



# Greening the economy in the pan-European region



**A green economy** is “one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” – UNEP, Green Economy Report (2011)

## Key findings

- The **green economy** emphasizes that there is **no trade-off between environmental sustainability and economic progress**
- The **green economy** has a **wide agenda**: it aims to achieve **low-carbon growth, more sustainable and resource-efficient consumption and production patterns**, higher green innovation, **create jobs, reduce poverty** and move closer to achieving the **Millennium Development Goals**
- The green economy also offers **the potential to improve competitiveness of the middle- and high-income countries in the region**. These groups of countries rely on **policy reform**, as well as on **technologies and innovation — all central to the green economy agenda** — to foster their competitiveness.
- For a **few countries** in the region, the **green economy challenge** is to **achieve their economic growth and development objectives while maintaining sustainable ecological footprints**. For most countries in the region, it is to **maintain their high human development with much lower ecological footprints**.

## Advantages of green economy

- The green economy is a **concrete and specific proposition with actionable policy recommendations and measurable outcomes**.
- By aiming to increase green investment in various key economic and natural resource sectors, the green economy is **conductive to economic growth and jobs creation**. Its emphasis on policy reform and on technological innovation can help to drive up **competitiveness**.
- The green economy shows that it **makes good economic sense for businesses and consumers to become more resource-efficient** and to pursue low-carbon investments.
- It can **address the region's most pressing environmental challenges** including reducing the ecological footprint, enhancing the protection of ecosystems and ecosystem services, increasing resource-, carbon-, materials- and eco-efficiency, and improving health and well-being.

## The policy mix to achieve the green economy in the region

**Carbon pricing** (either through taxes or tradable permits) and the **proper valuation of ecosystems and biodiversity** will create the right incentives for sustainable consumption and production.

**Using carefully targeted subsidies to encourage the use of renewable energy** and other low-carbon technologies while phasing-out or **eliminating harmful fossil-fuel subsidies** that encourage fossil fuel use is another element of the policy mix.

Regulatory instruments such as technology-or performance-oriented regulations (e.g. average fuel consumption for vehicles or energy-efficiency performance standards for household appliances), bans on certain products or practices and licensing requirements have an important role to play.



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Information-based tools, such as labeling schemes that take into account the environmental consequences of products or the Pollutant Release and Transfer Registers foreseen by the Aarhus Convention Protocol, empower consumers to make more informed choices.

**Education for sustainable development** is a cross-cutting issue in all concerned policy fields, in order to provide the relevant knowledge, value and attitudes and to meet the demand for green skills.

## Housing

The housing sector provides low-cost and short-term opportunities across the whole region to reduce CO<sub>2</sub> emissions, mainly through better energy performance of buildings. Currently, residential, public and commercial **buildings consume around one third of total final energy consumption**.

The major challenge for the region is how to implement and finance the retrofit of the existing building stock.

Experience across the region suggests that supplementing solar-thermal heating by electrifying most heating of air and water in buildings using heat pumps, which are four times more efficient than ordinary electrical heaters, have substantial greening potential.

There are many examples of successful greening of the sector in the region:

In **Germany**, the building sector consumes roughly 40% of energy consumption and causes one third of CO<sub>2</sub> emissions. **1 million flats** have been **retrofitted** in the past five years, **creating thousands of jobs** and **slashing CO<sub>2</sub> emissions**. For **every billion euros invested** in the building stock, it is estimated that approximately **25,000 jobs will be created** or safeguarded.

In **Hungary**, a large-scale **renovation program** is estimated to potentially create up to **131,000 net new jobs by 2020**.

## The way forward

**Carbon pricing** will make many of the investments in the housing sector economically viable.

Regulatory and information-based measures such as **building codes** and **energy efficiency standards** have an important role to play in the region. **The implementation of the UNECE energy efficiency action plan should be encouraged**.

For new public buildings, Governments and municipalities can **green** their **public procurement** policies and introduce energy-efficiency standards, as well as strengthen the efficiency of district heating systems.

## Transport

The key challenges for the region are to decrease negative environmental and social impacts from the transport sector.

Current trends show that **final energy consumption in transport has increased by 13% in the EU-27** over the **decade 1998–2008**. **Congestion costs** in the EU-27 are estimated at roughly **1% of GDP per annum**.

In many transition countries in the region, both the number of rail lines, and the number of passengers carried by these, have declined over the past decade.

A 2007 EU study across 13 cities showed that **every €1 invested in public transport** provided **€2 to €2.5 in benefits**. In **Switzerland**, the economy as a whole **benefited** from an added value of **€4.6 for every €1** spent on public transport and, in Austria, Government programmes to encourage cycling have **contributed €900 million** to the economy and **18,000 jobs**.

## The way forward

Greener transport policies to internalize negative externalities of road transport include tax instruments, e.g. **the taxation of vehicles** (according to engine power, emission levels, engine type), **the pricing of fuels to reflect their carbon-content**, or the **taxation of road use** (congestion charging, road tolls). Another widely-used instrument for greening the sector is **vehicle regulations**.

Shifting to more sustainable modes of transport involves offering an affordable, reliable, clean, efficient and flexible **public transport system**. This shift requires greener policies and large investments in the public transport system and integrated urban and rural transport planning.

Technological innovation, for example the development of electric and plug-in hybrid vehicles, can be effective for improving

Source: Greening the economy: mainstreaming the environment into economic development (ECE/ASTANA.CONF/2011/4)

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environmental sustainability, but only if the generation of electricity and the production of hydrogen are sustainable and the appropriate fuel type (e.g., biofuels and natural gas) is available.

The Pan-European Programme on Transport, Health and Environment (**THE PEP**) encourages transport policymakers to take the health and environmental impacts of transport into consideration in transport planning and to work together across the three sectors to support sustainable mobility.

## Agriculture

Agriculture's share of GDP in the region covering Eastern Europe, the Caucasus and Central Asia is high compared to the OECD average of 2.2%. It is 5.3% in the Russian Federation and 34.1% in Kyrgyzstan.

The **Republic of Moldova** boasts the highest proportion of **organic farming**, covering some **2% of farmland** and making up **11% of all agriculture exports**.

In 2007, the area under **organic farming** accounted for **4.1%** of the Total Utilised Agricultural Area in the **EU-27**.

## The way forward

To level the playing field between conventional and green agricultural practices in the region, a policy mix that combines **taxes and supporting regulation** is necessary.

**Rebalancing the policy mix through taxes** on fossil carbon inputs, pesticide and herbicide use, air emissions and water pollution caused by harmful farming practices will promote greener agriculture.

There are also opportunities for applying market solutions such as **tradable permits and quotas** to reduce pollution from GHGs and water-borne nutrients.

In addition, **agricultural subsidies for farmer** ("producer") **support** should be **increasingly decoupled** from **crop production** and alternatively be retargeted to encourage farmers' efforts and investments in adopting greener agricultural practices.

In the EU, under the Common Agricultural Policy (CAP) for example, agri-environment measures provide **payments to farmers to encourage them to protect and enhance the environment** on their farmland and continue to provide environmental services. The next reform of the CAP, to be implemented in 2013, is an opportunity to enhance those aspects.

At the national level, Governments should stimulate **organic production** by setting ambitious growth targets, defining organic action plans, adapting policies and facilitating public and private investments in the sector, while taking into account food security and quality considerations.

## Education

Building the necessary human capacity for a green economy is a challenge that all policy sectors face. Large-scale job training as well as re-training efforts have to be carried out, since every job is part of making the economy greener.

Skills in demand include technical skills, but moreover also knowledge, values and attitudes that are vital to producing, consuming as well as acting sustainably.

Successfully providing those green skills as well as relevant knowledge and attitudes would tremendously accelerate the transition process to a green economy. On the regional level, **the UNECE Strategy for Education for Sustainable Development (ESD) promotes the necessary reorientation of education towards sustainable development**.

## The way forward

It is essential to **strengthen the dialogue** between those developing education systems as well as training standards and trade unions, employers' organizations as well as chambers of commerce, in order for education to be able to respond to the needs of a green economy.

**Education for sustainable consumption** is a key driver for greening the economy because it enables consumers to make informed choices. Moreover it promotes an understanding and valuing of sustainable development that is a prerequisite for rethinking past decisions and for raising awareness about greener practices.

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## Research and innovation

Research and development (R&D) and innovation are central to the green economy due to their potential to reduce the costs of existing GHG abatement and environmentally sustainable technologies, as well as to deliver the new technologies for low-carbon growth.

In the pan-European region, innovation is already a key driver of increased energy-, carbon-, water- and material-efficiency. The use of targeted R&D expenditures, as well as policy measures such as feed-in tariffs, and investments grants, have helped to spur green innovation in the region.

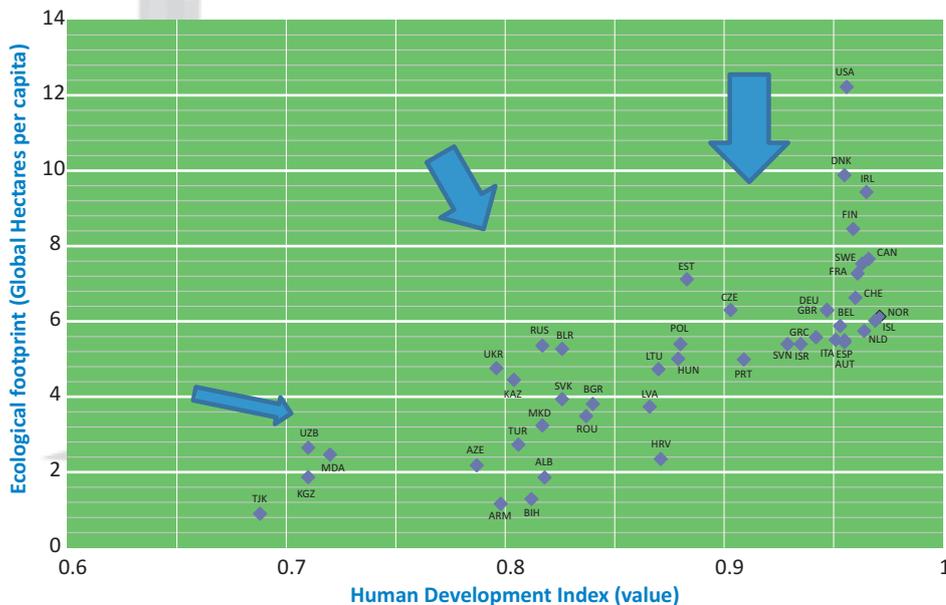
Green innovation requires enabling conditions similar to those for innovation in general, including a sound macroeconomic environment, openness, competitive labor and product markets and business friendly tax and regulatory regimes.

Green innovation will benefit from clear and stable market signals that would result from carbon pricing or other relevant market instruments.

Three key areas for Government intervention to support green innovation are: **funding research, alleviating early-stage financing barriers** and **pursuing demand-side policies**. **Standards, well-designed regulations** and **innovative public procurement can also encourage green innovation**.

Information and communication technologies (ICTs) are a key enabler for the green economy. They help to realize solutions for fuel-efficient driving, smart electricity distribution networks to reduce transmission and distribution losses, and intelligent heating and lighting systems in buildings that increase energy efficiency.

## Towards a Green Economy in the UNECE region



Despite significant achievements in greening the economies across the pan-European region, the ambitious green economy targets being pursued by many countries show that the scale of the green economy challenge for the region is still large. Using the **ecological footprint methodology of the Global Footprint Network**, for example, the above figure shows the **positive relationship between a country's ecological footprint and its value on the Human Development Index (HDI) for the region**.

**For some countries, the challenge is to move along the horizontal axis to pass the high human development threshold of the HDI, set at a value of 0.8, while maintaining a sustainable ecological footprint within the 2006 global average biocapacity indicator with a value of around two.**

**For most countries in the region, the challenge is to maintain their high human development with much lower ecological footprints.**



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