

ECE/BATUMI.CONF/2016/4

ENVIRONMENT FOR EUROPE  
UN ENVIRONNEMENT POUR L'EUROPE  
ОКРУЖАЮЩАЯ СРЕДА ДЛЯ ЕВРОПЫ  
გარემო ევროპისათვის

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BATUMI, 8–10 June 2016



## **Eighth Environment for Europe Ministerial Conference**

**Batumi, Georgia  
8–10 June 2016**

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**Greening the economy in the pan-European region**





# Economic and Social Council

Distr.: General  
24 March 2016

Original: English

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## Economic Commission for Europe

### Eighth Environment for Europe Ministerial Conference

Batumi, Georgia, 8–10 June 2016

Item 4 of the provisional agenda

**Greening the economy in the pan-European region**

## **Greening the economy in the pan-European region**

### **Note by the Committee on Environmental Policy with support from the secretariat and the United Nations Environment Programme**

#### *Summary*

The present document was prepared in accordance with the Reform Plan of the Environment for Europe process, which calls for the preparation of one official document per selected theme of each Environment for Europe ministerial conference (ECE/CEP/S/152 and Corr.1, annex I, para. 12 (d)). It responds to the questions agreed for discussion under the theme “Greening the economy in the pan-European region”, describing opportunities and challenges for greening the economy, possible paths to sustainability, including through green incentives, and steps to promote cooperation among countries in the pan-European region to support the transition to a green economy.

The document was developed with support from the United Nations Economic Commission for Europe secretariat as well as the United Nations Environmental Programme and in consultation with partner organizations listed in the introduction.

The document aims to facilitate the ministerial discussion on greening the economy in the region by providing background information to support delegations in preparing for the Conference. It is expected that concrete national perspectives under each of the identified questions will be brought up during the ministers’ interventions and discussion.



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## Introduction

1. Greening the economy — understood as an approach to foster economic progress while ensuring environmental sustainability and social equity — is considered to be a promising avenue towards sustainable development. For this reason, the United Nations and its Member States are working towards embracing green economy approaches, including within the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs).

2. In the pan-European region,<sup>1</sup> environment ministers agreed at the 2011 Environment for Europe Conference in Astana to take the lead in the transition to a green economy. They stressed the need to strengthen efforts to decouple economic growth from environmental degradation by stimulating green investments and promoting sustainable consumption and production, energy and resource efficiency and innovation. They also emphasized the importance of the development of human, institutional and economic capacities, including through research, education and training, in support of greening the economies.<sup>2</sup>

3. The Eighth Environment for Europe Ministerial Conference will advance the green economy transition in the region in response to commitments made in Astana and focus on how to start the process. The intention is to support ministries of environment to initiate and sustain discussions on the green economy in their national Governments and other relevant forums, and move the green economy agenda forward.

4. There is no one-size-fits-all approach for transitioning to a green economy, as different countries will encounter different challenges and opportunities. Countries may therefore be interested in different approaches, tools and actions, whether economy-wide or sectoral, for a green economy transition. At the same time, cooperation and the exchange of good practices and lessons learned are important, including with subnational and local authorities, business and civil society, for efficiently and effectively greening the economy.

5. The present document is based on the four clusters of questions for the ministerial discussion agreed by the United Nations Economic Commission for Europe (ECE) Committee on Environmental Policy.<sup>3</sup> The document was prepared with support from the ECE secretariat and the United Nations Environment Programme (UNEP), and in consultation with partner organizations, including the European Environment Agency (EEA), the International Labour Organization (ILO), the Organization for Economic Cooperation and Development (OECD), the United Nations Development Programme (UNDP) and the World Health Organization Regional Office for Europe.

6. The final draft of the document was approved for submission to the Conference by the Committee on Environmental Policy at its special session in February 2016. The document aims to facilitate the ministerial discussion by providing background information to support delegations in preparing for the Conference. It is expected that concrete national perspectives under each of the identified questions will be brought up during the ministers' interventions and discussion.

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<sup>1</sup> The pan-European region under the Environment for Europe process covers the full membership of the United Nations Economic Commission for Europe (ECE), i.e., the 56 ECE member States.

<sup>2</sup> See the Astana Ministerial Declaration "Save water, grow green" (ECE/ASTANA.CONF/2011/2/Add.1), available from [www.unece.org/env/efe/astana/welcome](http://www.unece.org/env/efe/astana/welcome).

<sup>3</sup> In addition, ministers are expected to discuss green agriculture and environmental risk reduction as well as how subnational and local authorities, business and civil society are involved in greening the economy.

7. The document builds on and is complementary to other background documents related to greening the economy produced thus far under the Environment for Europe process, as follows:

(a) Greening the economy: mainstreaming the environment into economic development (ECE/ASTANA.CONF/2011/4);<sup>4</sup>

(b) Greening the economy in the pan-European region: progress and future prospects (ECE/CEP/2013/10);<sup>5</sup>

(c) Greening the economy in the pan-European region: progress, priorities, modalities and options (ECE/CEP/2014/5).<sup>6</sup>

## I. Challenges and opportunities

**Questions for discussion:** *What are the pressing challenges to greening the economy in your country? What positive effects on, e.g., employment, human well-being, prosperity and natural capital are evident after introducing green economy policies? Have trade-offs been taken into account in policymaking — e.g., in terms of the impact on employment, social equity and private investment?*

8. The transition to a green economy is generally considered as a promising avenue towards achieving sustainable development; nonetheless, in spite of the many benefits resulting from any transformative event, there are short- and medium-term changes that may negatively impact individuals or groups of individuals. Certain enterprises and industries, in particular those adapted to a “brown” economy, may lose their market share if they cannot react to the changes, and lay-offs may occur. Other enterprises may be inclined to modify their business portfolio, requiring different skill sets from their staff. Therefore, owners, managers and, in particular, employees may fear that the green economy transition could result in further job and income loss and affect their livelihoods. Others may fear that the consumption of some goods and services could become more expensive, which may threaten the standard of living they aspire to maintain or achieve.

9. The transition to a green economy therefore requires new enabling conditions and the implementation of adequate policies addressing those who may be negatively affected by this change. With the understanding of the magnitude of the transformation (e.g., macroeconomic models can quantify the potential number of jobs lost or created in declining or growing sectors), and based on empirical data, effective policies can be designed for economic diversification, the building of new skill sets and the provision of social support to those who would lose their jobs and income. The transition also has to be accompanied by information campaigns that will highlight the benefits of the green economy as a potential engine of growth and net generator of jobs, as well as the benefits to human well-being in the long term, and the false assumption that there will be a general price increase has to be debunked.

10. The design of the policy response may, however, be a challenging undertaking as the impact of a policy across various areas and time scales is difficult to assess. Still, sectoral models will make it possible to test policy scenarios to quantify their potential impact.

<sup>4</sup> Available from [www.unece.org/env/efe/Astana/documents.html](http://www.unece.org/env/efe/Astana/documents.html).

<sup>5</sup> Available from [www.unece.org/index.php?id=32257](http://www.unece.org/index.php?id=32257).

<sup>6</sup> Available from [www.unece.org/index.php?id=35032](http://www.unece.org/index.php?id=35032).

Comprehensive strategies addressing the consequences across economic sectors or on trade and social elements, including compensation mechanisms, will also need to be developed and broadly communicated.

11. So far, only a few countries in the region have set up sustainable development or green economy strategies containing policy packages with concrete green economy goals or targets. Even fewer countries have set up intersectoral bodies for oversight and coordination of the green economy transition. However, governmental or institutional collective action and enhanced cooperation and vision are a prerequisite to manage the change. Institutional inertia and the practices of working in silos around economic, social and environmental policy actions need to be overcome for the transition to occur.

**Box 1**

**Institutional set-up for a green economy transition in the Republic of Moldova**

Since 2013 green economy activities in the Republic of Moldova are coordinated jointly by the Ministry of Environment and the Ministry of Economy. The coordination of work has resulted in the development of a special chapter on green economy in the National Environmental Strategy (2014–2023) and in the establishment of the Interministerial Working Group on the Promotion of Sustainable Development and Green Economy in 2015. The Working Group coordinates the implementation of the provisions of the Outcome Document of the United Nations Conference on Sustainable Development, “The future we want”, the National Development Strategy of the Republic of Moldova (2012–2020), the 2014 Declaration of Intention on Sustainable Development and Green Economy, the Energy Strategy 2030, the Environmental Strategy (2014–2023) and other strategic documents in this domain. The Working Group is also developing the Road Map for the Promotion of Green Economy in the Republic of Moldova and coordinating its implementation.

12. What may look like the inaction of Governments with regard to the green economy transition may be explained by the political pressure to combat economic stagnation and high unemployment in the short term. At the same time, the limited number of successfully implemented green economy strategies or policy packages has not stimulated Governments to reassess conventional economic growth models, even though this may hamper economic opportunities in the longer term.

13. The transition also requires the mobilization of capital. In times of slow economic development or economic downturn, State budgets have limited capacity to free resources for stimulating the transition and leveraging private investment.

14. The private sector is interested in stable and predictable conditions and policy frameworks as a reliable basis for capital investment, including into green sectors. These conditions can be created through the development of comprehensive and coherent long-term transition strategies and through the integration of green economy objectives into broader national development planning, which are generally lacking at present.

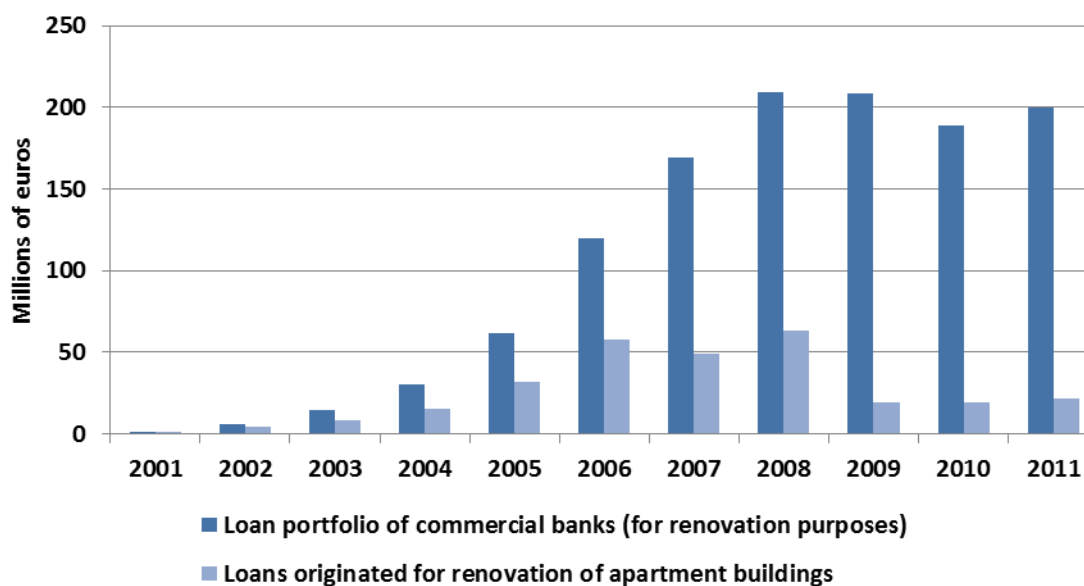
15. The private sector may also be refraining from investment in green sectors due to workforce capacity gaps. The emerging “green” jobs require particular skills and knowledge, which may be inexistent or limited in current labour markets.

16. Despite these common challenges, there are examples showing the positive effects of implementing green economy policies, in particular sectoral ones. These were possible due to policy packages that stimulated private investment, as the examples in the following sections demonstrate.

17. A well-known example of an effective green economy policy package is that of the retrofitting of building stock. The Energy Performance of Buildings Directive<sup>7</sup> of the European Union, for example, requires member States to put policies in place that improve the state of the building stock and change consumer behaviour. Retrofitting allows businesses and house owners to reduce their buildings' environmental impact, while at the same time cuts running costs and energy bills, and improves building performance. Adequate policy action has stimulated building owners (e.g., see figure 1) to invest on a large scale in increasing energy performance by improving the insulation of walls and windows or improving heating systems. This resulted in job creation in the construction sector (i.e., construction works, construction material production and distribution) and helped reduce energy loss from buildings, contributing to decreasing heating bills and curbing emissions of air pollutants and greenhouse gases from collective or individual heating, thereby improving ambient air quality and mitigating climate change. However, only those approaches that include measures aimed at upgrading skills, qualifications and innovation will also have lasting effects on the competitiveness of the sector. Those who could suffer losses from these policy packages include energy and heating fuel distributors: for every 1 per cent of improvement in energy efficiency, European Union gas imports fall by 2.6 per cent.

Figure 1

**Loans originated by commercial banks for capital repairs and energy-efficient modernization of apartment buildings in Estonia, backed by the surety issued by KredEx<sup>8</sup>**



Source: [www.kredex.ee](http://www.kredex.ee) Estonia.

18. Other good examples are policy packages aimed at promoting sustainable or organic agriculture. Especially the latter can create opportunities for small-scale farmers, who often make up the majority of the agricultural labour force in low-income countries. In countries

<sup>7</sup> Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings.

<sup>8</sup> Mention in this document of the names of firms and commercial products does not imply the endorsement of the United Nations.



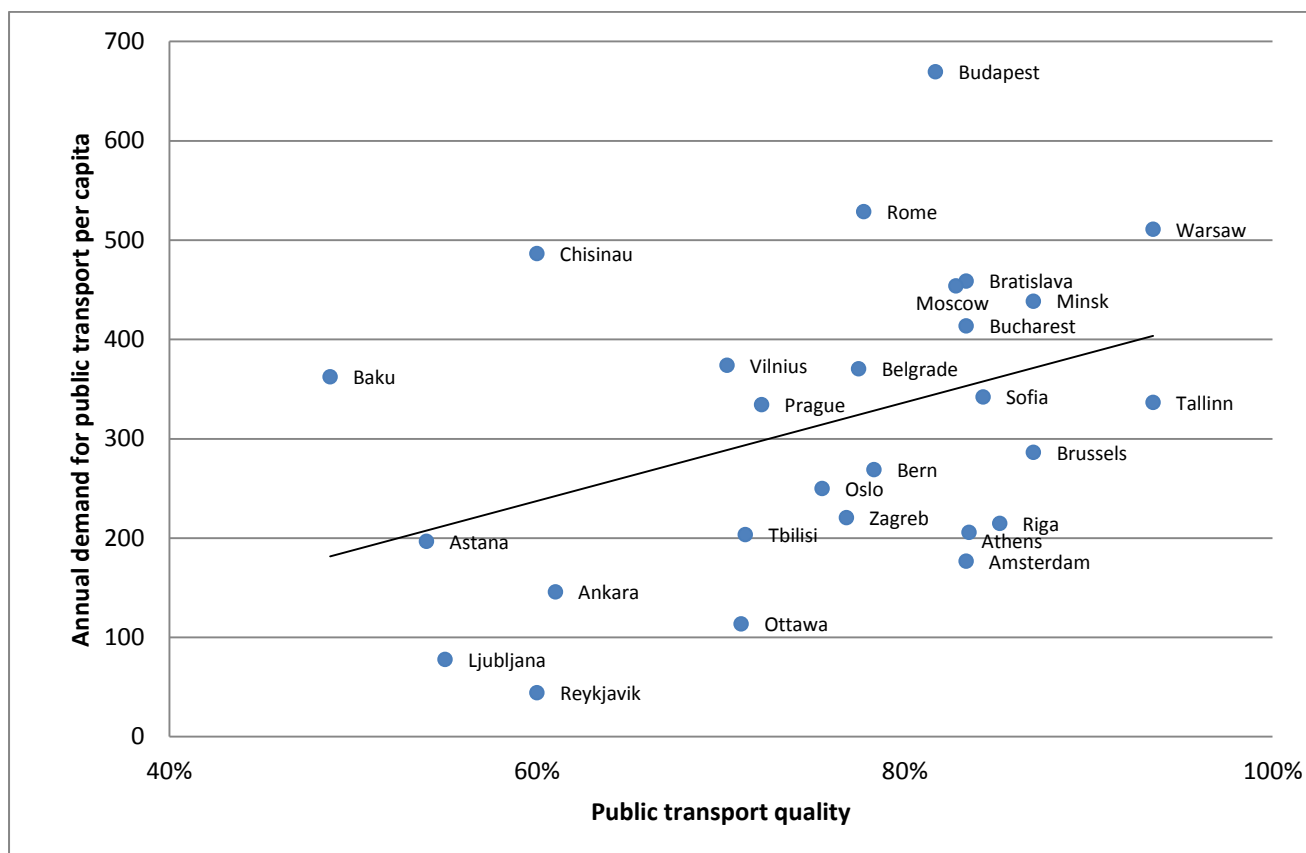
of the European Union, as well as the Republic of Moldova, Switzerland and Ukraine, for example, policies have been developed to stimulate farmers to convert to organic farming practices (e.g., adopting crop rotation and using organic fertilizers and pest control) and avoid the use of synthetic inputs (i.e., fertilizers and pesticides) as well as genetically modified organism technologies. In the European Union, around 500,000 hectares of land are converted to organic agriculture annually and around 20,000 hectares in Ukraine. The positive effects of these policies range from the development of new agribusiness opportunities, increased export and higher farmer incomes (due to a higher price premium), as well as a revitalization of the countryside and restoration of ecosystem functionality. However, in order to support the conversion period from conventional to organic production and to make up for losses from expected lower yields during the first years of the transition, producers may need Government support for converting their farming practices, e.g., in the form of subsidies. Overall, those who may be impacted negatively by these policies include conventional farmers, who may lose market share of their products in the longer term, as well as producers of synthetic fertilizers, pesticides and seeds, who may require assistance in reorienting their businesses.

19. Applying policy packages aimed at stimulating the forest sector to supply products such as timber, biomass and non-wood forest products and services — e.g., the protection of land and housing from natural disasters — to economic markets based on the effective combination of economic and environmental objectives of forest management (e.g., in Poland, Spain and the Alpine countries) resulted in wide-ranging job creation for the rural population. At the same time, the introduction of payments for forest services, such as the provision of drinking water purified in a natural and sustainable way by forests stands, could be opposed by mineral water producers that are currently benefitting from this service for free.

20. Policy packages, such as those advocated by the Transport, Health and Environment Pan-European Programme (THE PEP), to promote public transport in combination with walking and cycling also offer positive effects. According to the International Energy Agency, global transport consumes more than half of global liquid fossil fuels, while transport emissions comprised an estimated 23 per cent of direct global carbon dioxide (CO<sub>2</sub>) emissions in 2008, with land transport accounting for the largest share (16 per cent). Policies targeted at promoting public transport provide jobs, while the decrease in the use of private vehicles in urban transport helps to improve the ambient air quality and road safety. Such policies can also ensure mobility for non-car owners and help limit economic losses associated with chronic traffic congestion and health costs associated with traffic accidents, pollution from cars and lack of physical activity. Nevertheless, the implementation of such policy packages is challenging. Urban public transport needs to be affordable and offer a high quality service (see figure 2), which in turn requires a reliable infrastructure and comfortable rolling stock. This cannot be achieved without the necessary capital investment at city level (many pan-European cities invested in improving public transport infrastructure and rolling stock). Those affected by these policies include passengers who could suffer from prolonged travel times due to partial or ineffective coverage of the vehicle fleet, and car drivers affected by possible congestion charges or narrow roads due to new bus or bike lanes. Also car manufacturers, suppliers and fuel refinery industries may incur losses due to a decline in car and fuel sales in the longer term. If, however, policies are implemented in combination with intermodal transport solutions and the promotion of fuel efficient or electric cars, jobs could be created, as more capital and resources would be invested for the development of new and efficient, electric or hybrid technologies.

Figure 2

## Quality of urban public transport versus demand in selected ECE capitals



Source: ECE, based on data collected in 2011.

21. A policy package promoting waste recovery and recycling is another good means of achieving positive effects from green economy approaches, as it can create income and jobs. Through its Waste Framework Directive,<sup>9</sup> for example, which requires member States to prevent or reduce waste and recover waste by means of recycling, reuse or reclamation with a view to extracting secondary raw materials, the European Union aims to achieve a recycling rate of 50 per cent by 2020. According to EEA, employment in waste management and recycling of materials grew annually between 2000 and 2008 by 7.14 and 10.57 per cent, respectively, in European Union countries. Sorting and processing recyclables alone can sustain ten times more jobs than landfilling or incineration on a per ton basis, while recycling jobs are at higher income levels than jobs in waste landfilling or incineration. In addition, the recovered or recycled material could re-enter the production processes, bringing significant economic and environmental benefits.

22. Policies addressed at promoting remanufacturing are also becoming increasingly significant, especially in areas such as motor-vehicle components, aircraft parts, compressors and electrical and data communications equipment. According to the Fraunhofer Institute in Stuttgart, global remanufacturing efforts save around 10.7 million barrels of oil annually, and significantly reduce the use of raw materials. In the United

<sup>9</sup> Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

States of America, for instance, remanufacturing is estimated to be a US\$ 47 billion business, employing over 480,000 people.<sup>10</sup> The mining sector could suffer losses, however, if income and employment drop with decreasing demand for mined minerals.<sup>11</sup>

23. As a source of economic opportunities in a green economy, international trade and the liberalization of trade in environmental goods and services can help in the green economy transition. A World Bank study found that trade liberalization could result in a 7 to 13 per cent increase in trade volumes in these goods. Current negotiations towards an Environmental Goods Agreement under the auspices of the World Trade Organization are expected to facilitate trade liberalization by reducing tariffs on an agreed list of environmental goods to zero, affecting at least 90 per cent of global trade in these goods. For importing countries, the reduction of tariff and non-tariff barriers to trade in environmental goods and services would translate into better access to more efficient, diverse and less expensive goods and services on the international market. For exporters, liberalization can create new market opportunities and foster development of competitive industries dedicated to environmental improvements, for instance through technology development or diffusion. However, changes in trade flows could also cause an outsourcing of polluting production to countries with less stringent regulations, or limit competitiveness, although such trends are not yet widely observed.

24. Overall, the green economy can be about quick economic, social and environmental “wins”, and not only benefits in the medium to long term. This is also true for such an important factor as employment, for both urban and rural populations. There is evidence that it is worth investing in the green economy transition and fully seizing the opportunities and benefits it brings: economies that are highly resource productive and resilient to shocks; improvements in the quality of life of the population; and the identification of new sources for economic development.

## II. Paths to sustainability

**Questions for discussion:** *What approaches have proven most useful to promote a more efficient use of natural resources and to reduce pressures on them (e.g., circular economy, green innovation and initiatives in the fields of energy, building, transport infrastructure, water, fiscal reforms, standards and labelling)? What initiatives are working successfully or are planned to be introduced in your country to address challenges and major obstacles, including to sustainable consumption and production patterns?*

25. It is widely recognized that natural resources are limited and ecosystems and their services are being degraded, requiring new approaches in order to satisfy the needs of a growing population and foster prosperity in the region in a sustainable manner.

26. To date, a number of approaches, programmes and initiatives have been developed in the ECE region and globally, including the UNEP 10-year framework of programmes on sustainable consumption and production, to promote a more efficient use of natural

<sup>10</sup> United Nations Environment Programme, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* (Nairobi, 2011). Available from [www.unep.org/greeneconomy](http://www.unep.org/greeneconomy).

<sup>11</sup> Today, the mining industry is affected more by economic downturns and related drops in demand than competition from recovery or recycling activities.

resources and thus lessen the burden on ecosystems, their services and the natural resource base of economic and social development. These need to be supported by fiscal, regulatory and information-based instruments, as described in the next chapter, to stimulate and incentivize the behavioural change needed for more conscious and sustainable consumption and production patterns.

27. Relative decoupling of economic development from environmental degradation is occurring in the region (i.e., resource impacts have declined relative to gross domestic product (GDP)), mitigating risks for human well-being and the environment. However, strengthened efforts are still required to achieve absolute decoupling, where resource efficiencies increase at least as fast as economic output does and resource impacts decrease in absolute terms.

28. In order for Governments to measure and account for their overall natural capital asset base, it is necessary to apply the valuation of natural capital in national accounts and develop appropriate indices. Conventional economic indicators, such as GDP, provide a distorted picture of economic performance, as they do not take into account the use of natural capital. However, changes in natural stocks, i.e., natural resource depletion and environmental degradation, can be evaluated in monetary terms and incorporated into national accounts through the System of Environmental-Economic Accounting (SEEA). The wider use of complementary measures, including inclusive wealth and genuine savings rates, provide a more accurate and realistic indication of the level of economic output vis-à-vis stocks of physical, human and natural capital.

29. Applying sustainable natural resource or ecosystem management approaches, reducing the environmental impacts of the economic sectors, nexus analysis, spatial city planning and the circular economy approach are all ways to curb pressures on finite natural resources. Long-term changes in societal behaviours can be achieved through education for sustainable development. Public spending programmes for science and research, access to good practices and knowledge on reducing environmental pressures, and the availability of monitoring frameworks to assess the successes or failures of policies aimed at achieving sustainability are also important to that end.

30. A key element to the effective introduction of these approaches and programmes is through a meaningful engagement of civil society and the private sector, both through enabling access to information and their participation in the decision-making.

### **Sustainable natural resource or ecosystem management**

31. Sustainable natural resource or ecosystem management through a set of defined principles helps to achieve the most effective combination of environmental, economic and social objectives and secure their functions in the long term. The best known and widely applied among these approaches are sustainable water management and sustainable forest management.

32. Sustainable water management helps to match supply and demand and to allocate water where it creates more benefits, while ensuring that water resources are not depleted or their quality degraded. Interlinkages between water and sectors in which water is used are established and different water allocation scenarios are examined. A good international practice for sustainable water management within international water law<sup>12</sup> is to implement integrated water resources management at the basin level, whether or not it is transboundary.

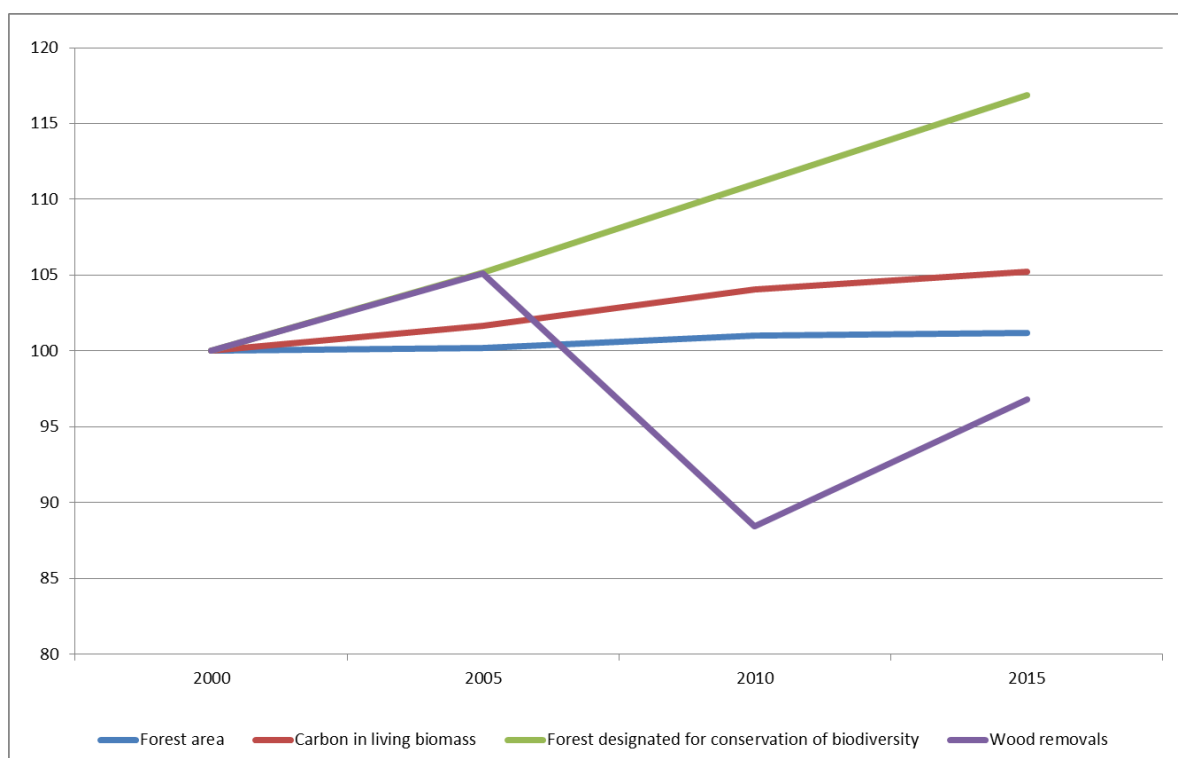
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<sup>12</sup> I.e., in the framework of the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

33. Sustainable forest management helps to balance the demand for forest products and services and the need to safeguard and enhance forests ecosystems and services, so that forests can continuously deliver their functions in the future, while enabling long-term economic viability and the competitiveness of forestry and forest-based industries (see figure 3).

34. These management frameworks need to be supported by a variety of instruments enabling their implementation and behavioural change. A good regulatory basis is critical. Also, the application of economic instruments plays an important role. Adequate resource pricing, for example, is important not just for the pricing of natural capital and services, but also for the pricing of all other inputs within an economy. Most natural resources are underpriced and thus encourage overexploitation. Pricing water at appropriate levels differentiated by uses, or by putting in place payments for ecosystem services schemes, are useful tools to support the sustainable management of scarce resources.

Figure 3  
**Trends in selected forest management characteristics, compared with the situation in 2000 (percentage)**



Source: *Forests in the ECE Region: Trends and Challenges in Achieving the Global Objectives on Forests*, United Nations publication, Sales No. E.15.II.E.6. Available from [www.unecce.org/forests/forests-in-the-ece-region-2015](http://www.unecce.org/forests/forests-in-the-ece-region-2015).

### Sustainable sectoral approaches

35. Environmental sustainability should be at the centre of the development of each economic sector. This means improving the quality of life of the population and ensuring economic progress and security while reducing the ecological footprint of that sector.

36. In the energy sector, the development of energy generation from renewable sources, the growth of distributed generation, the creation of a network of small-scale energy systems and the implementation of off-grid solutions based on renewable sources and

energy storage or smart grids, are all indicators of an energy revolution that helps to build a sustainable energy system (see figure 4). The move to energy generation from renewable sources helps decrease the use of mineral resources and so the pressures on them. All actions aimed at increasing energy efficiency from source to use — during production, transmission and distribution — allow saving resources that otherwise would need to be used for compensating the energy loss.

37. In the agricultural sector, replacing intensive and unsustainable farming practices with traditional, extensive and sustainable farming techniques can reduce chemical, water and energy consumption, avoid surface water and groundwater pollution and preserve important soil nutrients. There is evidence that low- or no-cost changes in farming techniques can reduce pressures on ecosystems with the added benefit of conservation of high value farmland and agricultural biodiversity for future generations.

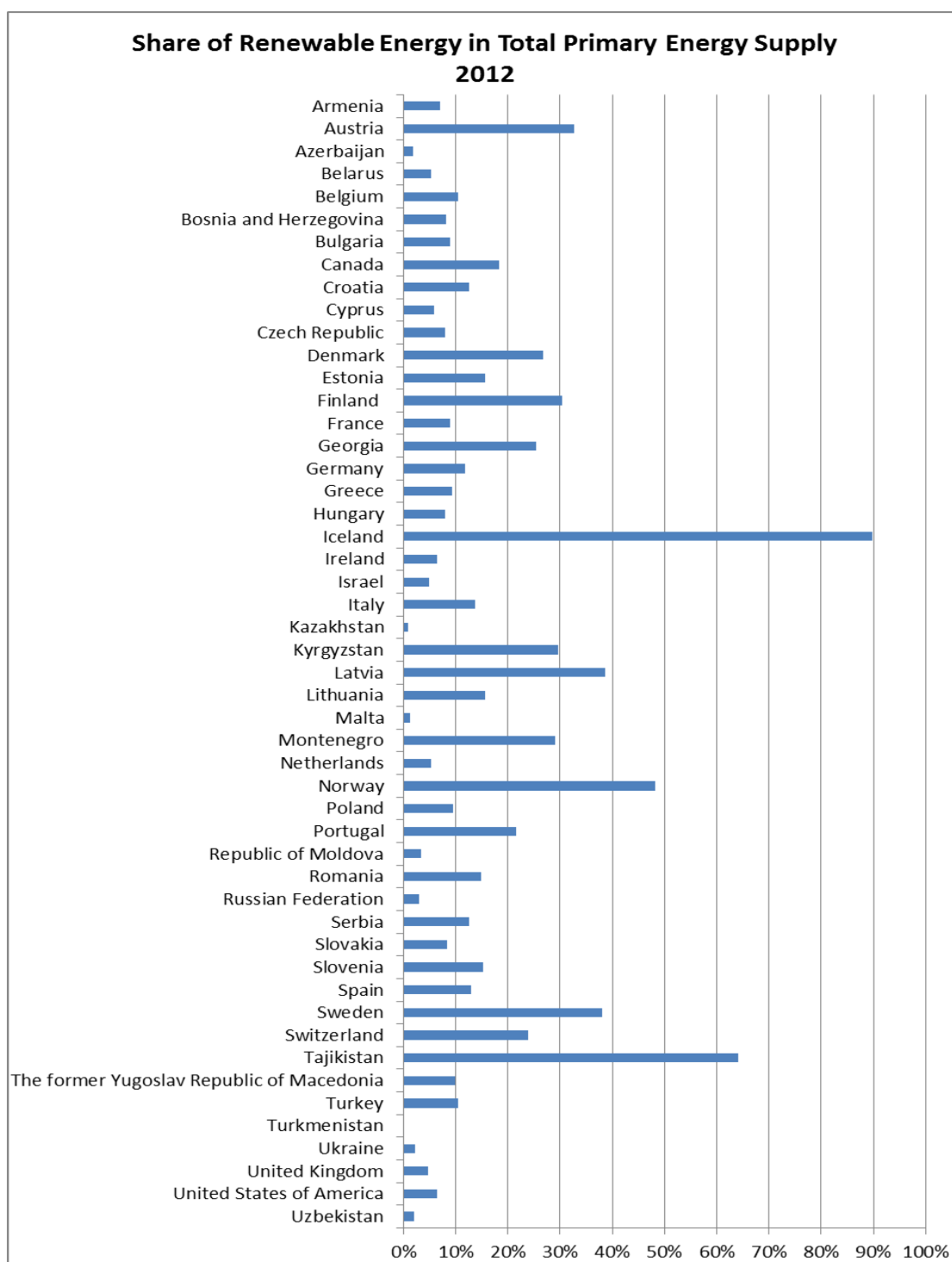
38. Through the application of environmentally sustainable approaches, manufacturing and construction processes and manufactured goods and buildings are becoming greener. Both material and energy productivity have improved over recent years for goods like houses, cars and various appliances, which has helped to reduce pressures on the environment.

39. In the transport sector, the promotion of intermodal transport solutions — enabling transfers between locations by optimally combining various modes of transport that are the most energy efficient and least polluting for those transfers — can help cut energy use, and so polluting emissions, and ultimately decrease the pressure on resources and ecosystems while improving human health.

40. The results achieved through sustainable sectoral approaches could be further enhanced. For the energy sector, a better integration of national markets with common rules of operation would create a more cost-effective penetration of lower-carbon technologies and improve the resilience of the energy system. Similarly, for the transport sector, integration of national transport markets by introducing common rules of operation would incentivize using more efficient modes of transport — for example, rail in international transport. This would enable investment in the infrastructure required. Clear and common rules of operation, also at national level, could attract private investments into both the energy and transport sectors.

41. In the construction and manufacturing sectors, efficiency gains have been offset by increased demand. There is a need to green the global supply chains for the sectors and find and apply innovative solutions that will help achieve absolute decoupling.

Figure 4  
Renewable energy share of total primary energy supply in the ECE region



Source: Renewable Energy Policy Network for the Twenty-First Century (REN21), *UNECE Renewable Energy Status Report* (Paris, 2011). Available from <http://www.ren21.net/status-of-renewables/global-status-report>.

**Nexus approach**

42. At the heart of a nexus approach is the integration across sectors and scales in management and governance in order to achieve synergies and minimize trade-offs. This approach emphasizes the interrelatedness of and interdependencies between resources like water, energy, land (especially for agricultural production) and ecosystem services, as well as fluxes across spatial scales and between compartments. Instead of just managing individual components in isolation, the functioning, productivity and management of a complex interrelated sectoral system and framework is assessed in order to identify best solutions reconciling the needs of the different sectors.

43. The nexus approach thus goes beyond the management of one system or framework and examines linkages that are not apparent — e.g., the impacts of an energy policy on the status or use of water resources, which would not be covered by the sustainable water management approach only.

44. An example is that of the water-food-energy-ecosystems nexus (see figure 5), which can be particularly problematic and prone to conflict in transboundary basins. It therefore merits an assessment of the dependencies of the riparian countries, but also of developments like national policies and regional commitments, to understand the most pressing challenges for that basin across sectors, and for the basin ecosystems. A successful first step would be development of a common information database and the creation of an intergovernmental monitoring system for transboundary ecosystems (i.e., under the Framework Convention for the Protection of the Marine Environment of the Caspian Sea).<sup>13</sup>

45. These pressing challenges can then be prioritized, engaging the administrations and organizations concerned, and a menu of possible actions can be proposed to inform various actors. A step-by-step methodology for carrying out a participatory assessment of the water-food-energy-ecosystems nexus in transboundary basins has been developed under the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes.<sup>14</sup>

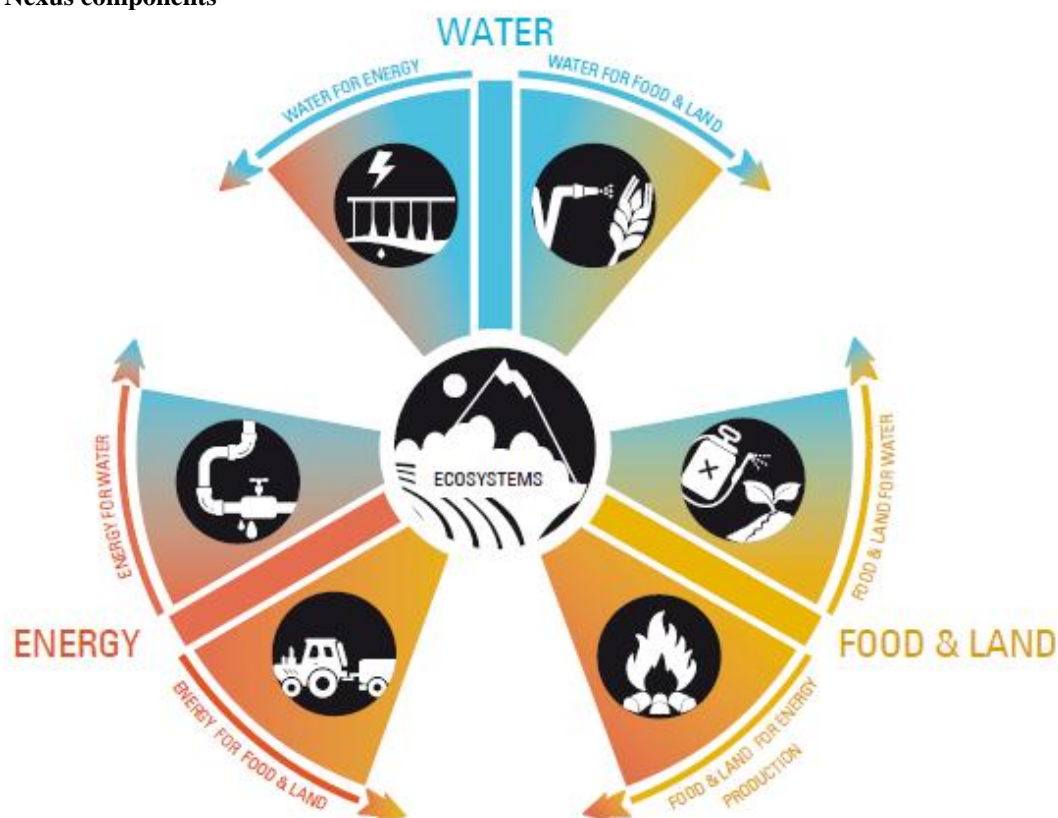
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<sup>13</sup> See chapter II “Water and Water-related Eco-Systems” of the European ECO Forum Astana Declaration.

<sup>14</sup> See methodology for assessing the water-food-energy-ecosystems nexus in transboundary basins (ECE/MP.WAT/WG.1/2015/8), available from [www.unece.org/index.php?id=38163](http://www.unece.org/index.php?id=38163).



Figure 5  
Nexus components



Source: ECE.

46. The nexus analysis can be challenging, due to frequent gaps in data and information, or limited access to such data and analysis. A successful nexus analysis — and the management response — benefits from good cross-sectoral dialogue and communication, also to promote an understanding of the needs and risks related to other sectors. Frameworks for cooperation, such as agreements with a multisectoral scope, facilitate putting into practice an intersectoral (or nexus) approach. Such applications can also be strengthened through regulations requiring the impact assessment of plans and policies, such as strategic environmental assessments.

### Spatial/city planning

47. The pressure on resources could be curbed if urban infrastructures, which production and consumption systems depend on, are configured appropriately to deploy, use and reuse resources in an efficient way. Today, however, the urban infrastructure in many cities is inadequate (developing cities) or inappropriately configured (developed cities) from a sustainable resource use perspective. This has often been caused by rapid urban development in many countries and the resultant urban sprawl, with the unplanned extension of cities and their infrastructure.

48. Today, compact and structured urban growth based on integrated and strategic planning should be at the heart of city development. Such planning should promote, among others, compact city development, mixed use of land, as well as an increase in green and public spaces.

49. A good regulatory system and governance adapted to the local context are critical in pursuing effective city planning in support of the efficient use of resources. Cooperation and partnerships between municipalities and national Governments in urban planning and management should be strengthened. Also, urban planners and local decision makers need to be equipped with adequate knowledge for effective city planning.

### **Circular economy**

50. At the centre of the circular economy approach, which addresses all stages of the flow of materials, is the improvement of product design in such a way that the materials used for products can be reused with minimal energy input. With this approach, waste is also reduced by promoting reusing, repairing, refurbishing and recycling existing materials and products. With increasing resource scarcities and rising cost of extracting raw materials, waste is turned into a new source of resources and thereby fosters the use of secondary materials as substitutes for raw materials.

51. In the automobile industry, vehicles are designed in such a way that 75 per cent of the materials used in their production can be recycled today. The end-of-life vehicles are shredded and metals and polymers are recovered. Recovered metals are therefore used for new products, and energy is saved. According to the Steel Recycling Institute, the United States steel industry annually saves enough energy to power about 18 million households for a year by recycling steel. According to WRAP, a United Kingdom charity, the expansion in circular economy by 2030 has the potential to create 1.2 to 3 million jobs in Europe and reduce unemployment by around 250,000 to 520,000 people.

52. The opportunities that a circular economy approach brings are, however, still untapped. In many countries the recovery of minerals from products is rather low. Recovery of rare metals, despite their high economic and environmental value, is very low.

53. The circular economy approach needs to be better supported by legal and policy instruments to incentivize investment in modular product design, material recovery and reprocessing. Among such instruments is the setting of appropriate targets for the reduction of waste streams and the amount of waste to be deposited to landfills, appropriate laws regulating recycling businesses, refundable deposit schemes, laws defining extended producer responsibility for waste generation from their products, and pricing instruments to minimize waste disposal and increase the market competitiveness of eco-design products.

### **Education for sustainable development**

54. Actions aimed at achieving sustainability also need to be targeted towards the consumption side. It is therefore critical to educate individuals to not only acquire the knowledge and skills related to sustainable development, but also to acquire the attitudes and values necessary to shape a sustainable future.

55. Education for sustainable development aims to mainstream sustainable development issues, including sustainable consumption habits, into teaching and learning. It also promotes competencies like critical thinking, imagining future scenarios and taking adequate decisions in a collaborative way.

56. Education for sustainable development has been introduced into the teaching curricula in many countries. Yet the success of teaching sustainable development depends on the teachers' ability to integrate this concept into their subjects. This requires teacher training and the availability of teaching materials, which are often insufficient or lacking.

### Public spending programmes for science and research

57. The pressure on resources could be reduced by finding substitutes or technologies that provide goods and services that rely on abundant resources and avoid pollution or waste.

58. Mega research projects, such as the International Thermonuclear Experimental Reactor (ITER) project, which attempts to prove the viability of fusion as an energy source, could be a remarkable leap forward in addressing the existing resource challenges. As there are no guarantees that these projects will end up being successful and they are costly and of long duration, they depend on available public funding. Often, like in the case of the ITER project, the costs can be so high that it requires a number of countries to join forces.

59. In spite of the high uncertainty and potential risks, these types of large breakthrough projects should be funded by public sources for science and research, especially with countries joining forces to meet the costs.

### Access to good practices and green knowledge and monitoring frameworks

60. The accessibility of policymakers and practitioners to cutting-edge knowledge and good practice, as well as understanding of the progress achieved, is critical to pursuing the transition to a green economy.

61. The Green Growth Knowledge Platform<sup>15</sup> has been delivering and sharing knowledge and good practice since 2012. The knowledge research and responses provided in 2015 focused on the following topics: fiscal instruments; metrics and indicators; technology and innovation; trade and competitiveness.

62. Tracking progress in the transition could be carried out against a set of indicators and targets that represent the outcomes expected to be achieved, perhaps by links with the indicators and targets of the SDGs. The Shared Environmental Information System (SEIS), which makes available a common knowledge base with data and information for the whole region, could be used. Countries therefore need to further develop their national SEIS as agreed for the pan-European region.

## III. Green incentives

**Questions for discussion:** *What incentives concerning sustainable public procurement, environmental taxation and the removal of environmentally harmful subsidies, including fossil fuel subsidies, have been introduced, and what else can be done? What do you do to encourage green investment, including private and foreign direct investment and technology transfer in different sectors?*

63. In the region increasing attention is given to approaches and instruments that incentivize the public and private sector to innovate and invest in greening production processes and offer green products and services. Sustainable public procurement, market-based instruments and regulatory measures, but also information-based tools, like voluntary standards and labelling schemes, are among these. The voluntary labelling of products using eco-friendly technologies in the mining of fossil fuels is a good prospect to prevent the spread of new hazardous technologies. Policy and fiscal measures in support of

<sup>15</sup> See [www.greengrowthknowledge.org](http://www.greengrowthknowledge.org).

innovative enterprises (“start-ups”) are also important drivers of private investments in green technologies and can facilitate the flow of knowledge and technology transfer between the worlds of academia and research and the business sector, as well as between countries.

### **Sustainable public procurement**

64. Green and socially responsible purchasing by public authorities — sustainable public procurement — is a powerful tool to influence private companies to organize and focus the production process in ways that contribute to achieving environmental and social targets. This is due to the fact that public authorities in a number of sectors (public transport, construction, education and health) are key consumers. The public authorities of the European Union member States, for instance, spend approximately €2 trillion annually, equivalent to some 19 per cent of the GDP of the European Union. In Eastern Europe such expenditures can reach up to 27 per cent of GDP.

65. In the European Union, there is a supportive regional policy and legal framework, with detailed sustainable public procurement criteria, for 21 priority products and service categories (e.g. paper, cleaning products and services, textiles, construction, food and catering services, and electricity). National action plans addressing green public procurement have been adopted by a majority of the European Union countries. A monitoring exercise in 2011 showed that 26 per cent of a sample of 1,783 contracts signed included all of the criteria, and 55 per cent included at least one of the criteria. The Flemish government in Belgium has even set a target for 100 per cent of its public purchasing to meet defined sustainable procurement criteria by 2020 through a series of action plans. Considerable progress has also been made in Belarus, the Republic of Moldova and Ukraine, where action plans have been developed and priority products identified.

#### **Box 2**

#### **Benefits of sustainable public procurement**

Examples of concrete benefits that could be generated by public authorities through sustainable public procurement include:

- 3 million tons of CO<sub>2</sub> would be saved in the Netherlands if all public authorities applied the national sustainable public procurement criteria. Public sector energy consumption would be reduced by 10 per cent.
- If all information technology purchases in Europe followed the example of the Copenhagen City Council and the Swedish Administrative Development Agency, energy consumption would be cut by around 30 terawatt hours — roughly equivalent to the amount of energy produced by four nuclear reactors.
- £40.7 million (€47.2 million) could be saved in the United Kingdom of Great Britain and Northern Ireland if the proposed Government buying standards, including green standards, are applied by all central Government departments and executive agencies.

66. However, to exploit the full potential of this policy instrument a number of conditions must be met, including: sufficient political will; behavioural change in purchasing departments (green products are often perceived as costing more); the availability of legal expertise; the availability of practical tools and criteria for products and services; the availability of information on products and services; and cooperation between the relevant authorities.

### Market-based instruments

67. Putting a price on pollution or on the overexploitation of scarce natural resources — through mechanisms such as environmental taxes, pollution charges and environmental damage compensation payments, can also shift the attention of private companies towards more environmentally sound products and services and support investments in green technology. Pricing mechanisms tend to impact the costs of achieving a given objective and provide incentives for further efficiency gains in production processes, product innovation or transfer of technologies. They can also generate revenue to help finance education, health care, infrastructure development or poverty alleviation.

68. In the region, most new efforts on environmental taxes focus on pollution (Georgia, Greece, Romania) and there are examples of taxes on natural resources (Lithuania). Some countries (the Netherlands, Norway and Sweden) have not only introduced taxes and charges, but also index them annually, so that they stay constant in real terms and retain the same impact. There are also examples of levies, such as the climate change levy on energy use established by the United Kingdom, with businesses from certain sectors and/or using certain types of energy receiving discounts. However, research suggests that those businesses that paid the full levies were more innovative than those that received discounts, as evidenced by the higher number of patents registered.<sup>16</sup>

69. The European Union or Swiss emission trading scheme, working on the “cap and trade” principle, is another example to curb emissions. The idea of trading was introduced to ensure that emissions could be cut where it costs the least to do so. Kazakhstan has also introduced such an emissions trading scheme.

70. Time-limited subsidies can also be a useful tool for changing price signals. They can be an effective policy option when pricing instruments are too difficult or costly to enforce. They typically lower the upfront capital cost of investment by offering grants, tax credits, or low-interest loans to enterprises. Examples include subsidies for the promotion of clean technology (Italy) or greener agriculture or feed-in tariffs for renewable energy (Switzerland), and sometimes take the form of tax rebates (Greece, for energy efficiency). However, subsidies tend to be accompanied by higher costs and involve complications around targeting and how to find or redirect limited public funds. The demands that they place on governments in terms of administrative capacity and information requirements are considerable. Subsidies can also have far-reaching and unintended consequences, but these are not always easily detected or visible to the public.

71. At the same time, existing subsidies which run counter to the objectives of green growth policies should be eliminated. There is evidence that they can constitute a heavy burden on the budgets of State or local authorities and are at the same time difficult to phase out. Subsidies on fossil fuels, for instance, both encourage pollution and constrain the ability of governments to engage in programmes to boost long-run growth through, for example, improved health and education. Reforming and eventually phasing out environmentally harmful subsidies can be an important part of the transition to greener economies. Savings from subsidy reform could offer an opportunity to boost support to green growth, depending on the local context.

72. Despite the fact that the use of market-based instruments is expanding, including in the region of Eastern Europe, the Caucasus and Central Asia (box 3), they are often used to address selected issues in a specific sector, rather than being applied throughout the economy.

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<sup>16</sup> Organization for Economic Cooperation and Development, *Taxation, Innovation and the Environment* (Paris, 2010), box 4.1. Available from <http://dx.doi.org/10.1787/9789264087637-en>.

73. Furthermore, the issue of competitiveness is central to applying market-based instruments. Without a coordinated approach at the regional (and global) level, their impact on private companies can be different than expected. For example, companies may choose to relocate to countries with no environmental taxation as part of their strategy to reduce costs.

74. In addition, some of the market-based instruments are not yet producing the expected benefits. For instance, the European Union emission trading scheme is facing a challenge in the form of a growing surplus of emission allowances, largely because of the economic crisis which has depressed emissions. As a consequence carbon prices are not high enough to send a signal for transformational change. Instead, today's low prices for carbon are driving investments away from green alternatives, and towards fossil fuel options.

Box 3

**Reforming environmentally related economic instruments in Eastern Europe, the Caucasus and Central Asia**

Over the past 10 years, countries of Eastern Europe, the Caucasus and Central Asia have been making efforts to improve the design and implementation of economic instruments for advancing environmental policies, including pollution and product taxes or charges, non-compliance penalties and environmental damage compensation payments. The instruments' administrative efficiency (including the collection rates) has substantially improved across the region. The environmental tax rates have increased, the number of pollutants subject to taxation in some countries have been reduced from hundreds to more practical levels (less than 20), and the use of product taxes and administrative fines for legal entities has expanded. Despite this progress, the design of these instruments, individually and collectively, remains far from optimal.

**Regulatory measures**

75. Well-designed regulation or compliance promotion has proven to be an effective driver for the private sector to shift towards greener products and production processes. These include instruments and procedures<sup>17</sup> such as strategic environmental assessment (SEA) of sectoral policies and programmes, environmental impact assessment (EIA) of individual development activities, emission limit values, best available technology requirements, zoning and pollutant release and transfer registers.

76. SEA and EIA define objectives and step-by-step procedures that implement a precautionary approach to environmental and health impacts. They set procedures for consultation and communication between sectoral ministries, as well as between subnational and local authorities, business and civil society.

77. EIA provides information, inter alia, on alternatives — including the zero (or “no action”) alternative — to a proposed activity, the likely impacts of the proposed activity and possible mitigation measures to keep adverse environmental impacts of economic activities to a minimum. It also helps to identify gaps in knowledge and uncertainties. It is recommended to follow up the EIA procedure with a post-project analysis that aims at monitoring compliance by the project developers with environmental conditions or

<sup>17</sup> These instruments or procedures are regulated, among others, by ECE treaties. For details, please see [www.unece.org/env/treaties/welcome](http://www.unece.org/env/treaties/welcome).

mitigation measures, reviews the performance and verifies the past predictions against future activities. EIA has been well embedded in the development concept in many countries over the past two decades. To date, most countries in the region also apply EIA routinely in a transboundary context, i.e., when a development activity is likely to have adverse environmental impacts across national frontiers.

78. SEA identifies the main drivers affecting trends important for green economy considerations, evaluates a wide range of likely impacts and compares pros and cons. It helps to find alternative solutions or options for achieving the planned objectives. The benefits of SEA include improved cost-effectiveness through better and more informed decision-making, leading to wider acceptance of the Government plan or programme by the public.

79. Emission limit values are the maximum permissible concentration of emissions of a specified polluting substance with which the industrial operators have to comply if they do not want to face fines or shutdowns. They have proven to be an effective tool in stimulating investment in cleaner technologies. Belgium, for example, set mandatory emission limit values for stationary sources of volatile organic compounds and introduced advanced methods of detecting emissions at industrial sites. Switzerland set particulate matter emission limit values, which require the use of construction equipment with high-efficiency diesel particulate filters. The emission limit values are based on best available techniques, without prescribing the use of any specific technique or technology.

80. The European Union best available techniques reference documents (BREFs)<sup>18</sup> (e.g., under the Industrial Emissions Directive)<sup>19</sup> provide information on different industrial and agricultural sectors regarding sector-specific techniques and processes, current emission and consumption levels, techniques to consider in the determination of best available techniques and emerging techniques. BREFs thus serve as guidance for industry, Governments and the public on achievable emission and consumption levels.

81. The introduction of stringent emission limit values such as, for example, for sulphur dioxide and nitrogen oxides (European Union, Japan and the United States of America) has led to a large increase in the number of patents issued on related abatement technologies. Interestingly, the transfer of technologies occurs across countries, although indirectly: earlier patents issued in other countries are cited in the new patent applications. And the implementation of stringent automobile emissions standards (United States) induced domestic firms to increase their patenting activities relative to foreign competitors.

82. Pollutant release and transfer registers are free, publicly accessible, online registers providing periodic and reliable data on emissions (releases) and transfers of pollutants, including greenhouse gases, heavy metals and toxic chemical compounds. Although they regulate information on pollution, rather than pollution directly, pollutant release and transfer registers exert a significant downward pressure on levels of pollution, as no enterprise would want to figure among the biggest polluters. Over recent years, such registers have been successfully used for measuring progress in reducing pollution in many countries.

83. In addition, a strong industrial safety regulatory framework ensures that enterprises operating hazardous industrial sites invest in safety. The regulations have to provide zoning requirements for the siting of hazardous installations, and must enable the introduction of a robust system for their operation, which will limit the adverse consequences to health and

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<sup>18</sup> For details please see [eippcb.jrc.ec.europa.eu/reference](http://eippcb.jrc.ec.europa.eu/reference).

<sup>19</sup> Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).

the environment in the event of an accident. They should also ensure, as much as possible, a prompt normalization of operations after the accident.

84. The regulatory measures mentioned above can only deliver the expected results if enforcement mechanisms are established to ensure their full implementation.

#### **Information-based measures**

85. Many Governments require standardized measurement and labelling of consumer products and mandate a minimum level of efficiency. Examples include appliance energy or water use efficiency, as well as vehicle fuel efficiency.

86. In addition, voluntary standards and related certification and labelling schemes are powerful instruments for driving the green economy transition because they help consumers to take environmental concerns into account when purchasing food or other consumer products. They define the sustainability of products and production processes, communicate this information and guide purchasing choices of individuals, businesses and public authorities. The number of “green” schemes available has grown exponentially in the last few years and includes over 400 eco-labels alone. Due to this phenomenon, Switzerland, for instance, created a website ([www.labelinfo.ch/](http://www.labelinfo.ch/)) where consumers can get information on the different labels available in Switzerland.

87. The schemes can, however, affect competitiveness and constitute barriers to trade, particularly for small and medium-sized producers that may lack the resources to prove compliance. Therefore, if these schemes are to foster continuous improvement rather than locking in any particular technology, they should leave the approach to innovation to industry rather than to standard-setting agencies (e.g., performance standards) and be used in coordination with other instruments, as part of comprehensive policy packages, while the regulatory process should leave as little room as possible for uncertainty.

88. Decreasing the ecological footprint over the life cycle of the production process provides opportunities for improved productivity and competitiveness. The Enviroclub Initiative (Canada) is a successful example of training and coaching programmes developed to help small and medium producers increase their competitiveness through enhanced environmental performance. In Europe, several countries have undertaken the initiative to support businesses in the adoption of environmental management systems, such as International Organization for Standardization (ISO) Standard 14000 and the European Union Eco-Management and Audit Scheme (Slovakia).

#### **Measures to support innovative enterprises that promote green technologies**

89. Nowadays, start-ups are revolutionizing the world by introducing critical technological innovation in clean technologies, energy savings, recycling, waste and water management. And there are other reasons why they matter to Governments: start-ups can improve the flow of knowledge between universities and research centres and the entrepreneurial fabric (technology transfer); they are key to job creation, as it is estimated that about 50 per cent of new jobs in OECD countries come from start-ups; and a healthy start-up community and supportive environment can rebrand countries’ international image and improve their attractiveness for global flows of financial and human capital. In the ECE region, countries like Italy, Estonia and the Netherlands have embarked in successful national reform processes to encourage start-ups and the European Union launched the “Start-up Europe” initiative under its Digital Agenda and Entrepreneurship 2020 Action Plan.

90. In order to thrive and be successful, start-ups need a supportive environment, providing assistance, funding and mentoring to entrepreneurs. This involves putting in



place tax incentives, providing for innovative funding and remuneration schemes. It also requires the exchange of best practices and cooperation between countries.

Box 4

**Enabling conditions for innovative start-ups: the case of Italy**

In 2012, Italy launched a thorough reform in support of start-ups, which culminated in the adoption of the Italian Start-up Act, a package of tools affecting all stages of the business life cycle, and creating the enabling conditions for the rapid establishment and scaling-up of start-ups.

The Act provides robust financial incentives for start-ups, including: up to 27 per cent reductions on taxes for seed and early-stage investments, amounting to up to €1.8 million; streamlined, free-of-charge access to guarantees of 80 per cent on bank loans amounting to up to €2.5 million; exemption on fees; ground-breaking remuneration tools, that allow workers and consultants to be paid through stock options and work-for-equity schemes that are tax deductible for both fiscal and contributory purposes; and the possibility to use innovative funding instruments, that allow capital to be raised in exchange for shares through equity crowd-funding portals.

As a result, today the country counts over 3,700 highly innovative technology start-ups with about 19,000 partners and employees, and about €150 million have been lent to more than 320 start-ups during the period 2014–2015.

## IV. Cooperation

**Questions for discussion:** *what steps could be taken to further promote cooperation among countries in the pan-European region to facilitate the transition to a green economy, including in the context of the post-2015 development agenda?*

91. Cooperation among countries is crucial for advancing the green economy transition. Certain instruments, especially market-based instruments, deliver better results if they are implemented in a coordinated manner. Cooperation also allows building on each other's knowledge, experience and practices in elaborating and implementing strategies, action plans or road maps for the green transition. The sharing of practices and experience is particularly helpful for engaging the private sector and civil society more effectively. International organizations play a central role in facilitating cooperation among countries.

92. Market-based instruments encourage the private sector, through price signals, to move to more socially and environmentally sound production processes and thus to invest in technology transfer or in research and development. If, however, an enterprise has direct competitors operating from countries without or with only weak social or environmental price signals, it may decide to relocate its production activities to keep operational costs low and thus stay competitive regionally or globally. Coordination among countries and the implementation of similar types of price signals may therefore be important in preventing relocation of industrial operations between countries.

93. There is evidence that, by cooperating and learning from each other, countries have been able to advance faster, which applies also to the green economy transition. Through working together, often facilitated by international organizations, countries have been able

to identify and address knowledge gaps in putting in place instruments or approaches to support the green economy transition. The cooperation of countries facilitated under the Green Growth Knowledge Platform is a good example.

94. Furthermore, by sharing success stories in putting in place specific instruments, countries can help each other to be more effective in managing their green economy transition. Especially countries with limited administrative capacity can benefit from this.

95. Clearinghouse mechanisms have sometimes proved useful in supporting the sharing of good practice and success stories. For example, the Aarhus Clearinghouse<sup>20</sup> showcases information on laws and practices relevant to the meaningful engagement of civil society in environmental decision-making. The Global Sustainable Consumption and Production (SCP) Clearinghouse under the UNEP 10-Year Framework of Programmes on Sustainable Consumption and Production will also host a wealth of innovative good practices.<sup>21</sup>

96. A set of green economy actions developed by ECE and UNEP in cooperation with OECD, EEA and other partners, as part of the strategic framework for greening the economy in the pan-European region (ECE/CEP/S/2016/L.4), could serve as a green economy clearinghouse, integrated into the Green Growth Knowledge Platform. Cooperation with the Partnership for Action on a Green Economy (PAGE) — hosted by UNEP, and bringing together ILO, UNDP, UNEP, the United Nations Industrial Development Organization (UNIDO) and the United Nations Institute for Training and Research (UNITAR) — would further strengthen the actions.<sup>22</sup>

97. The strategic framework links possible actions to green economy priorities and focus areas, which are further associated with the relevant SDGs. The use of the set of actions linked to the strategic framework can thus help countries to manage the transition to green economy and to progress towards the attainment of many SDGs.

98. Cooperation between countries also leads to the development of open access policies for data and information. The development of SEIS — linking open data and information produced and shared by countries — would not be possible without the countries needing to work together for reciprocal benefits. In the context of green economy, such access contributes to improving the efficiency of green governance.

99. International organizations support countries in their joint efforts for the green transition through a wide range of regional cooperation activities. These include organizing meetings and workshops to strengthen leadership for green economy, as well as to enable peer learning or to develop and share green economy knowledge or establish SEIS.

100. International organizations also facilitate pilot projects on green economy for the application of appropriate instruments, or for the development and implementation of various national green economy strategies, road maps or action plans. They support joint efforts to introduce measurement approaches, including indicators for measuring the green transition. For example, under the Greening Economies in the Eastern Neighbourhood programme, the European Union, ECE, OECD, UNEP and UNIDO are supporting six Eastern European countries' transition to a green economy by assisting the development of strategic plans and policies and the implementation of demonstration activities on resource-

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<sup>20</sup> Clearinghouse of the ECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), available from <http://aarhusclearinghouse.unece.org/>.

<sup>21</sup> The SCP Clearinghouse is under construction. For details please see [www.unep.org/resourceefficiency/Policy/SCPPoliciesandthe10YFP/The10YearFrameworkProgrammesonSCP/GlobalSCPClearinghouse/tabid/102573/Default.aspx](http://www.unep.org/resourceefficiency/Policy/SCPPoliciesandthe10YFP/The10YearFrameworkProgrammesonSCP/GlobalSCPClearinghouse/tabid/102573/Default.aspx).

<sup>22</sup> See [www.un-page.org/](http://www.un-page.org/).

efficient and cleaner production, organic agriculture and sustainable public procurement. Other examples of such projects include support from UNDP and OECD to a pilot project on the integration of green growth indicators in Kyrgyzstan; ILO, UNDP, UNEP, UNIDO and UNITAR work with countries under the PAGE project; the Rovaniemi Action Plan for the Forest Sector in a Green Economy developed by ECE; or the work of the Regional Environmental Centres supporting resource efficiency, circular economy and sustainable consumption and production practices in the pan-European region.

101. Cooperation between countries on green economy and the support of international organizations should continue and could be further strengthened for managing the transition effectively. Tools, instruments and other mechanisms made available should be actively used in this work to address gaps.

## V. Conclusions and the way forward

102. Countries in the region are undertaking efforts to green their economies. They also face various challenges in pursuing green economy policies. Those challenges may be related, but are not limited, to the adequate application of policy impact analysis, the absence of strategies and stable green development conditions, pressures created by the economic downturn and related difficulties in mobilizing capital, a lack of necessary green skills and knowledge and pressures from interest groups or lobbies. At the same time, there are good examples in the region of the successful implementation of green economy policy packages, in particular sectoral ones, which showcase how countries can green or start to green their economies. Nevertheless, the opportunities that the green economy brings can be further tapped.

103. Countries have developed a number of approaches, programmes and initiatives to foster a more efficient use of natural resources and lessen the burden on ecosystems and the natural asset base. Among them are the circular economy, sustainable ecosystem or natural resource management frameworks, environmentally sustainable sectoral approaches, nexus approaches to resource management, education for sustainable development, spatial planning, public spending on science and research, access to good practice and monitoring frameworks. Success in pursuing such programmes and initiatives often depends on the introduction and enforcement of clear rules and regulations, the application of price signals discouraging environmental pollution and resource depletion, transparency, effective engagement of civil society and the private sector, and close cooperation between countries.

104. In the region, increased attention is being given to actions and instruments incentivizing the private sector to innovate for and invest in greening production processes and to offer green products and services. Sustainable public procurement, market-based instruments and regulatory measures, but also information-based tools, like standards and labelling schemes, are among these. Policy and fiscal measures in support of innovative enterprises (start-ups) are also an important driver of private engagement in the development of green technologies. The effectiveness of these instruments, and the ability to use them effectively, should be further enhanced. Some require better design to fit the market conditions, whereas others need good cooperation and communication between various government institutions. Government employees also need to be trained in the use and enforcement of the instruments.

105. Countries have fostered a good level of cooperation with the support of international organizations. Continuation of this cooperation, and strengthening it with a focus on seizing the opportunities the green economy brings and addressing existing needs gaps taking into account countries' priorities, can accelerate the transition.

106. The activities undertaken by countries, and the guidance given by international organizations, have been compiled into a common action menu under the Pan-European Strategic Framework for Greening the Economy (ECE/BATUMI.CONF/2016/6), and are expected to help accelerate the transition. The Strategic Framework will equip countries with the available knowledge on actions and instruments that can be used for pursuing specific green economy focus areas according to their priorities and, at the same time, attaining SDGs.

107. With the Strategic Framework in place, ministers of environment of ECE countries will be able to make the case for a green economy transition within their Governments. In particular, they can refer to and select actions that are well suited to their national circumstances.

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