy sources (with the exception of Azerbaijan), Partial tensions in the region.</p> <p><i>Internal factors</i> Lack of national funding (with the exception of Azerbaijan), Partially obsolete legislation, Harmful subsidies (especially in energy and water sectors), Obsolete environmental permitting system, Inefficient economic instruments, Not fully developed waste management systems and waste water management systems, Underdeveloped environmental monitoring and environmental statistics (with the exception of Belarus), Complicated general conditions for “doing business” (with the exception of Georgia).</p>
Threats	Opportunities
<p><i>External factors</i> Instability in the region and sub-regions, Vulnerability to climate change and natural hazards, Vulnerability to economic crises.</p> <p><i>Internal factors</i> Lack of funding for the development of national economies, Instability of state administration due to frequent reorganizations.</p>	<p><i>External factors</i> FDIs accompanied by the introduction of “clean” technologies, Regional and sub-regional cooperation.</p> <p><i>Internal factors</i> Harmonization of legislation with the EU, Introduction of integrated permitting (including best available techniques and technology based environmental requirements), Improvement in effectiveness of existing economic instruments and introduction of new ones. Rational exploitation of existing opportunities to develop in the direction of green economy, Green procurement (signal to production but also consumption patterns), Support to export of “environment friendly” products to developed countries.</p>

⁴⁰ In table 13, only issues related to all 6 countries, are presented. Country specific issues are presented above in tables 5 -10 (country specific SWOT analyses).

6. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

All countries have **substantial opportunities** for green economy/green growth in **energy efficiency, organic agriculture and food industry, transport and tourism** (valuable natural areas, historical places, potential for ecotourism and eco-agro tourism, especially in combination with organic agriculture). Potential for renewable energy exists in each country but differs from country to country.

Higher **opportunity in industry** (mainly manufacturing industry) can be found especially in **Azerbaijan, Belarus, Ukraine and Armenia**. Special opportunities can be seen in Azerbaijan which started to implement a policy of development of non-oil economy and has national financing available from the oil-industry. **Opportunities for sustainable forestry management and related “wood industry”** (e.g. construction materials) exist in **Belarus, Georgia and Ukraine** (due to either high percentage of forestation in Belarus and Georgia or the high absolute area of forests in Ukraine), which may lead, together with organic agriculture and food industry to the creation of green jobs.

All countries would need to **improve their legal system and especially their regulatory instrument mix** (permitting system, economic instruments, elimination of harmful subsidies) to support gradual change of both production and consumption patterns.

All countries would need to build **additional capacities in the field of environmental management** (mainly environmental economics, eco-innovation, assessment of environmental technologies).

All countries would need to **improve coordination of activities** amongst particular ministries and state agencies (to achieve integration of green economy issues into sectoral policies).

All countries would need to further develop **water related infrastructure** (drinking water supply, waste water treatment) as well as **waste management** systems, which represent an opportunity to introduce advanced technologies and to create new jobs.

All countries would need to support **public transport use** to moderate the environmental impacts of growing individual passenger transport.

All countries (with the exception of Belarus) would need to **improve their environmental monitoring system** and especially **environmental statistics** In order to be able to assess the impact of measures implemented to favour the shift towards green economy development in environmental terms.

All countries would need to **support green procurement** at all levels of public administration to **give positive signals both to the business community and the general public**.

All countries would need to raise awareness in the field of green economy amongst all target groups (state administration, business community, academia, NGOs, general public).

COMMON RECOMMENDATIONS⁴¹

All recommendations should be implemented step-by-step taking into account economic, social and environmental conditions in particular countries.

Introduction of green economy/green growth concept into national strategies, policies and plans.

Taking into account the strong role of central governments in Partner countries, national strategies can play a crucial role in the development towards green economy. In addition, such strategies give strong signals about the governments' commitments to both the local business community and potential foreign investors.

Harmonisation of national legislation with the EU legislation (in all countries) and adoption of relevant missing legislation (in countries where applicable).

Harmonisation of legislation will support the improvement of not only production patterns (technology based environmental requirements, product standards), but also consumption patterns (e.g. eco-labelling) in particular countries.

Stepwise introduction of technology-based environmental requirements (taking into account best available techniques) and adjustment of integrated environmental permitting procedures.

Technology based requirements and integrated permitting (IPPC) will promote the introduction of cleaner technologies and eliminate implementation of obsolete technologies.

Improvement of efficiency of economic instruments (both negative and positive stimulation).

Well developed environmental policy economic instruments can provide credible signals both to production and consumption sectors.

Stepwise elimination of harmful subsidies, especially in the energy and water sectors; available saved funding should be used to subsidize environment friendly/green economy related activities (energy and water savings, development of infrastructure, incentives to green business, eco-innovation)

Reduction and elimination of harmful subsidies will support energy and water savings both in production and in consumption, which will lead to both reduction of environmental pollution and increased resource efficiency. Funding not used in the form of harmful subsidies could speed up developments towards green economy, if used properly.

Introduction of best available techniques and cleaner technologies in state-owned companies.

As major companies in several countries (especially in Azerbaijan and Belarus) are state owned and supervised by ministries, governments can easily support the introduction of BATs and cleaner technologies.

Additional capacity building with respect to the needs of green economy (mainly environmental economy, eco-innovation, assessment of environmental technologies)

⁴¹ Only recommendations related to all 6 countries are presented here. Country specific recommendations are presented below.

Improved coordination among relevant ministries and agencies (both in-country coordination and coordination of foreign aid).

As green economy is based on the concept of sustainable development, economic activities must be coordinated with respect to environmental and social issues.

Stepwise introduction of “green procurement” in public sectors.

Green procurement represents a strong signal not only towards the production sector but also towards society as a whole.

Introduction of the eco-labelling scheme.

Eco-labelling, in combination with awareness raising activities, can provide an incentive to consumption patterns change which supports positive feedback to the production sector and contributes to the development of “green markets”.

Stepwise improvement of water infrastructure (drinking water supply, waste water treatment) and waste management systems (including recycling).

Both drinking water supply and waste water treatment are underdeveloped in all countries, as well as waste management systems. Building new infrastructure will bring about the creation of “green jobs”.

Application of Strategic Environmental Assessment (SEA)

SEA (including appropriate public participation) should be incorporated into the process of preparation of strategic documents at national, sub-national and local levels to assure due integration of environmental (and green economy relevant) issues.

Relevant awareness raising activities targeting major stakeholders (public administration, business community, general public).

Awareness raising is the major information instrument which may help the development of green economy at all levels of society.

Improvement of national systems of environmental monitoring and environmental statistics (with the exception of Belarus).

Environmental monitoring is underdeveloped in all Partner Countries with the exception of Belarus. Environmental statistics are not fully developed, as many important data and information are still missing. This limits the possibility to assess the environmental impact of measures introduced to support the shift towards a green economy.

Improvement of general “doing business” conditions – reduction of administrative burden (with the exception of Georgia).

Support businesses' and NGOs' bottom-up activities.

Both business associations and NGOs can play significant role in awareness raising related to the change of consumption patterns; the former via production and advertisement of environmental products, the latter via environmental education and dissemination of information.

Cooperation at regional (air quality management) and sub-regional (railway and water transport, energy, inland water management, protection of the Black Sea, rehabilitation and use of the “Chernobyl areas”) levels.

Having in mind geographical and political obstacles, there is still plenty of opportunities for regional and sub-regional cooperation.

Consideration of ratification and step-wise implementation of missing MEAs and protocols.

The UNECE CLRTAP and its protocols represent the most “technology related” MEA and their ratification and implementation would contribute to the introduction of cleaner technologies and sustainable production patterns.

Consideration of becoming Contracting Party to the Energy Community Treaty (with the exception of the Republic of Moldova and Ukraine).

COUNTRY-SPECIFIC RECOMMENDATIONS

Armenia

- Implementation of existing economic, energy and environmental policies with respect to green economy issues,
- Adoption and implementation of drafted legal provisions in the field of environment (Environmental Codex),
- Drafting and adoption of National Clean Production Strategy (based on existing draft document),
- Establishment of a national cleaner production centre,
- Support to the City of Yerevan and other big cities to sign the Covenant of Mayors.

Azerbaijan

- Make use of strong political support to the development of non-oil sectors of economy to introduce green economy issues,
- Preparation of the Green Non-Oil Economy Strategy (including introduction of best available technologies and techniques and awareness raising),
- Support the City of Baku and other big cities to sign the Covenant of Mayors.

Belarus

- Attraction of FDIs with emphasis on advanced clean technologies during the privatization process,
- Support to the introduction of best available techniques in the state owned companies,
- Establishment of “centres of expertise” (use of high research potential of the country),
- Support to the development of SME sector, which might play important role in innovation / eco-innovation business,
- Support the City of Minsk and other big cities to sign the Covenant of Mayors.

Georgia

- Support to “green transport” (reintroduction of trams and trolleybuses in Tbilisi),
- Implementation of all measures to further develop hydro energy sector (while respecting to ecological constraints),
- Reintroduction of economic instruments of environmental policy,
- Implement a policy of attracting foreign investors via offering “clean energy” with respect to the introduction of new environment friendly technologies,
- Implementation of an Action Plan for Tbilisi (developed within the framework of the Covenant of Mayors).

The Republic of Moldova

- Preparation and adoption of National Environmental Strategy with emphasis on green economy,
- Support to existing cleaner production, innovation and technology transfer promoting institutions,
- Support the City of Chisinau and other big cities to sign the Covenant of Mayors.

Ukraine

- Implementation of a National Environmental Strategy; preparation and implementation of subsequent action plan with strong emphasis on green economy issues,
- Support the development of SMEs sector, which might play important role in innovation / eco-

- innovation business,
- Support the City of Kyiv and other big cities to sign the Covenant of Mayors.

RECOMMENDATIONS TO THE EUROPEAN COMMISSION

Recommendations should be implemented in close dialogue with the Partner countries taking into account joint priorities and the availability of resources.

AREAS OF POTENTIAL SUPPORT BY THE EC

Governments of the Partner countries represent the main addressees of the recommendations contained in this report. In addition, the following **options** for potential support are recommended to the European Commission for consideration:

Transfer of know how related to green economy/green growth (environmental technologies, eco-innovation, eco-design, integrated product policy), in particular:

- Best available techniques (reference documents),
- Product standards,
- Advanced modelling tools (economy, environment, energy, transport, agriculture),
- Technology and innovation platforms,
- Cluster initiatives.

Support in drafting national green economy strategies and in introduction of the green economy relevant issues to sector strategies and policies, in particular economic development strategies, but also regional development strategies, national innovation strategies, national transport strategies or national agricultural strategies.

Support the approximation of relevant legislation (mainly integrated permitting, environmental and product standards), in particular certain newly adopted directives:

- Directive 2010/75/EC on industrial emissions (IPPC),
- Directive 2010/31/EU on the energy performance of buildings,
- Directive 2009/28/EC 2009 on the promotion of the use of energy from renewable sources,
- Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles,
- Directive 2008/98/EC on waste.

Support the introduction / increase of efficiency of economic and market policy instruments

- Improvement of efficiency of air and water pollution charges,
- Assessment of the impact of harmful subsidies and of the ways of their gradual elimination,
- Assessment of externalities,
- Pricing of natural capital.

Support further application of information instruments, in particular Introduction of eco-labelling or application of strategic environmental assessment (SEA).

Support the development of environmental monitoring systems and environmental statistics, in particular:

- Methodologies of emission inventories,
- Application of modelling tools and techniques (including modelling of projections and scenario analysis),
- Introduction of indicators (environmental indicators, green growth indicators).

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Promote the ratification of relevant MEAs, in particular drafting implementation plans (namely for new protocols under the UNECE CLRTAP).

Support coordination of relevant activities, in particular:

- Establishment / re-establishment / development of national coordination units (units coordinating foreign aid)⁴²,
- Coordination of donor activities at regional level.

Support to other actors within existing budget constraints (municipalities, R&D institutions, business associations or NGOs).

Special emphasis should be put on activities at sub-regional and regional levels.

IMPLEMENTATION OF POTENTIAL SUPPORT BY THE EC

The above mentioned types of support should be implemented by the EC through the following activities.

Increased importance of green economy issues in ongoing projects (up to maximum extent given by the ToR), in particular:

- Air Quality Governance (ratification of CLRTAP protocols, introduction of integrated permitting and best available techniques, introduction of advanced modelling tools),
- Waste Governance (introduction of best available techniques),
- Towards a Shared Environmental Information System (introduction of green growth indicators),
- CIUCAD (implementation of green economy relevant projects),

Preparation of a new “umbrella” project on Green Economy Governance

Having experience with both completed (water) and running (waste, air quality) governance related projects, the preparation and implementation of a similar project in the field of green economy/ green growth could be considered. Within the framework of such a project, it would be possible to:

- Build on results of specialized “governance” projects,
- Put together number of relevant EU and national experts,
- Implement considerable part of the above stated types of support (in particular transfer of know-how,
- Implement relevant pilot/demonstration projects at regional, sub-regional, national and local levels.

Increased importance of green economy/green growth relevant issues in existing financing mechanisms (Neighbourhood Investment Facility, Cross Border Cooperation) and in "soft" cooperation activities (TAIEX, Twinning).

Increased coordination of activities (and cooperation including jointly financed projects wherever possible) **with those international organisation which are active in the region in the field of green economy** (mainly UN agencies, WB, EBRD, EIB).

Initiation of regular meetings of international donors active in the region.

⁴² In certain countries (e.g. Azerbaijan), the national coordination units, supported by the EC, have been closed down.

RECOMMENDATIONS TO MEMBER STATES⁴³

- Support national companies willing to invest in Partner countries (with respect to introduction of clean technologies),
- Support national R&D institutions to invite institutions from the Partner Countries to consortia applying for support from FP7 and future FP8 (DG Research in Innovations),
- Support municipalities having bilateral partnerships with municipalities in partner countries to introduce green economy related activities.

RECOMMENDATIONS TO OTHER INTERNATIONAL INSTITUTIONS

- UN agencies (UNECE, UNEP, UNDP, UNIDO, FAO), WB, OECD, OCSE, EBRD: Increased coordination of activities in partner countries, increased focus on green economy related projects,
- EBRD: Introduction of green economy related issues into its Country Strategies,
- EEA: Continuing support to the development and application of environmental indicators,
- UNDP/UNIDO: Increased support in the field of “cleaner production”,
- UNECE: Continuing support to the development and application of environmental indicators.

⁴³ Recommendations to the EC are also relevant for interested Member States

ANNEX 1: LIST OF ACRONYMS

Abbreviation	Explanation
BAT	Best Available Technique
CDM	Clean Development Mechanism
CLRTAP	Convention on Long Range Trans-boundary Air Pollution
DBOFT	Design-build-operate-finance-transfer Concept
EBRD	European Bank for Reconstruction and Development
EEA	European Environment Agency
EECCA	Eastern Europe, Caucasus and Central Asia countries
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EPI	Environmental Performance Index
FAO	Food and Agriculture Organization
FP	Framework Programme (R&D)
FDI	Foreign direct investments
GDP	Gross Domestic Product
HDI	Human Development Index
IEA	International Energy Agency
IFC	International Finance Corporation
IPP	Integrated Product Policy
IPPC	Integrated Pollution Prevention and Control
JI	Joint Implementation
LEAP	Local Environmental Action Plan
MDG	Millennium Development Goals
MEA	Multilateral Environmental Agreement
NGO	Non Governmental Organization
NMVOC	Non-methane Volatile Organic Compounds
ODA	Official development aid
OECD	Organization for Economic Cooperation and Development
OSCE	Organization for Security and Cooperation in Europe
PPP	Parity of Purchasing Power, Public-private Partnership
REC	Regional Environmental Centre
SEIS	Share Environmental Information System
SME	Small and Medium-sized Enterprise
toe	Ton of oil equivalent
tpes	Total primary energy sources
TSP	Total suspended particulates
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Program
UNIDO	United Nations Industrial Development Organization
WB	World Bank

ANNEX 2: INFORMATION SOURCES⁴⁴

Further reading

More information on both green economy / green growth concept and on partner countries can be found in the following documents.

General documents:

European Union

- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan COM(2008) 397 final,
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Mainstreaming sustainable development into EU policies: 2009 Review of the European Union Strategy for Sustainable Development COM(2009) 400 final,
- Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel,
- Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organizations in a Community eco-management and audit scheme (EMAS), repealing Regulation (EC) No 761/2001 and Commission Decisions 2001/681/EC and 2006/193/EC,
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Public procurement for a better environment COM(2008) 400 final,
- Communication from the Commission to the Council and the European Parliament on Stimulating Technologies for Sustainable Development: An Environmental Technologies Action Plan for the European Union COM(2004) 38 final,
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Small, clean and competitive. A program to help small and medium-sized enterprises comply with environmental legislation COM(2007) 379 final,
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Europe 2020 Flagship Initiative Innovation Union, COM(2010) 546 final,
- Assessment of ETAP roadmaps with regard to their eco-innovation potential. Final Report. Part 1: Analysis of country road maps, WIFO 2009,
- Skills for Green Jobs: European Synthesis Report, CEDEFOP, Luxembourg 2010,
- The European Environment: State and Outlook 2010. Synthesis. European Environment Agency, Copenhagen 2010.

OECD

- Environmental Governance in Context of Green Growth in EECCA: Main Policy Conclusions, ENV/EPOC/EAP(2011)3, OECD May 2011,
- Green Growth Strategy Synthesis Report, C(2011)29/REV1, OECD March 2011,
- Monitoring Progress towards Green Growth: OECD Indicators, C(2011)30, OECD February 2011,
- Interim Report of the Green Growth Strategy, C/MIN(2010)5, OECD December 2010,
- Monitoring Progress towards Green Growth: Ministerial Report on Green Growth Indicators,

⁴⁴ This Annex represents the list of publication available in which more information on green economy relevant issues can be found.

ENV/EPOC/SE (2010)4, OECD December 2010,

- Taxation, Innovation and Growth, OECD 2010,
- Eco-innovation in Industry(Enabling Green Growth), OECD 2010,
- Framework for the Green Growth Strategy, C(2009)168, OECD 2009.

UNEP

- Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – Synthesis for Policy Makers, UNEP 2011,
- Driving a Green Economy through Public Finance and Fiscal Policy Reform. Working Paper. UNEP 2010,
- Draft Generic Terms of Reference for Green Economy Scoping Studies, UNEP 2010,
- Green Economy Advisory Services, Update 20 October 2010, UNEP 2010,
- Rethinking the Economic Recovery: A Global Green New Deal. UNEP April 2009,
- Global Green New Deal. Policy Brief, UNEP March 2009,
- Green Jobs: Towards decent work in a sustainable, low carbon world, UNEP 2008.

WORLD BANK

- Greening Growth through Strategic Environmental Assessment of Sector Reforms, Environmental Notes O7, WB May 2011,
- Energy and Development Report, The role of energy subsidies, WB, 2008.

Region-specific documents:

- Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – Synthesis for Policy Makers, UNEP 2011,
- Draft official substantive document on greening the economy: mainstreaming the environment into economic development, ECE/CEP/S/2011/L.3, UNECE April 2011,
- OECD/EAP Task Force Role in Promoting Green Growth in EECCA: Scoping Report, ENV/EPOC/EAP (2010)3, OECD October 2010,
- OECD Report on Environmental Governance and Green Growth in EECCA: Draft Annotated Outline, Possible Messages and the Development Process, ENV/EPOC/EAP (2010) 7, OECD October 2010,
- Mainstreaming Environmental Programs into Public Budgets: Survey on Medium-term Expenditure Frameworks and the Environment in EECCA Countries, ENV/EPOC/EAP/REPIN(2010)8, OECD 2010,
- Energy Efficiency: A New Resource for Sustainable Growth (Researching energy efficiency practices in Armenia, Azerbaijan, Belarus, Georgia, Russia and Ukraine), IFC 2010,
- Sustainable consumption and production in South East Europe and Eastern Europe, Caucasus and Central Asia (Joint UNEP-EEA report on the opportunities and lessons learned), EEA Report No 3/2007, European Environment Agency, Copenhagen 2007,
- Policies for a Better Environment: Progress in Eastern Europe, Caucasus and Central Asia, OECD 2007.

Country-specific documents

Note:

Environmental Performance Reviews (produced and published by UN ECE) and National Communications on Climate Change (submitted to the Secretariat of UN FCCC) represent comprehensive, relevant and actual information not only on environmental issues, but also on relevant economic issues).

Armenia

- The 2nd National Environmental Action Program of the Republic of Armenia, Yerevan 2008,
- Conceptual Directions of the Development of Industry, Ministry of Economy, Yerevan 2009,
- 2nd National Communication on Climate Change (UN FCCC), Yerevan 2010,
- Statistical Yearbook of Armenia 2010, National Statistical Service, Yerevan 2010,
- Sustainable Development Program of the Republic of Armenia, Yerevan 2008,
- Industry of the Republic of Armenia 2009, National Statistical Service, Yerevan 2009,
- Environment and Natural Resources in the Republic of Armenia for 2009, National Statistical Service, Yerevan 2010,
- Transport and Communication of the Republic of Armenia 2009, National Statistical Service, Yerevan 2009,
- The 2nd National Environmental Action Programme of the Republic of Armenia, Yerevan 2008,
- Millennium Development Goals: Nationalization and Progress, National Report 2005, Yerevan 2005,
- Millennium Development Goals: National Progress Report, UNDP, Yerevan 2010,
- The Socio-economic Impact of Climate Change in Armenia, SEI and UNDP, 2009,
- National Program on Energy Saving and Renewable Energy of the Republic of Azerbaijan, USAID, Yerevan 2007,
- Establishment and Operation of a National Cleaner Production Program in Armenia, UNIDO 2008,
- Organic Agriculture in Armenia for Transition to a Green Economy (draft), UNEP 2011.

Azerbaijan

- Environmental Performance Review. 2nd Review. United Nations, New York and Geneva, 2010,
- Environment in Azerbaijan 2008, State Statistical Committee, Baku 2009,
- Removing Economic Benefits of Environmental Violations in Azerbaijan: Case Study Report, OECD 2010,
- Doing Business in Azerbaijan, Azpromo, Baku 2010,
- Legal Framework for Doing Business in Azerbaijan, Azpromo, Baku 2010,
- Priorities of Environmental Protection, Summary Paper 2010, Ecolex, Baku 2010,
- Action Plan on Legal Approximation of the Legislation of the Republic of Azerbaijan with the EU Acquis 2010 – 2012.

Belarus

- The State of the Environment in the Republic of Belarus, National Report, Minsk 2010,
- Environmental Performance Review. 2nd Review. United Nations, New York and Geneva, 2005,
- Statistical Yearbook 2010, Gosstat Minsk 2010,
- 5th National Communication on Climate Change (UN FCCC), Minsk 2009,
- National Sustainable Socio-economic Development Strategy of Belarus till 2020, Minsk 2004 (in Russian, extended abstract in English),
- Program of Socio-economic Development of Belarus for 2006 – 2010, Minsk 2006 (in Russian),
- National Strategy on Introduction of Integrated Environmental Permits for 2009 – 2020,
- Strategy on Conservation and Sustainable Utilization of Biological Diversity for 2011 – 2020,
- Belarus National Strategy for the Development and Management of the Protected Area System till

1 January 2015,

- Strategy for Implementing the UN Convention to Combat Desertification,
- National Implementation Plan for the Management of POPs (Persistent Organic Pollutants),
- Program TACIS in Belarus: Main Issues, Minsk 2010 (in Russian),
- Achievements of Millennium Development Goals, 2nd National Report, Scientific Research Institute of Economy, Minsk 2010 (in Russian),

Georgia

- Environmental Performance Review. 2nd Review. United Nations, New York and Geneva, 2010,
- State Strategy for Regional Development of Georgia for 2010 – 2017, Tbilisi 2010,
- 2nd National Communication on Climate Change (UN FCCC), Tbilisi 2009,
- Strategy of Environmental Compliance Assurance in Georgia (2007 – 2010), MEPNR, Tbilisi 2007,
- Main Directions of the State Policy of Power Sector in Georgia (Resolution of the Parliament, 2006),
- Statistical Yearbook of Georgia 2010, National Statistical Office, Tbilisi, 2010.

Moldova

- Rethink Moldova: Priorities for Medium-term Development, Chisinau 2010,
- Environmental Protection Law and Policy: Law Approximation to EU Standards in the Republic of Moldova, Chisinau 2010,
- Children's health and Environment in the Republic of Moldova, Ministry of Environment and the Ministry of Health, Chisinau 2010,
- Capacity Development for Environmental Management in Moldova: Drivers, Links to Planning and Methods of Assessment, OECD 2010,
- 2nd National Communication to UN FCCC, Chisinau 2009,
- Statistical Yearbook of the Republic of Moldova, Chisinau 2009
- 2009/2010 National Human Development Report: Climate Change in Moldova (Socio-economic Impact and Policy Options for Adaptation); UNDP Moldova, Chisinau 2009,
- Environmental Protection in the Republic of Moldova, Ministry of Environment and Natural Resources, Chisinau 2007,
- Environmental Performance Review. 2nd Review. United Nations, New York and Geneva, 2005,
- National Development Strategy for Moldova 2008 – 2011 (adopted by the special law), 2007,
- Capacity Development for Environmental Management in Moldova: Drivers, Links to Planning and Methods of Assessment, OECD 2010,
- Environmental Performance Review. 2nd Review. United Nations, New York and Geneva, 2005,
- Organic Agriculture in Moldova for Transition to a Green Economy (draft), UNEP 2011.

Ukraine

- National Environmental Strategy for Ukraine, Kyiv 2007,
- Law of Ukraine on the Fundamental Principles (Strategy) of Ukraine's National Environmental Policy for the Period until 2020 (2010),
- Environmental Performance Review. 2nd Review. United Nations, New York and Geneva, 2007,
- 3rd, 4th and 5th National Communication on Climate Change (UN FCCC), Kiev 2009 (in Russian language only),
- Ukraine in Figures 2009: Statistical Publication, State Statistical Committee, Kyiv 2010
- Statistical Yearbook 2009, State Statistical Committee, Kyiv 2010
- Medium-term Management of Green Budgets: The case of Ukraine, OECD 2010,
- Organic Agriculture in Ukraine for Transition to a Green Economy (draft), UNEP 2011,
- Overcoming Obstacles to Business Success, European Business Association, Kyiv 2009,
- MDG: Annual Progress Report, UNDP, Kyiv 2009.

ANNEX 3: PORTALS AND WEBSITES

Relevant websites / portals - the EU and international organizations

Institution/subject	Address
European Commission	http://ec.europa.eu/environment/industry/index_en.htm http://ec.europa.eu/environment/eussd/escp_en.htm
European Environment Agency	http://www.eea.europa.eu/themes/technologies
Covenant of Mayors	http://www.eumayors.eu
UNEP – Green Economy Initiative	http://www.unep.org/greeneconomy
OECD – Environment – Green Growth	http://www.oecd.org
UNIDO – Cleaner Production Program	http://www.unido.org/cp
UN FCCC – National Reports	http://unfccc.int/national_reports/items/1408.php
UN ECE – Environmental Performance Reviews	http://www.unece.org/env/epr/welcome.htm
UN Statistics Division	http://unstats.un.org/unsd

Websites and portals in the ENPI East countries

Note: Only portals/website with English and / or Russian version are listed.

Central web portals

Country	Institution	Portal	Languages
Armenia	Ministry of Nature Protection	http://www.mnp.am	AR, EN, RU
Armenia	Ministry of Economy	http://mineconomy.am	AR, EN, RU

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Country	Institution	Portal	Languages
Armenia	Ministry of Energy and Natural Resources	http://www.minenergy.am	AR, EN
Armenia	Ministry of Agriculture	http://www.minagro.am	AR, EN
Armenia	Ministry of Transport and Communication	http://www.mtc.am	AM, EN, RU
Armenia	National Statistical Service	http://www.armstat.am	AR, EN, RU
Armenia	National Academy of Sciences	http://www.sci.am	AM, EN, RU
Azerbaijan	Ministry of Ecology and Natural Resources	http://www.eco.gov.az	AZ, EN
Azerbaijan	Ministry of Economy	http://www.economy.az	AZ, EN
Azerbaijan	National Academy of Sciences	http://www.science.az	AZ, EN, RU
Azerbaijan	National Committee for Statistics	http://www.azstat.org	AZ, EN
Belarus	Ministry of Natural Resources and Environmental Protection	http://www.minpriroda.by	BEL, RU, EN
Belarus	Ministry of Economy	http://www.economy.gov.by	EN, RU
Belarus	Ministry of Industry	http://www.minprom.gov.by	EN, RU
Belarus	Ministry of Transport and Communication	http://www.mintrans.by	EN, RU
Belarus	Ministry of Agriculture and Food Industry	http://www.msfp.by	
Belarus	State Committee for Science and Technology	http://www.gknt.by	
Belarus	State Committee for Standardization	http://gosstandard.by	

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Country	Institution	Portal	Languages
Belarus	Ministry of Forestry	http://www.mlh.by	RU
Belarus	Ministry of Statistics and Analysis	http://www.belstat.gov.by	RU, EN
Belarus	Main Analytical Information Centre	http://ecoinfoby.net	RU (part EN)
Belarus	National Environmental Portal	http://www.priroda.org	RU
Belarus	National Academy of Sciences	http://www.ac.by	
Georgia	Ministry of Environment Protection and Natural Resources	http://www.moe.gov.ge	GE, EN
Georgia	Ministry of Economy and Sustainable Development	http://www.economy.gov.ge	GE, EN
Georgia	Ministry of Energy	http://minenergy.gov.ge	GE, EN
Georgia	Ministry of Agriculture	http://moa.gov.ge	GE, EN
Georgia	Ministry of Regional Development and Infrastructure	http://www.mrdi.gov.ge	GE, EN
Georgia	National Statistical Service	http://www.geostat.ge	GE, EN
Georgia	National Academy of Sciences	http://www.science.org.ge	GE, EN
Georgia	National Environmental Agency	http://www.nea.gov.ge	GE, EN
Georgia	Environmental Inspection	http://www.gdi.gov.ge	GE, EN
Georgia	Tbilisi City Hall	http://www.tbilisi.gov.ge	GE, EN
Moldova	Ministry of Environment	http://www.mediu.gov.md	RM, RU, EN
Moldova	National Statistical Bureau	http://www.statistica.md	RM, RU, EN
Moldova	Centre for Environmental Information	http://www.cim.mediu.md	Not operational

Country	Institution	Portal	Languages
Moldova	Academy of Sciences	http://www.asm.md	RM, RU, EN
Ukraine	Ministry for Environmental Protection	http://www.menr.gov.ua	UKR, RU, EN
Ukraine	National Statistical Committee	http://www.ukrstat.gov.ua	UKR, RU, EN
Ukraine	National Academy of Sciences	http://www.nas.gov.ua	UKR, RU, EN

Other relevant portals

Country	Institution	Website	Languages
Armenia	Chamber of Commerce and Industry	http://www.armcci.am	AR, EN, RU
Armenia	Armenian Women for Health and Healthy Environment	http://www.awhhe.am	AR, EN
Armenia	Ecoglobe-Organic Certification Body	http://www.ecoglobe.am	AR, EN, RU
Azerbaijan	AZPROMO – Export and Import Promotion Foundation	http://www.azpromo.az	AZ, EN
Belarus	Business Union of Entrepreneurs and Employers	http://www.bspn.nsys.by	RU
Belarus	Green Alliance - NGO	http://www.greenbelarus.info	RU
Georgia	Georgian Aarhus Centre	http://www.aarhus.ge	GEO, EN, RU
Georgia	Energy Efficiency Centre Georgia	http://www.eecgeo.org	GE, EN
Moldova	Agency for Innovation and	http://www.aitt.md	RM, EN, RU

Country	Institution	Website	Languages
	Technology Transfer		
Moldova	Climate Change and Energy Efficiency Office	http://www.clima.md	RM, EN
Moldova	Carbon Finance Unit	http://www.cfu.md	RM, EN
Moldova	National Cleaner Production Program	http://www.ncpp.md	RM, EN
Moldova	REC Moldova	http://www.rec.md	RM, EN, RU
Ukraine	National Agency for Environmental Investments	http://neia.gov.ua	UKR, EN, RU
Ukraine	European Business Association	Http://www.eba.com.ua	EN
Ukraine	Association of Energy Efficient Cities	http://www.enefcities.org.ua	UKR, EN
Ukraine	MAMA-86: Environmental NGO	http://www.mama-86.org.ua	UKR, EN, RU
Caucasus (AR,AZ,GE)	REC Caucasus	http://rec-caucasus.org	EN, RU
Caucasus (AR, AZ, GE)	CENN – Caucasus Environmental NGO Network	http://www.cenn.org	EN
Black Sea Countries (GE, RF, UKR)	The Commission on the Protection of the Black Sea against Pollution	http://www.blacksea-commission.org	EN
Black Sea countries (GE, RF, UKR)	Black Sea Web	http://blacseaweb.net	EN
Caspian Countries	Tehran Convention Website	http://www.tehranconvention.org	EN, RU

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Country	Institution	Website	Languages
(AZ, RF)			
Caspian Countries (AZ, RF)	Caspian Environment Programme	http://www.caspianenvironment.org	EN, RU
Danube Countries (RM, UKR)	International Commission for the Protection of the Danube River	http://www.icpdr.org	EN
Carpathian Countries (UKR)	The Carpathian Convention	http://www.carpathianconvention.org	EN
CIS Countries (AR, AZ, BY, RM, RF UKR)	Inter-State Statistical Committee of the Commonwealth of Independent States	http://www.cisstat.com/index.html	RU, EN