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Proposal for a

DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on a General Union Environment Action Programme to 2020

"Living well, within the limits of our planet"

(Text with EEA relevance)

{SWD(2012) 397 final}

{SWD(2012) 398 final}

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

Environment Action Programmes (EAP) have guided the development of EU environment policy since the early 1970s. In line with the Treaty, EAPs are adopted under the ordinary legislative procedure. The 6th EAP expired in July 2012; the European Commission, in response to demand from stakeholders, including the Council and the European Parliament, is proposing a successor programme.

The context of this proposal is fourfold. First, despite progress in some areas, major environmental challenges remain, as well as opportunities to make the environment more resilient to systemic risks and change. Second, the EU has adopted the Europe 2020 Strategy for Smart, Sustainable and Inclusive Growth, which guides policy development for the period up to 2020. Third, while many Member States are struggling to cope with the economic crisis, the need for structural reforms offers new opportunities for the EU to move towards an inclusive green economy. Finally, Rio+20 highlighted the importance of the global dimension.

This EAP aims to step up the contribution of environment policy to the transition towards a resource-efficient, low-carbon economy in which natural capital is protected and enhanced, and the health and well-being of citizens is safeguarded. The programme provides an overarching framework for environment policy to 2020, identifying nine priority objectives for the EU and its Member States to attain.

Responsibility for achieving environment and climate-related goals and objectives is shared by the EU and its Member States. The programme should be implemented at the appropriate level, in line with the principle of subsidiarity.

2. RESULTS OF CONSULTATIONS WITH THE INTERESTED PARTIES AND IMPACT ASSESSMENTS

In preparing this proposal, the Commission carried out an impact assessment taking into account the views expressed by the other EU institutions, as well as by a broad range of stakeholders. It also drew on a number of studies and evaluations. The assessment found that the proposal would add value in a number of ways: by providing a strategic framework for environmental policy in the EU; by ensuring complementarity and coherence; by ensuring predictability and a level playing field; and by stimulating action at all levels of governance. The views expressed by a majority of stakeholders support these findings and the proposed focus of the programme.

3. LEGAL ELEMENTS OF THE PROPOSAL

This proposal for a Decision of the European Parliament and of the Council on a new General Union Environment Action Programme to 2020 is based on Article 192 (3) TFEU.

4. BUDGETARY IMPLICATION

The programme in this proposal for a Decision has been developed in line with the Commission proposal for the EU Multiannual Financial Framework 2014-2020.

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THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(3) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national Parliaments,

Having regard to the opinion of the European Economic and Social Committee¹,

Having regard to the opinion of the Committee of the Regions²,

Acting in accordance with the ordinary legislative procedure,

Whereas:

- (1) The Union has set itself the objective to become a smart, sustainable and inclusive economy by 2020 with a set of policies and actions towards a low-carbon and resource-efficient economy³.
- (2) Successive environment action programmes have provided the framework for Union action in the field of environment since 1973.
- (3) The Sixth Community Environment Action Programme (6th EAP) ended in July 2012, but many measures and actions launched under that programme continue to be implemented.
- (4) The final assessment of 6th EAP concluded that the programme delivered benefits for the environment and provided an overarching strategic direction for environment policy. Despite those achievements, unsustainable trends still persist in all four priority

¹ OJ C , , p. .

² OJ C , , p. .

³ COM(2010) 2020 (OJ C 88 of 19.3.2011) and EUCO 13/10.

areas identified in the 6th EAP: climate change, biodiversity, environment and health, and sustainable use of natural resources and management of waste.

- (5) The final assessment highlighted some shortcomings of the 6th EAP, which should be addressed in the new programme.
- (6) Global systemic trends and challenges related to population dynamics, urbanisation, disease and pandemics, accelerating technological change and unsustainable economic growth add to the complexity of tackling environmental challenges and achieving long-term sustainable development. Ensuring the Union's long-term prosperity requires taking further action to address those challenges.
- (7) It is essential that Union priority objectives for 2020 are established, in light of a long-term vision for 2050. The new programme should build on policy initiatives in the Europe 2020 strategy⁴, including the EU climate and energy package⁵, the Roadmap for moving to a low-carbon economy in 2050⁶, the EU Biodiversity Strategy to 2020⁷, the Roadmap to a resource-efficient Europe⁸ and the Innovation Union Flagship Initiative⁹.
- (8) The programme should help achieve the environment targets the Union has already agreed.
- (9) The Union has agreed to achieve a reduction of EU greenhouse gas (GHG) emissions of at least 20 % by 2020 (30 %, provided that other developed countries commit themselves to comparable emissions reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities); to ensure that 20 % of energy consumption comes from renewable energy by 2020; and a 20 % cut in primary energy use compared with projected levels, to be achieved by improving energy efficiency¹⁰;
- (10) The Union has agreed to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss¹¹;
- (11) The Union has agreed to achieve good status for all Union waters, including freshwater (rivers and lakes, groundwater), transitional waters (estuaries/deltas) and coastal waters within one nautical mile from the coast by 2015¹²;
- (12) The Union has agreed achieve good environmental status in all marine waters of the Union by 2020¹³;

⁴ COM(2010) 2020, OJ C 88 of 19.3.2011.

⁵ Regulation (EC) No 443/2009, Directive 2009/28/EC, Directive 2009/29/EC, Directive 2009/30/EC, Directive 2009/31/EC, Decision No 406/2009/EC, all in OJ L 140 of 5.6.2009.

⁶ COM (2011) 112, OJ C 140 of 11.5.2011.

⁷ COM(2011) 244, OJ C 264 of 8.9.2011.

⁸ COM(2011) 571, OJ C 37 of 10.2.2012.

⁹ COM(2010) 546, OJ C 121 of 19.4.2011

¹⁰ European Council 8/9 March 2007.

¹¹ EUCO 7/10; Council Conclusions 7536/10; COM(2011) 244

¹² Directive 2000/60/EC, OJ L 327 of 22.12.2000.

- (13) The Union has agreed to achieve levels of air quality that do not give rise to significant negative impacts on and risks to human health and the environment¹⁴;
- (14) The Union has agreed to achieve, by 2020, that chemicals are used and produced in ways that lead to the minimisation of significant adverse effects on human health and the environment¹⁵;
- (15) The Union has agreed to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impact of resource use and improving the efficiency of such use, by applying the following waste hierarchy: prevention, preparing for re-use, recycling, other recovery, disposal¹⁶;
- (16) The Union has agreed to strive towards an absolute decoupling of economic growth and environmental degradation¹⁷;
- (17) The Union has agreed to strive to achieve a land degradation neutral world in the context of sustainable development.¹⁸
- (18) Union environment policy is based in particular on the polluter-pays principle, the precautionary principle and preventive action, and the principle of rectification of pollution at source.
- (19) Action to deliver the priority objectives should be taken at different levels of governance, in line with the principle of subsidiarity.
- (20) Engagement with non-government actors is important in ensuring the success of the programme and the achievement of its priority objectives.
- (21) Biodiversity loss and the degradation of ecosystems in the Union have important implications for the environment and are costly for society as a whole, particularly for economic actors in sectors that depend directly on ecosystem services.
- (22) There is significant scope for reducing greenhouse gas emissions and enhancing resource efficiency in the Union. This will ease pressures on the environment and bring increased competitiveness and new sources of growth and jobs through cost savings from improved efficiency, commercialisation of innovations and better management of resources over their whole life cycle.
- (23) Environmental problems and impacts continue to pose significant risks for human health and wellbeing, whereas measures to improve the state of the environment can be beneficial.

¹³ Directive 2008/56/EC, OJ L 164 of 25.6.2008.

¹⁴ Decision No 1600/2002/EC OJ L242 of 10.8.2002; Directive 2008/50/EC, OJ L 152 of 11.6.2008.

¹⁵ Decision No 1600/2002/EC OJ L242 of 10.8.2002; Johannesburg Plan of Implementation (WSSD 2002).

¹⁶ Directive 2008/98/EC, OJ L 312 of 22.11.2008.

¹⁷ Council conclusions 11 June 2012; COM(2011)571.

¹⁸ United Nations General Assembly A/Res/66/288.

- (24) The full and even implementation of the environment *acquis* across the Union is a sound investment for the environment and human health, and also for the economy.
- (25) Union environment policy should continue to draw on a sound evidence base.
- (26) Environmental objectives should be supported by adequate investments.
- (27) Environmental integration is essential to reduce pressures on the environment resulting from the policies and activities of other sectors and to meet environment and climate-related targets.
- (28) The Union is densely populated, and over 70 % of citizens live in urban and peri-urban areas and face specific environment and climate-related challenges.
- (29) Many environmental challenges are global and can only be fully addressed through a comprehensive global approach, while other environmental challenges have a strong regional dimension, which requires cooperation with neighbouring countries.
- (30) As part of the follow-up to the 2012 United Nations Conference on Sustainable Development (Rio+20 Summit), the new general action programme should support international and regional processes aiming to transform the global economy into an inclusive green economy in the context of sustainable development and poverty reduction.
- (31) An appropriate mix of policy instruments can enable businesses and consumers to improve their understanding of the impact of their activities on the environment and to manage the impact. Such policy instruments include economic incentives, market-based instruments, information requirements as well as voluntary tools and measures to complement legislative frameworks and engage stakeholders at different levels.
- (32) All measures, actions and targets set out in the new general environment action programme should be taken forward in accordance with the principles of smart regulation¹⁹ and subject to comprehensive impact assessment where appropriate.
- (33) Progress towards meeting the objectives of the new general environment action programme should be monitored, assessed and evaluated on the basis of agreed indicators,

¹⁹ COM(2010)543, OJ C 121 of 19.4.2011.

HAVE ADOPTED THIS DECISION:

Article 1

A general Union action programme in the field of the environment for the period up to 31 December 2020 ('the programme') is adopted as set out in the Annex.

Article 2

1. In executing the programme, the Union shall have the following objectives:

- (a) to protect, conserve and enhance the Union's natural capital;
- (b) to turn the Union into a resource-efficient, green and competitive low-carbon economy;
- (c) to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing;
- (d) to maximise the benefits of the Union's environment legislation;
- (e) to improve the evidence base for environment policy;
- (f) to secure investment for environment and climate policy and get the prices right;
- (g) to improve environmental integration and policy coherence;
- (h) to enhance the sustainability of the Union's cities;
- (i) to increase the Union's effectiveness in confronting regional and global environmental challenges.

2. The programme shall be based on the polluter-pays principle, the precautionary principle and preventive action, and the principle of rectification of pollution at source.

3. All measures, actions and targets set out in the programme shall be implemented in accordance with the principles of smart regulation²⁰ and subject to comprehensive impact assessment where appropriate.

Article 3

1. The Union and its Member States are responsible for ensuring the delivery of the priority objectives set out in this programme. They shall pursue a coherent approach to addressing the challenges identified. Action shall be taken with due account of the principle of subsidiarity

²⁰ COM(2010)543, OJ C 121 of 19.4.2011.

and at the level best suited to achieving the priority objectives and related outcomes set out in this programme.

2. Public authorities at all levels shall work with businesses and social partners, civil society and individual citizens in implementing this programme.

Article 4

This Decision shall enter into force on the twentieth day following its publication in the *Official Journal of the European Union*.

Done at Brussels,

For the European Parliament
The President

For the Council
The President

ANNEX

‘Living well, within the limits of our planet’

A PROGRAMME FOR ACTION TO 2020

1. Over the past 40 years, a broad range of environmental legislation has been put in place, adding up to the most comprehensive modern standards in the world. This has helped to address some of the most serious environmental concerns of citizens and businesses in the Union.
2. Emissions of pollutants to air, water and soil have been reduced significantly over the past decades, as have greenhouse gas (GHG) emissions in recent years. EU chemicals legislation has been modernised and the use of many toxic or hazardous substances such as lead, cadmium and mercury has been restricted in products found in most households. EU citizens enjoy some of the best water quality in the world, and over 18% of the EU’s territory and 4% of its seas have been designated as protected areas for nature.
3. The Union's environment policy has stimulated innovation and investment in environmental goods and services, generating jobs and export opportunities²¹. Successive enlargements have extended high standards of environmental protection across a large part of the European continent, and the Union's efforts have contributed to increasing international commitment to combat climate change and biodiversity loss, and to successful global efforts to eliminate ozone-depleting substances and leaded fuels.
4. Considerable headway has also been made in integrating environmental objectives into other Union policies and activities. The reformed Common Agricultural Policy (CAP) has, since 2003, linked direct payments to requirements for farmers to maintain land in good agricultural and environmental condition and to comply with relevant environmental legislation. Fighting climate change has become an integral part of energy policy and progress is being made on integrating resource efficiency, climate change and energy efficiency concerns into other key sectors, such as transport and buildings.
5. However, many environmental trends in the EU remain worrying, not least due to insufficient implementation of existing EU environment legislation. Only 17% of species and habitats assessed under the Habitats Directive²² are in good status, and the degradation and loss of natural capital is jeopardising efforts to attain the EU’s biodiversity and climate change objectives. This has high associated costs which have not yet been properly valued in our economic or social system. Thirty per cent of the EU’s territory is highly fragmented, affecting the connectivity and health of ecosystems and their ability to provide services as well as viable habitats for species. While progress has been made in the EU to decouple growth from GHG emissions,

²¹ The economic benefits of environmental policy (IES, Vrije Universiteit Amsterdam, 2009); COM(2012) 173; Implementing EU legislation for Green Growth (BIO Intelligence Service 2011).

²² Directive 92/43/EEC, OJ L 206 of 22.7.1992.

resource use and environmental impacts, resource use is still largely unsustainable and inefficient, and waste is not yet properly managed. As a result, EU businesses are foregoing the significant opportunities that resource efficiency offers in terms of competitiveness, cost reductions, improved productivity and security of supply. Water quality and air pollution levels are still problematic in many parts of Europe, and EU citizens continue to be exposed to hazardous substances, potentially compromising their health and wellbeing. Unsustainable land use is consuming fertile soils, with impacts on food security and the achievement of biodiversity targets. Soil degradation continues largely unchecked.

6. Environmental change in the EU is increasingly caused by developments taking place at global level, including demographics, consumption and trade patterns, and rapid technological progress. These may offer significant opportunities for economic growth and societal well-being, but pose challenges and uncertainties for the EU's economy and society and are causing environmental degradation worldwide²³.
7. Together with current wasteful production and consumption systems in the world economy, rising global demand for goods and services and depletion of resources is increasing the cost of essential raw materials, minerals and energy, generating more pollution and waste, increasing global GHG emissions and driving land degradation, deforestation and biodiversity loss. Nearly two-thirds of the world's ecosystems are in decline²⁴ and there is evidence that planetary boundaries for biodiversity, climate change and the nitrogen cycle have already been transgressed²⁵. There is likely to be a global shortfall of 40 % in water by 2030 unless there is significant progress in improving resource efficiency. There is also the risk that climate change will further exacerbate these problems, with high costs. In 2011, disasters partly due to climate change resulted in global economic losses of over 300 billion Euros. The OECD has warned that the continued degradation and erosion of natural capital risks bringing about irreversible changes that could endanger two centuries of rising living standards and entail significant costs²⁶.
8. Addressing some of these complex issues requires tapping into the full potential of existing environmental technology and ensuring the continuous development and uptake by industry of the best available techniques and emerging innovations. Rapid advances in promising fields of science and technology are also needed. This should be made possible by boosting research and creating conditions conducive to private research-related investments. At the same time, we need a better understanding of potential risks to the environment and human health associated with new technologies, and we need to assess and manage these better. This is a precondition for public acceptance of new technologies, as well as for the EU's capacity to

²³ SEC(2011) 1067; The European Environment - State and Outlook 2010: Assessment of Global Megatrends (EEA, 2010).

²⁴ UN Secretary-General's High-Level Panel on Global Sustainability report 'Resilient People, Resilient Planet: A future worth choosing', 2012.

²⁵ Thresholds associated with nine 'planetary boundaries' have been identified which, once crossed, could lead to irreversible changes with potentially disastrous consequences for humans, including: climate change, biodiversity loss, global freshwater use, ocean acidification, the nitrogen and phosphorus cycles and land-use change (Ecology and Society, Vol. 14, No 2, 2009).

²⁶ Environmental Outlook to 2050 (OECD 2012).

identify and respond to potential risks associated with technological developments in an effective and timely manner.

9. To live well in the future, urgent, concerted action should be taken now to improve ecological resilience and maximise the benefits environment policy can deliver for the economy and society, while respecting the planet's ecological limits. This programme reflects the EU's commitment to transforming itself into an inclusive green economy that secures growth and development, safeguards human health and well-being, provides decent jobs, reduces inequalities and invests in and preserves natural capital.
10. The following 2050 vision is intended to help guide action up to and beyond 2020: In 2050, we live well, within the planet's ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed in ways that enhance our society's resilience. Our low carbon growth has long been decoupled from resource use, setting the pace for a global sustainable economy.
11. This transformation requires the full integration of environment issues into other policies, such as energy, transport, agriculture, fisheries, economy and industry, research and innovation, employment and social policy so as to create a coherent, joined-up approach. Action within the EU should also be complemented by enhanced global action and cooperation with neighbouring countries to tackle common challenges.
12. The EU has set this transformation in motion with long-term, integrated strategies to halt biodiversity loss²⁷, improve resource efficiency²⁸ and expedite the transition towards a low-carbon economy²⁹. The Commission has further integrated environmental concerns and objectives in recent initiatives taken in other key policy areas, including energy³⁰ and transport³¹, and sought to enhance the delivery of environmental benefits through reforms of EU policies for agriculture and rural development, fisheries and cohesion, building on achievements to date.
13. The EU has signed up to many internationally-agreed environmental commitments, including those made at the United Nations Conference on Sustainable Development (Rio+20)³² where it marked its support for the inclusive green economy as a central part of a broader strategy for sustainable development.
14. This programme complements these efforts by defining priority objectives for the EU to attain over the period up to 2020.
15. In many cases, action to achieve these objectives will be required primarily at national, regional or local level, in line with the principle of subsidiarity. In others, additional measures at EU level will be needed. Since environment policy is a sphere

²⁷ COM(2011) 244, OJ C 264 of 8.9.2011.

²⁸ COM(2011) 571, OJ C 37 of 10.2.2012.

²⁹ COM(2011) 112, OJ C 140 of 11.5.2011.

³⁰ COM(2011) 885, OJ C 102 of 5.4.2012.

³¹ COM(2011) 144, OJ C 140 of 11.5.2011.

³² United Nations General Assembly Resolution 66/288.

of shared competence in the EU, one of the purposes of this programme is to create common ownership of shared goals and objectives and ensure a level playing field for businesses and public authorities. Clear goals and objectives also provide policy makers and other stakeholders, including regions and cities, businesses and social partners, and individual citizens, with a sense of direction and a predictable framework for action.

THEMATIC PRIORITIES

Priority objective 1: To protect, conserve and enhance the EU's natural capital

16. The EU's economic prosperity and well-being is underpinned by its natural capital, which includes ecosystems that provide essential goods and services, from fertile soil and multi-functional forests to productive land and seas, from fresh water and clean air to pollination, flood control and climate regulation and protection against natural disasters. A substantial body of EU legislation seeks to protect, conserve and enhance natural capital, including the Water Framework Directive (WFD)³³, the Marine Strategy Framework Directive (MSFD)³⁴, the Air Quality and related directives³⁵ and the Habitats and Birds Directives³⁶. Legislation to tackle climate change, chemicals, industrial emissions and waste also contribute to easing the pressures on biodiversity, including ecosystems, species and habitats.
17. However, recent assessments show that biodiversity in the EU is still being lost and that most ecosystems are seriously degraded³⁷. The EU Biodiversity Strategy to 2020³⁸ sets out targets and actions needed to reverse these negative trends and to enhance ecosystem services. It must be implemented in full to enable the EU to meet its biodiversity headline target for 2020. Whereas the strategy includes built-in measures to improve the implementation of the Birds and Habitats directives, including the Natura 2000 network, reaching the headline target will require the full implementation of all existing legislation aimed at protecting natural capital.
18. Despite considerable efforts to date, the requirement under the WFD to achieve 'good ecological status' by 2015 is likely to be met only for some 53% of surface water bodies in the EU³⁹. There is also a risk that the Marine Strategy Framework Directive target to achieve 'good environmental status' by 2020 may be missed, inter alia due to continued overfishing and the presence of marine litter in Europe's seas. And while EU air and industrial emissions policies have helped to reduce many forms of pollution, ecosystems continue to suffer from excess nitrogen deposition and ozone pollution associated with emissions from transport, intensive agriculture and power generation.

³³ Directive 2000/60/EC, OJ L 327 of 22.12.2000.

³⁴ Directive 2008/56/EC, OJ L 164 of 25.6.2008.

³⁵ Directive 2008/50/EC, OJ L 152 of 11.6.2008 and Directive 2004/107/EC, OJ L 23 of 26.1.2005.

³⁶ Directive 2009/147/EC, OJ L 20 of 26.1.2010 and Directive 92/43/EEC, OJ L 206 of 22.7.1992.

³⁷ EEA Technical Report 12/2010.

³⁸ COM(2011) 244, OJ C 264 of 8.9.2011.

³⁹ COM(2012) 673.

19. Protecting, conserving and enhancing the EU's natural capital therefore also requires tackling problems at source through, inter alia, better integration of natural capital objectives into other policies, ensuring that policies are coherent and deliver co-benefits. The greening elements set out in the Commission's reform proposals, notably for EU agriculture, fisheries and cohesion policy, backed by the proposals for greening the EU budget under the Multi-Annual Financial Framework 2014-2020 (MFF) are designed to support these objectives. For instance, aquatic ecosystems in rural areas should benefit from the linking of farm payments to compliance with relevant requirements of the WFD as set out in the Commission's proposals for the reform of the CAP⁴⁰. Greening of the CAP will also promote the environmentally beneficial agricultural practices of crop diversification, the protection of permanent grassland, and the establishment and maintenance of ecologically valuable farmland and forest areas.
20. In the case of the marine environment, while the maritime sector offers economic opportunities, from fishing, shipping and aquaculture to raw materials and offshore energy and marine biotechnology, care needs to be taken to ensure their exploitation is compatible with the conservation and sustainable management of marine and coastal ecosystems.
21. Ecosystem-based approaches to climate change mitigation and adaptation which also benefit biodiversity and the provision of other ecosystem services should be used more extensively as part of the EU's climate change policy, while other environmental objectives such as biodiversity conservation and water protection should be fully taken into account in decisions relating to renewable energy. Finally, measures to address transport-related air pollution and CO₂ emissions will need to be rolled out⁴¹.
22. The degradation, fragmentation and unsustainable use of land in the EU is jeopardising the provision of several key ecosystem services, threatening biodiversity and increasing Europe's vulnerability to climate change and natural disasters. It is also driving soil degradation. More than 25% of the EU's territory is affected by soil erosion by water, which compromises soil functions and affects the quality of freshwater. Soil contamination and sealing are also persistent problems. More than half a million sites across the EU are thought to be contaminated and until they are identified and assessed, they continue to pose potentially serious environmental and health risks. Every year more than 1 000 km² of land are taken for housing, industry, transport or recreational purposes. These long-term changes are difficult or costly to reverse, and nearly always involve trade-offs between various social, economic and environmental needs. Member States' planning decisions relating to land use should be made more sustainable.
23. To reduce the most significant man-made pressures on land, soil and other ecosystems in Europe, action will be taken to ensure that decisions relating to land use at all relevant levels give proper consideration to environmental as well as social and economic impacts. The Rio+20 Summit outcome called for a 'land degradation neutral world'. The EU and Member States should reflect on how best to make such a

⁴⁰ COM(2011) 625, OJ C 37 of 10.2.2012.

⁴¹ COM(2011) 144, OJ C 140 of 11.5.2011.

commitment operational within their respective competencies as well as to address soil quality issues within a binding legal framework⁴². Targets will also be set for sustainable land use and soil.

24. Although nitrogen and phosphorus inputs to the EU environment have decreased considerably over the past 20 years, excessive nutrient releases continue to affect air and water quality and to have a negative impact on ecosystems, causing significant problems for human health. In particular, ammonia release from inefficient fertiliser management and inadequate waste water treatment urgently need to be tackled to achieve further significant reductions in nutrient releases. Further efforts to manage the nutrient cycle in a more cost-effective and resource-efficient way, and to improve efficiency in use of fertilisers are also required. This calls for improving the implementation of EU environmental legislation to address these challenges, tightening standards where necessary and addressing the nutrient cycle as part of a more holistic approach which interlinks and integrates existing EU policies that play a role in tackling excessive nutrient releases and eutrophication.
25. Action taken under the Biodiversity Strategy to restore 15 % of degraded ecosystems in the EU and to expand the use of green infrastructure will help to overcome land fragmentation. It will further enhance natural capital and increase ecosystem resilience, and can offer cost-effective options for climate change mitigation and adaptation and disaster risk management. Meanwhile, Member States' efforts to map and assess ecosystems and their services, and the 'no net loss' initiative planned in 2015 will contribute to maintaining the stock of natural capital at a variety of scales. The integration of the economic value of ecosystem services into accounting and reporting systems at EU and national level by 2020 will result in better management of the EU's natural capital.
26. In order to protect, conserve and enhance the EU's natural capital, the programme shall ensure that by 2020:
 - (a) The loss of biodiversity and the degradation of ecosystem services are halted and ecosystems and their services are maintained and enhanced.
 - (b) The impacts of pressures on fresh, transitional and coastal waters are significantly reduced to achieve, maintain or enhance good status as defined by the Water Framework Directive.
 - (c) The impacts of pressures on marine waters are reduced to achieve or maintain good environmental status as required by the Marine Strategy Framework Directive.
 - (d) The impacts of air pollution on ecosystems and biodiversity are further reduced.
 - (e) Land is managed sustainably in the EU, soil is adequately protected and the remediation of contaminated sites is well underway.

⁴² COM(2006) 232 (OJ C 332 of 30.12.2006) proposes a Directive establishing a framework for the protection of soil and amending Directive 2004/35/EC.

- (f) The nutrient cycle (nitrogen and phosphorus) is managed in a more sustainable and resource-efficient way.
- (g) Forests and the services they provide are protected and their resilience to climate change and fires is improved.

This requires, in particular:

- (a) Fully implementing the EU Biodiversity Strategy.
- (b) Fully implementing the Blueprint to Safeguard Europe's Water Resources.
- (c) Increasing efforts, inter alia, to ensure that healthy fish stocks are achieved by 2020 at the latest, starting by fishing at, or below, maximum sustainable yield levels as from 2015 in all fisheries, and establish an EU-wide quantitative reduction target for marine litter.
- (d) Strengthening efforts to reach full compliance with EU air quality legislation and defining strategic targets and actions beyond 2020.
- (e) Increasing efforts to reduce soil erosion and increase soil organic matter, to remediate contaminated sites and to enhance the integration of land use aspects into coordinated decision-making involving all relevant levels of government, supported by the adoption of targets on soil and on land as a resource, and land planning objectives.
- (f) Taking further steps to reduce emissions of nitrogen and phosphorus, including those from urban and industrial wastewater and from fertiliser use.
- (g) Developing and implementing a new EU Forest Strategy that addresses the multiple demands on and benefits of forests and contributes to a more strategic approach to protecting and enhancing forests.

Priority objective 2: To turn the EU into a resource-efficient, green and competitive low-carbon economy

27. The Europe 2020 Strategy's 'Resource-efficient Europe' Flagship Initiative aims to support the shift towards an economy that is efficient in the way it uses all resources, decouples absolutely economic growth from resource and energy use and its environmental impacts, reduces GHG emissions, enhances competitiveness through efficiency and innovation and promotes greater energy security. The Roadmap to Resource Efficient Europe⁴³ and the Roadmap for moving to a competitive low-carbon economy⁴⁴ are key building blocks of the Initiative, setting out the framework for future actions to deliver on these objectives.

⁴³ COM(2011) 571, OJ C 37 of 10.2.2012.

⁴⁴ COM(2011) 112, OJ C 140 of 11.5.2011.

28. Innovation to improve resource efficiency is required across the economy to improve competitiveness in the context of rising resource prices, scarcity and supply constraints. The business sector is the prime driver of innovation, including eco-innovation. However, markets will not deliver on their own. Government action, at Union and Member State level, is essential to provide the right framework conditions for eco-innovation, stimulating the development of sustainable business or technological solutions to environmental challenges⁴⁵.
29. This key requirement for meeting the environmental challenge also has important socio-economic benefits. Potential job growth brought about by the transformation to a low carbon and resource-efficient economy is key for delivering the Europe 2020 employment objectives⁴⁶. Employment in environmental technologies and service sectors in the EU has been growing by around 3% annually over recent years⁴⁷. The global market for eco-industries is estimated to be worth at least a trillion Euros, and is forecast to almost double over the next 10 years. European companies already have a global lead in recycling and energy efficiency and should be encouraged to benefit from this growth in global demand, supported by the Eco-innovation Action Plan⁴⁸. For example, the European renewables sector alone is expected to generate more than 400,000 new jobs by 2020.⁴⁹
30. Fully implementing the EU Climate and Energy Package is essential to reach the milestones identified for 2020 and for building a competitive, low-carbon economy by 2050. Whereas the EU is currently on track to reduce domestic GHG emissions 20% below 1990 levels by 2020, meeting the 20% energy efficiency target will require far more rapid efficiency improvements. This is also important in the light of still-growing demand for energy and the on-going debate on conflicts between land use for food and for bio-energy. The new Energy Efficiency Directive is expected to make a significant contribution in this regard.
31. All sectors of the economy will need to contribute to reducing GHG emissions for the EU to deliver its fair share of global efforts. The EU needs to agree the next steps for its climate and energy framework beyond 2020 in order to prepare itself for international negotiations on a new legally binding agreement, but also to provide Member States and industry with a clear framework to make the medium-term investments needed. Hence the EU needs to consider policy options for delivering the reductions set out in the Low-Carbon Economy Roadmap for the period beyond 2020. The 2050 Energy roadmap and the White Paper on transport need to be underpinned by strong policy frameworks. Moreover, Member States need to develop and put in place long-term, cost-effective low-carbon development strategies aimed at achieving the EU objective of reducing GHG emissions by 80% to 95% by mid-century, compared to 1990, as part of a global effort to limit average

⁴⁵ Fostering Innovation for Green Growth (OECD 2011) and The Eco-Innovation Gap: An economic opportunity for business (EIO 2012).

⁴⁶ COM(2012) 173, not yet published in OJ.

⁴⁷ The EU eco-industry sector employed around 2.7 million people in 2008 and for 2012 this figure could be around 3.4 million. (Ecorys, 2012)

⁴⁸ COM(2011) 899, OJ C 102 of 5.4.2012.

⁴⁹ The impact of renewable energy policy on economic growth and employment in the EU (Employ-RES 2009)

temperature increase to below 2°C. The EU Emissions Trading System will continue to be a central pillar of EU climate policy beyond 2020.

32. Industry's uptake of the best available techniques under the Industrial Emissions Directive will deliver improved resource use patterns and reduced emissions for over 50 000 major industrial installations in the EU, thus making a significant contribution to stimulating the development of innovative techniques, greening the economy and reducing costs for industry in the longer term.
33. Measures will also be taken to further improve the environmental performance of goods and services on the EU market over their whole life cycle through measures to increase the supply of environmentally sustainable products and stimulate a significant shift in consumer demand for these products. This will be achieved using a balanced mix of incentives for consumers and businesses, including SMEs, market-based instruments and regulations to reduce the environmental impacts of their operations and products. Existing product legislation such as the Ecodesign and Energy Label Directives and the Ecolabel Regulation will be reviewed with a view to improving the environmental performance and resource efficiency of products throughout their lifecycle, thus ensuring a more coherent framework for sustainable production and consumption in the EU⁵⁰.
34. Since 80% of all product-related environmental impacts are locked in during their design phase, the EU policy framework should ensure that priority products placed on the EU market are 'eco-designed' with a view to optimising resource and material efficiency, by addressing inter alia recyclability, recycled content and durability. These requirements will have to be implementable and enforceable. Efforts will be stepped up at EU and national level to remove barriers to eco-innovation⁵¹ and to unlock the full potential of Europe's eco-industries, generating benefits for green jobs and growth.
35. To set a framework for action to improve resource efficiency aspects beyond GHG emissions and energy, targets for reducing the overall environmental impact of consumption will be set, in particular in the food, housing and mobility sectors⁵². Taken together, these are responsible for almost 80% of the environmental impacts of consumption. The Rio+20 outcome recognised the need to significantly reduce post-harvest and other food losses and waste throughout the food supply chain.
36. In addition to mandatory green public procurement requirements for certain product categories⁵³, most Member States have adopted voluntary action plans and many have set targets for specific product groups. There is, however, considerable scope for administrations at all levels to further reduce their environmental impact through

⁵⁰ Ecodesign, Energy Label, Ecolabel, EMAS and Unfair Commercial Practice legislation is due for revision before 2015.

⁵¹ COM(2011) 899, OJ C 102 of 5.4.2012.

⁵² Annual food waste generation in the EU is approximately 89 million tonnes, representing 179 kg per capita (BIO Intelligence Service 2010). The aggregated impacts of housing and infrastructure account for around 15-30% of all consumption-related environmental pressures in Europe and contribute approximately 2.5 tonnes of CO₂ equivalent per capita annually (SEC(2011) 1067).

⁵³ Regulation (EC) No 106/2008, OJ L 39 of 13.2.2008; Directive 2009/33/EC, OJ L 120 of 15.5.2009 and the new Energy Efficiency Directive 2012/27/EU, OJ L 315 of 14.11.2012.

their purchasing decisions. Member States and regions should take further steps to reach the target of applying green procurement criteria to at least 50% of public tenders. The Commission will assess the possibility of introducing further sector-specific legislation to set mandatory green public procurement rules for additional product categories.

37. There is also considerable potential for improving waste management in the EU to make better use of resources, open up new markets, create new jobs and reduce dependence on imports of raw materials, while having lower impacts on the environment⁵⁴. Each year in the EU, 2.7 billion tonnes of waste are produced, of which 98 million tonnes is hazardous. On average, only 40% of solid waste is re-used or recycled. The rest goes to landfill or incineration. In some Member States, more than 70% of waste is recycled, showing how waste could be used as one of the EU's key resources. At the same time, many Member States landfill over 75% of their municipal waste.
38. Turning waste into a resource, as called for in the Resource Efficiency Roadmap, requires the full implementation of EU waste legislation across the EU, based on strict application of the waste hierarchy and covering different types of waste⁵⁵. Additional efforts are needed to: reduce per capita waste generation in absolute terms, limit energy recovery to non-recyclable materials, phase out landfilling, ensure high quality recycling, and develop markets for secondary raw materials. Hazardous waste will need to be managed so as to minimise significant adverse effects on human health and the environment, as agreed at the Rio+20 Summit. To achieve this, market-based instruments that privilege prevention, recycling and re-use should be applied much more systematically across the EU. Barriers facing recycling activities in the EU internal market should be removed and existing prevention, re-use, recycling, recovery and landfill diversion targets reviewed so as to move towards a 'circular' economy, with a cascading use of resources and residual waste close to zero.
39. Resource efficiency in the water sector will also be tackled as a priority to help deliver good water status. Even though droughts and water scarcity are affecting more and more parts of Europe, an estimated 20-40% of Europe's available water is still being wasted, for instance, through leakages in the distribution system. According to available modelling, there is still considerable scope for improving water efficiency in the EU. Moreover, rising demand and the impacts of climate change are expected to increase the pressure on Europe's water resources significantly. Against this background, the Union and Member States should take action to ensure water abstraction respects available renewable water resource limits by 2020, including by improving water efficiency through the use of market mechanisms such as water pricing that reflects the true value of water⁵⁶. Progress will be facilitated by accelerated demonstration and rolling out of innovative

⁵⁴ For example, the full implementation of EU waste legislation would save €72 billion a year, increase the annual turnover of the EU waste management and recycling sector by €42 billion and create over 400 000 jobs by 2020.

⁵⁵ Directive 2008/98/EC, OJ L 312 of 22.11.2008.

⁵⁶ COM(2012) 673.

technologies, systems and business models building on the Strategic Implementation Plan of the European Innovation Partnership on Water.

40. A long-term and predictable policy framework in all these areas will help to stimulate the level of investments and action needed to fully develop markets for greener technologies and promote sustainable business solutions. Resource efficiency indicators and targets are needed to provide the necessary guidance for public and private decision-makers in transforming the economy. They will become an integral part of this programme once agreed at Union level.
41. In order to turn the EU into a resource-efficient, green and competitive low-carbon economy, the programme shall ensure that by 2020:
 - (a) The EU has met its 2020 climate and energy targets and is working towards reducing GHG emissions by 80-95% by 2050 compared to 1990, as part of a global effort to limit the average temperature increase below 2°C.
 - (b) The overall environmental impact of EU industry in all major industrial sectors is significantly reduced, and resource efficiency increased.
 - (c) The overall environmental impact of production and consumption is reduced, in particular in the food, housing and mobility sectors.
 - (d) Waste is safely managed as a resource, waste generated per capita is in absolute decline, energy recovery is limited to non-recyclable materials and landfilling of recyclable and compostable materials is effectively eradicated.
 - (e) Water stress in the EU is prevented or significantly reduced.

This requires, in particular:

- (a) Fully implementing the Climate and Energy Package and agreeing on the EU's climate and energy policy framework for the period beyond 2020.
- (b) Generalising the application of 'Best Available Techniques' and enhancing efforts to promote the uptake of emerging innovative technologies, processes and services.
- (c) Giving impetus to the public and private research and innovation efforts required for rolling out innovative technologies, systems and business models which will speed up and lower the cost of transition to a low-carbon, resource-efficient economy.
- (d) Establishing a more coherent framework for sustainable production and consumption. Reviewing product legislation with a view to improving the environmental performance and resource efficiency of products throughout their lifecycle. Setting targets for the reduction of the overall impact of consumption.
- (e) Fully implementing EU waste legislation. This will include applying the waste hierarchy and the effective use of market-based instruments and measures to ensure that landfilling is effectively phased out, energy recovery is limited to

non-recyclable materials, recycled waste is used as a major, reliable source of raw material for the EU, hazardous waste is safely managed and its generation is reduced, illegal waste shipments are eradicated and internal market barriers for environmentally-sound recycling activities in the EU are removed.

- (f) Improving water efficiency by setting targets at river basin level and using market mechanisms, such as water pricing.

Priority objective 3: To safeguard EU citizens from environment-related pressures and risks to health and wellbeing

- 42. EU environment legislation has delivered significant benefits for the health and wellbeing of the public. However, water, air pollution and chemicals remain among the general public's top environmental concerns in the EU⁵⁷. The World Health Organisation (WHO) estimates that environmental stressors are responsible for between 15 and 20% of all deaths in 53 European countries⁵⁸. According to the OECD, urban air pollution is set to become the primary environmental cause of mortality worldwide by 2050.
- 43. A substantial portion of the EU's population remains exposed to levels of air pollution exceeding WHO recommended standards⁵⁹. Action is especially needed in areas where people, particularly sensitive or vulnerable groups of society, and ecosystems are exposed to high levels of pollutants, such as in cities or in buildings.
- 44. Access to water of satisfactory quality remains problematic in a number of rural areas in the EU, while ensuring the good quality of Europe's bathing waters benefits both human health and the EU's tourism industry. Adverse consequences of floods for human health and economic activity are being experienced more frequently, partly due to changes to the hydrological cycle and land use.
- 45. The failure to fully implement existing policy is preventing the EU from achieving adequate air and water quality standards. The EU will update targets in line with latest science and more actively seek to ensure synergies with other policy objectives in areas such as climate change, biodiversity and the marine and terrestrial environment. For example, reducing certain air pollutants can make an important contribution to climate mitigation. Further work in this direction will be informed by a comprehensive review of EU air quality legislation and the Blueprint to Safeguard Europe's Water Resources.
- 46. Tackling pollution at source remains a priority and the implementation of the Industrial Emissions Directive will further reduce emissions from major industrial sectors. Achieving the goals set out in the Roadmap to a Single European Transport Area will also lead to more sustainable mobility in the EU, thereby addressing a major source of noise and local air pollution.

⁵⁷ Special Eurobarometer 365 (2011).

⁵⁸ EEA, The European environment – state and outlook 2010 ('SOER 2010').

⁵⁹ SOER 2010.

47. An estimated 40 % of the EU's population lives in urban areas with levels of noise at night above the recommended WHO levels.
48. Horizontal chemicals legislation (REACH and the Classification, Labelling and Packaging Regulations) provides baseline protection for human health and the environment and promotes the uptake of evolving non-animal testing methods. However, there is still uncertainty about the impacts on human health and the environment from the combined effects of different chemicals (mixtures), nanomaterials, chemicals that interfere with the endocrine (hormone) system (endocrine disruptors) and chemicals in products. In recent years, more information has come to light on the need for action to deal with these challenges, especially if the EU is to attain the goal agreed at the World Summit on Sustainable Development in 2002, and reaffirmed at the Rio+20 Summit, to have ensured 'the minimisation of significant adverse effects' of chemicals on human health and the environment by 2020 and to respond to new and emerging issues and challenges in an effective, efficient, coherent and coordinated manner. The EU will further develop and implement approaches to address combination effects of chemicals and safety concerns related to endocrine disruptors and set out a comprehensive approach for minimising adverse effects of hazardous substances, including chemicals in products, supported by a comprehensive chemical exposure and toxicity knowledge base. The safety and sustainable management of nanomaterials will be ensured as part of a comprehensive approach involving risk assessment and management, information and monitoring. Together these approaches will increase the chemical knowledge base and provide a predictable framework driving the development of more sustainable solutions.
49. Meanwhile, the growing market for bio-based products, chemicals and materials may offer advantages such as lower GHG emissions and new market opportunities, but care needs to be taken to ensure that the full life-cycle of these products is sustainable and does not exacerbate competition over land or increase emission levels.
50. Climate change will further aggravate environment problems by causing prolonged droughts and heat waves, floods, storms and forest fires, and new or more virulent forms of human, animal or plant disease. Dedicated action should be taken to ensure that the EU is adequately prepared to face the pressures and changes resulting from climate change, strengthening its environmental, economic and societal resilience. Since many sectors are and will be increasingly subject to climate change impacts, adaptation and disaster risk management considerations need to be further integrated into EU policies.
51. In addition, the measures to enhance ecological and climate resilience, such as ecosystem restoration and green infrastructure, can have important socioeconomic benefits, including for public health. The synergies and potential trade-offs between climate and other environmental objectives, such as air quality, need to be adequately managed. For example, fuel switching in response to climate or security of supply considerations could lead to substantial increases in particulate matter and dangerous emissions.
52. In order to safeguard EU citizens from environment-related pressures and risks to health and wellbeing, the programme shall ensure that by 2020:

- (a) Air quality in the EU has significantly improved
- (b) Noise pollution in the EU has significantly decreased.
- (c) Citizens throughout the EU benefit from high standards for safe drinking and bathing water.
- (d) The combination effects of chemicals and safety concerns related to endocrine disruptors are effectively addressed, and risks for the environment and health associated with the use of hazardous substances, including chemicals in products, is assessed and minimised.
- (e) Safety concerns related to nanomaterials are effectively addressed as part of a coherent approach across different legislation.
- (f) Decisive progress is made in adapting to climate change impacts.

This requires, in particular:

- (a) Implementing updated EU policy on air quality, aligned with the latest scientific knowledge, and measures to combat air pollution at source.
- (b) Implementing updated EU noise policy aligned with the latest scientific knowledge, and measures to reduce noise at source.
- (c) Boosting efforts to implement the Drinking Water Directive, in particular for small drinking water suppliers, and the Bathing Water Directive.
- (d) Developing an EU strategy for a non-toxic environment, supported by a comprehensive chemical exposure and toxicity knowledge base and conducive to innovation of sustainable substitutes.
- (e) Agreeing and implementing an EU climate adaptation strategy, including the integration of climate change adaptation and disaster risk management considerations into key EU policy initiatives and sectors.

THE ENABLING FRAMEWORK

53. Achieving these priority thematic objectives will require an enabling framework which supports effective action. Measures will be taken to improve four key pillars of this enabling framework: to improve the way EU environmental laws are implemented across the board; to strengthen the scientific evidence base for environment policy; to secure investments and create the right incentives to protect the environment; and finally, to improve environmental integration and policy coherence both within environment policy and with other policies. These horizontal measures will benefit EU environment policy beyond the scope and timeframe of this programme.

Priority objective 4: To maximise the benefits of EU environment legislation

54. The benefits of ensuring that EU environment legislation is actually implemented are threefold: providing a level playing field for economic actors operating in the Single Market, stimulating innovation, and promoting first-mover advantages for European companies in many sectors. The costs associated with failure to implement legislation, by contrast, are high, broadly estimated at around €50 billion a year, including costs related to infringement cases⁶⁰. In 2009 alone there were 451 infringement cases related to EU environment legislation. The Commission also receives numerous complaints directly from EU citizens, many of which could be better addressed at Member State or local level.
55. Improving the implementation of the EU environment *acquis* at Member State level will therefore be given top priority in the coming years. There are significant differences in implementation between and within Member States. There is a need to equip those involved in implementing environmental legislation at national, regional and local levels with the knowledge and capacity to improve the delivery of benefits from this legislation.
56. The high number of infringements, complaints and petitions in the area of environment shows the need for an effective, workable system of checks and balances at national level to help identify and resolve implementation problems, along with measures to prevent them from arising in the first place. In this respect, efforts in the period up to 2020 will focus on delivering improvements in four key areas.
57. First, the way knowledge about implementation is collected and disseminated will be improved to help the general public and environmental professionals fully understand how national and local administrations put Union commitments into effect⁶¹. Implementation challenges specific to an individual Member State will be targeted for assistance, similar to the tailored approach followed in the European Semester process. For instance, partnership implementation agreements involving the Commission and individual Member States will be drawn up, addressing issues such as where to find financial support for implementation and better information systems to track progress.
58. Second, the EU will extend requirements on inspections and surveillance to the wider body of EU environment law, complementing these with an EU-level capacity that can address situations where there is due reason for concern.
59. Third, the way in which complaints about implementation of EU environment law are handled and remedied at national level will be improved.
60. Fourth, EU citizens will gain better access to justice in environmental matters and effective legal protection, in line with international treaties and developments

⁶⁰ The costs of not implementing the environmental *acquis* (COWI 2011).

⁶¹ COM(2012) 95, OJ C 171 of 16.6.2012.

brought about by the entry into force of the Lisbon Treaty and recent case law of the European Court of Justice. Non-judicial conflict resolution will also be promoted as an alternative to litigation.

61. The general standard of environmental governance across the EU will be further improved by enhancing cooperation at EU level between professionals working on environmental protection (such as government lawyers, inspectors, prosecutors, ombudsmen and judges) and encouraging them to share good practices.
62. In addition to helping Member States improve compliance⁶², the Commission will continue to do its part to ensure that legislation is fit for purpose and reflects the latest science. As a general rule, legal obligations which are sufficiently clear and precise will be enshrined in Regulations, which have direct and measurable effects and lead to fewer inconsistencies in implementation. The Commission will step up its use of scoreboards and other means of publicly tracking Member States' progress in implementing specific pieces of legislation.
63. In order to maximise the benefits of EU environment legislation, the programme shall ensure that by 2020:
 - (a) EU citizens have access to clear information showing how EU environment law is being implemented.
 - (b) The implementation of specific environment legislation is improved.
 - (c) Respect for EU environmental law at all administrative levels is reinforced and a level playing field in the internal market is guaranteed.
 - (d) Citizens' trust and confidence in EU environment law is enhanced.
 - (e) The principle of effective legal protection for citizens and their organisations is facilitated.

This requires, in particular:

- (a) Establishing systems at national level which actively disseminate information about how EU environment legislation is being implemented, coupled with an EU-level overview of individual Member States' performance.
- (b) Drawing up partnership implementation agreements between Member States and the Commission.
- (c) Extending binding criteria for effective Member State inspections and surveillance to the wider body of EU environment law, and developing a complementary capacity at EU level to address situations where there is due reason for concern, backed up by support for networks of professionals.
- (d) Setting up consistent and effective mechanisms at national level for the handling of complaints about implementation of EU environment law.

⁶² COM(2008) 773, OJ C 76 of 25.3.2010.

- (e) Ensuring that national provisions on access to justice reflect the case law of the Court of Justice of the European Union, and promoting non-judicial conflict resolution as a means of finding amicable solutions for conflicts in the environmental field.

Priority objective 5: To improve the evidence base for environment policy

- 64. Evidence for EU environment policy is based on environmental monitoring, data, indicators and assessments linked to the implementation of EU legislation, as well as formal scientific research and ‘citizen science’ initiatives. There has been considerable progress on strengthening this evidence base, raising awareness and improving the confidence of policy-makers and the public in the evidence-based approach to policy, facilitating their understanding of complex environmental and societal challenges.
- 65. Steps should be taken at EU and international level to further strengthen and improve the science-policy interface for environment, such as through the appointment of Chief Scientific Advisors, as already done by the Commission and some Member States.
- 66. However, the pace of current developments and uncertainties surrounding likely future trends requires further steps to maintain and strengthen this evidence base to ensure policy in the EU continues to draw on a sound understanding of the state of the environment, possible response options and their consequences.
- 67. Over past decades, there have been improvements in the way environmental information and statistics are collected and used, at EU and at Member State level, as well as globally. However, data collection and quality remain variable and the plethora of sources can make access difficult. Continuous investment is therefore needed to ensure that credible, comparable and quality-assured data and indicators are available and accessible to those involved in defining and implementing policy. Environmental information systems need to be designed to enable new information on emerging themes to be easily incorporated.
- 68. Further implementation of the Shared Environmental Information System⁶³ principle of ‘produce once, use often’ and the common approaches and standards on acquisition and collation of spatial information under the INSPIRE⁶⁴ and GMES⁶⁵ systems will help avoid duplication of effort and eliminate unnecessary administrative burdens on public authorities, as will efforts to streamline reporting obligations under different pieces of legislation. Member States should make information gathered to assess environmental impacts of plans, programmes and projects (e.g. through Environmental or Strategic Impact Assessments) more accessible to the public.

⁶³ COM(2008) 46, OJ C 118 of 15.5.2008.

⁶⁴ Directive 2007/2/EC on Infrastructure for Spatial Information in Europe (INSPIRE), OJ L 108 of 25.4.2007.

⁶⁵ Regulation No 911/2010/EU on the Global Monitoring for Environment and Security (GMES), OJ L 276 of 20.10.2010.

69. There are still significant gaps in knowledge, some of them relevant to this programme's priority objectives. Investing in further research to fill these gaps is therefore essential to ensure that public authorities and businesses have a sound basis for taking decisions which fully reflect true social, economic and environmental benefits and costs. Four gaps stand out:

- Advanced research to fill data and knowledge gaps and adequate modelling tools are needed to better understand complex issues related to environmental change, such as climate change and disaster impacts, the implications of species loss for ecosystem services, environmental thresholds and ecological tipping points. While available evidence fully warrants precautionary action in these areas, further research into planetary boundaries, systemic risks and our society's ability to cope with them will support the development of the most appropriate responses. This should include investment in closing data and knowledge gaps, mapping and assessing ecosystem services, understanding the role of biodiversity in underpinning them and how they adapt to climate change.
- The transition to an inclusive green economy requires proper consideration of the interplay between socio-economic and environmental factors. Improving our understanding of sustainable consumption and production patterns, how costs of action or inaction can be considered more accurately, how changes in individual and societal behaviour contribute to environmental outcomes and how Europe's environment is affected by global megatrends can help better target policy initiatives towards improving resource efficiency and relieving pressures on the environment.
- There are still uncertainties surrounding the human health and environmental implications of endocrine disruptors, mixtures, chemicals in products and nanomaterials. Filling these gaps can accelerate decision-making and enable the further development of the chemicals *acquis* to better target areas of concern, while stimulating more sustainable use of chemicals. An improved understanding of the environmental factors affecting human health would allow preventive policy actions to be taken.
- Ensuring all sectors contribute to efforts to combat climate change requires a clear overview of GHG measurement, monitoring and data collection, which is currently incomplete for key sectors, such as agriculture.

Horizon 2020 will provide the opportunity to focus research efforts and to deploy Europe's innovation potential by bringing together resources and knowledge across different fields and disciplines within the EU and internationally.

70. New and emerging issues arising from rapid technological developments that outpace policy, such as nanomaterials, unconventional energy sources, carbon capture and storage and electromagnetic waves, pose risk management challenges and can give rise to conflicting interests, needs and expectations. This in turn can lead to increasing public concern and potential hostility towards new technologies. There is therefore a need to ensure a broader, explicit societal debate about the environmental risks and possible trade-offs that we are willing to accept in the light of sometimes incomplete or uncertain information about emerging risks and how

they should be handled. A systematic approach to environmental risk management will improve the EU's capacity to identify and act upon technological developments in a timely manner, while providing reassurance to the public.

71. In order to improve the evidence base for environment policy, the programme shall ensure that by 2020:
- (a) Policy-makers and businesses have a better basis for developing and implementing environment and climate policies, including measuring costs and benefits.
 - (b) Our understanding of and ability to evaluate and manage emerging environmental and climate risk is greatly improved.
 - (c) The environment policy-science interface is strengthened.

This requires, in particular:

- (a) Coordinating and focusing research efforts at EU and Member State levels on addressing key environmental knowledge gaps, including the risks of environmental tipping-points.
- (b) Adopting a systematic approach to risk management.
- (c) Simplifying, streamlining and modernising environmental and climate change data and information collection, management and sharing.

Priority objective 6: To secure investment for environment and climate policy and get the prices right

72. The efforts required to achieve the objectives set out above will need adequate investment from public and private sources. At the same time, while many countries are struggling to cope with the economic and financial crisis, the need for economic reforms and the reduction of public debts offer new opportunities to move rapidly towards a more resource-efficient, low-carbon economy.
73. Attracting investment in some areas is currently difficult because of the lack of price signals from the market, or distorted price signals arising from a failure to account properly for environmental costs or from public subsidies for environmentally harmful activities.
74. The Union and Member States will need to put in place the right conditions to ensure that environmental externalities are adequately addressed and that the right market signals are sent to the private sector, with due regard to any adverse social impacts. This will involve applying the polluter-pays principle more systematically, through phasing out environmentally harmful subsidies and shifting taxation away from labour towards pollution. As natural resources become increasingly scarce, the economic rent and profits associated with their ownership or exclusive use may increase. Public intervention to ensure that such rents are not excessive and that externalities are taken into account will lead to more efficient use of these resources and will help to avoid market distortions, as well as generate public revenue.

Environment and climate priorities will be pursued in the framework of the European Semester where these are relevant to the sustainable growth prospects of individual Member States to which country-specific recommendations are addressed. Other market-based instruments, such as payments for ecosystem services, should be used more extensively at EU and national level to incentivise private sector involvement and sustainable management of natural capital.

75. The private sector should also be encouraged to take up opportunities offered under the new EU financial framework to step up their involvement in efforts to achieve environmental and climate objectives, especially in relation to eco-innovation activities and the uptake of new technologies, with a particular focus on SMEs. Public-private initiatives for eco-innovation should be promoted under European Innovation Partnerships, such as the Innovation Partnership on Water⁶⁶. Through the new framework for Innovative Financial Instruments, private sector access to finance for investments in environment – notably biodiversity and climate change – should be facilitated. European enterprises should be further encouraged to disclose environmental information as part of their financial reporting, beyond the extent required under existing EU legislation⁶⁷.
76. In its proposals for the 2014-2020 EU Multiannual Financial Framework, the Commission has improved the mainstreaming of environment and climate objectives in all EU funding instruments to provide opportunities for Member States to achieve related objectives. It has also proposed to raise climate-related expenditure to at least 20% of the whole budget. In key policy areas such as agriculture, the Commission has proposed to enhance incentives for farmers to provide environmentally-beneficial public goods and services, matched by environment-related conditionalities. If these proposals are accepted, EU policies will be matched with coherent financial resources for implementation, and additional funds will be available for environment and climate change, effectively delivering concrete and coherent benefits at local and regional level.
77. Beyond such mainstreaming, inclusion of ‘integrated projects’ in the LIFE programme will enable funds to be combined and better aligned with policy priorities in a more strategic, cost-effective way in support of environment and climate-related measures.
78. The increased capital provided to the European Investment Bank (EIB) as part of the 2012 Compact for Growth and Jobs provides an additional source of investment⁶⁸.
79. Experience gained in the 2007-2013 programming period shows that although significant funds are available for the environment, the uptake at national and regional level in the early years has been very uneven, potentially jeopardising the achievement of agreed objectives and targets. To avoid repeating this experience, Member States should integrate environment and climate objectives in their funding strategies and programmes for economic, social and territorial cohesion, rural development and maritime policy, prioritise the early uptake of funding for the

⁶⁶ COM(2012) 216.

⁶⁷ COM(2011) 681, OJ C 37 of 10.2.2012.

⁶⁸ EUCO 76/12.

environment and climate change and reinforce the capacity of implementing bodies to deliver cost-effective and sustainable investments in order to secure the adequate and needed financial support for investments in these areas.

80. In addition, it has been difficult to trace biodiversity and climate-related expenditure. To assess progress towards these objectives, a tracking and reporting system should be established based on OECD methodology ('The Rio Markers'). This is important for the EU's overall effort relating to multilateral agreements on climate change and biodiversity. In this context, the EU will contribute to the intergovernmental process launched at Rio+20 to assess financing needs and propose options for an effective sustainable development financing strategy.
81. Work to develop indicators to monitor economic progress which complement and go beyond GDP should continue. Securing transparent, sustainable investment depends on proper valuation of environmental goods. Further efforts to measure the value of our ecosystems and the cost of their depletion, together with corresponding incentives, will be needed to inform policy and investment decisions. Work to develop a system of environmental accounts, including physical and monetary accounts for natural capital and ecosystem services, will need to be stepped up. This supports the outcome of Rio+20, which recognises the need for broader measures of progress to measure well-being and sustainability to complement gross domestic product.
82. In order to secure investment for environment and climate policy and get the prices right, the programme shall ensure that by 2020:
 - (a) Environment and climate policy objectives are achieved in a cost-effective way and are supported by adequate finance.
 - (b) Private sector funding for environment and climate-related expenditure is increased.

This requires, in particular:

- (a) Progressively phasing out environmentally harmful subsidies, increasing the use of market-based instruments, including taxation, pricing and charging, and expanding markets for environmental goods and services, with due regard to any adverse social impacts.
- (b) Facilitating access to innovative financial instruments and funding for eco-innovation.
- (c) Adequately reflecting environmental and climate priorities in policies to support economic, social and territorial cohesion.
- (d) Dedicated efforts to ensure full and efficient use of available Union funding for environment action, including by significantly improving its early uptake under the Union's Multiannual Financial Framework 2014-2020 and devoting 20% of the budget to climate change mitigation and adaptation through the mainstreaming of climate action and linked to clear benchmarks, target setting, monitoring and reporting.

- (e) Developing and applying a system for reporting and tracking environment-related expenditure in the EU budget, notably on climate change and biodiversity, by 2014.
- (f) Integrating environment and climate-related considerations into the European Semester process, where this is relevant for individual Member States' prospects for sustainable growth and appropriate for country-specific recommendations.
- (g) Developing and applying alternative indicators that complement and go beyond GDP to monitor how sustainable our progress is and continuing work to integrate economic indicators with environmental and social indicators, including natural capital accounting.

Priority objective 7: To improve environmental integration and policy coherence

83. Although integrating environmental protection concerns into other EU policies and activities has been a Treaty requirement since 1997, the overall state of Europe's environment indicates that progress to date, while commendable in some areas, has not been sufficient to reverse all negative trends. Achieving many of the priority objectives of this programme will demand even more effective integration of environmental and climate considerations into other policies, as well as more coherent, joined-up policy approaches that deliver multiple benefits. This should help ensure that difficult trade-offs are managed early on, rather than in the implementation phase, and that unavoidable impacts can be mitigated more effectively. The Strategic Environmental Assessment directive⁶⁹ and Environmental Impact Assessment directive⁷⁰, when correctly applied, are effective tools for ensuring environmental protection requirements are integrated in plans and programmes as well as in projects. Local and regional authorities, which are generally responsible for decisions on use of land and marine areas, have a particularly important role to play in assessing environmental impacts and protecting, conserving and enhancing natural capital, also to achieve greater resilience to climate change impacts and natural disasters.
84. The envisaged expansion of energy and transport networks, including offshore infrastructure, will need to be compatible with nature protection and climate adaptation needs and obligations. Incorporating green infrastructure into related plans and programmes can help overcome fragmentation of habitats and preserve or restore ecological connectivity, enhance ecosystem resilience and thereby ensure the continued provision of ecosystem services, including carbon sequestration and climate adaptation, while providing healthier environments and recreational spaces for people to enjoy.
85. This programme includes a number of priority objectives designed to enhance integration. In its proposals for the CAP, CFP, Trans-European Networks (TENs)

⁶⁹ Directive 2001/42/EC, OJ L 197 of 21.7.2001.

⁷⁰ Directive 85/337/EEC, OJ L 175 of 5.7.1985.

and Cohesion policy reforms, the Commission has included measures to further support environmental integration and sustainability. For this programme to succeed, these policies should further contribute towards meeting environment-related targets and objectives. Similarly, efforts primarily intended to achieve environmental improvements should be designed to deliver co-benefits for other policies wherever possible. For instance, efforts to restore ecosystems can be targeted to benefit habitats and species and to sequester carbon dioxide, while improving the delivery of ecosystem services vital for many economic sectors, such as pollination or water purification for agriculture, and creating green jobs.

86. In order to improve environmental integration and policy coherence, the programme shall ensure that by 2020:

- (a) Sectoral policies at EU and Member State level are developed and implemented in a way that supports relevant environment and climate-related targets and objectives.

This requires, in particular:

- (a) integrating environmental and climate-related conditionalities and incentives in policy initiatives, including reviews and reforms of existing policy, as well as new initiatives, at EU and Member State level;
- (b) carrying out systematic ex-ante assessments of the environmental, social and economic impacts of policy initiatives at EU and Member State level to ensure their coherence and effectiveness.

MEETING LOCAL, REGIONAL AND GLOBAL CHALLENGES

Priority objective 8: To enhance the sustainability of EU cities

87. The EU is densely populated and by 2020, 80% of the EU population is likely to live in urban and peri-urban areas. Quality of life will be directly influenced by the state of the urban environment. The environmental impacts of cities also spread well beyond their physical limits, as they rely heavily on peri-urban and rural regions to meet demand for food, energy, space and resources, and to accommodate waste.

88. Most cities face a common core set of environmental problems, including poor air quality, high levels of noise, GHG emissions, water scarcity, floods and storms, contaminated sites, brownfields and waste. At the same time, EU cities are standard-setters in urban sustainability and often pioneer innovative solutions to environmental challenges⁷¹. An ever-growing number of European cities are putting environmental sustainability at the core of their urban development strategies.

89. EU citizens, whether urban or rural dwellers, benefit from a range of EU policies and initiatives that support sustainable development of urban areas. However, this

⁷¹ See, for example, the 'Cities of tomorrow' report (European Commission, 2011) and SWD(2012) 101.

requires effective, efficient coordination between different levels of administration and across administrative boundaries and systematically involving regional and local authorities in the planning, formulation and development of policies impacting on the quality of the urban environment. The enhanced coordination mechanisms at national and regional level proposed under the Common Strategic Framework for the next funding period and the creation of an 'Urban Development Platform'⁷² would help to ensure this, as well as involve more stakeholder groups and the general public in decisions that affect them. Local and regional authorities will also benefit from further development of tools to streamline environmental data collection and management, and to facilitate the exchange of information and best practice, as well as efforts to improve implementation of environment law at Union, national and local levels⁷³. This is in line with the commitment made at the Rio+20 Summit to promote an integrated approach to planning, building and managing sustainable cities and urban settlements. Integrated approaches to urban spatial planning, in which long-term environmental considerations are fully taken into account alongside economic and social challenges, are essential to ensuring that urban communities are sustainable, efficient and healthy places to live and work.

90. The EU should further promote and, where appropriate, expand existing initiatives that support innovation and best practice in cities, networking and exchanges between them and encourage cities to showcase their leadership on sustainable urban development⁷⁴. The EU institutions and the Member States should facilitate and encourage the uptake of EU funding available under Cohesion policy and other funds to support cities in their efforts to enhance sustainable urban development, raise awareness and encourage local actors to get involved⁷⁵. The development of, and agreement on, a set of sustainability criteria for cities would provide a common reference base for such initiatives and promote a coherent, integrated approach to sustainable urban development.

91. In order to enhance the sustainability of EU cities, the programme shall ensure that by 2020:

- (a) A majority of cities in the EU are implementing policies for sustainable urban planning and design.

This requires, in particular:

- (a) Defining and agreeing a set of criteria to assess the environmental performance of cities, taking into account economic and social impacts.
- (b) Ensuring that cities have information about and access to financing for measures to improve urban sustainability.

⁷² COM(2011) 615, OJ C 37 of 10.2.2012.

⁷³ For example the Water Information System for Europe (WISE), the Biodiversity Information System for Europe (BISE) and the European Climate Adaptation Platform (CLIMATE-ADAPT).

⁷⁴ Examples include the European Innovation Partnership on Smart Cities and Communities C(2012) 4701, the European Green Capital Award and the research Joint Programming Initiative Urban Europe.

⁷⁵ The Commission has proposed to ring-fence a minimum 5% of the European Regional Development Fund (ERDF) in each Member State to fund integrated sustainable urban development.

Priority objective 9: To increase the EU's effectiveness in addressing regional and global environmental and climate challenges

92. Environmental sustainability is key to reducing poverty and ensuring quality of life and economic growth⁷⁶. At Rio+20, world leaders renewed their commitment to sustainable development and recognised the inclusive green economy as an important tool for achieving sustainable development, and the crucial role of a healthy environment in ensuring food security and reducing poverty. In the light of a growing population in an increasingly urbanised world, these challenges will include the need for action on water, oceans, sustainable land and ecosystems, resource efficiency (in particular waste), sustainable energy and climate change, including through the phase out of fossil fuel subsidies. They will need to be addressed through tailor-made approaches at local, national or Union level, as well as committed engagement in international efforts to develop the solutions needed to ensure sustainable development globally.
93. The Rio+20 outcomes will need to be reflected in the internal and external policy priorities of the Union and its Member States. The Union should also support the creation of a High Level Political Forum to gradually replace the Commission for Sustainable Development and monitor the implementation of Rio+20 outcomes.
94. Many of the priority objectives set out in this programme can only be fully achieved as part of a global approach and in cooperation with partner countries. That is why the Union and its Member States should engage in relevant international, regional and bilateral processes in a strong, focused, united and coherent manner. They should continue to promote an effective, rules-based framework for global environment policy, complemented by a more effective, strategic approach in which bilateral and regional political dialogues and cooperation are tailored towards the Union's strategic partners⁷⁷, candidate and neighbourhood countries, and developing countries, respectively, supported by adequate finance.
95. The time span covered by this programme corresponds to key phases in international climate, biodiversity and chemical policy. To remain within the 2°C ceiling, global GHG emissions need to be cut by at least 50% of their 1990 levels by 2050. However, only half the emission reductions required by 2020 have been pledged by Parties under the UNFCCC⁷⁸. Without more resolute global action, climate change is unlikely to be curtailed. Even in a best-case scenario, countries will increasingly face inevitable impacts of climate change because of historical GHG emissions and will need to develop climate adaptation strategies. Under the Durban Platform for Enhanced Action, a comprehensive and robust agreement applicable to all is to be agreed by 2015 and implemented as of 2020. The EU will remain engaged proactively in this process, including in discussions on how to close the gap between current emission reduction pledges by developed and developing countries, and on action needed to stay on an emission pathway compatible with the 2°C objective. The

⁷⁶ Human Development Report (UNDP, 2011).

⁷⁷ Brazil, Canada, China, India, Japan, Mexico, Russia, South Africa, South Korea and the United States and other G20 countries (i.e. Argentina, Australia, Indonesia, Saudi Arabia and Turkey).

⁷⁸ 'Bridging the emissions gap', (UNEP, 2011).

follow-up to Rio+ 20 should also help reduce GHG emissions, thus supporting the fight against climate change. . In parallel, the EU should pursue and further intensify climate change partnerships with strategic partners and should take further action to mainstream environment and climate considerations in its development policy.

96. The global biodiversity targets⁷⁹ under the Convention on Biological Diversity (CBD) need to be met by 2020 as the basis for halting and eventually reversing the loss of biodiversity worldwide. The EU will contribute its fair share to these efforts, including by reaching the target to double biodiversity-related funding to developing countries by 2015 and maintain this level until 2020⁸⁰. There is already a global 2020 target for the management of risks posed by chemicals. The EU will continue to play an active and constructive role in helping these processes achieve their objectives.
97. The EU has a good track-record when it comes to membership in multilateral environmental agreements (MEAs), although a number of Member States have still not ratified key agreements. This compromises the EU's credibility in related negotiations. Member States and the EU should ensure timely ratification of all MEAs to which they are signatories.
98. The EU should also leverage its position as one of the largest markets in the world to promote policies and approaches that decrease pressure on the global natural resource base. This can be done by changing patterns of consumption and production, as well as ensuring that trade and internal market policies support the achievement of environmental and climate goals and provide incentives to other countries to upgrade and enforce their environmental regulatory frameworks and standards. The EU will continue to promote sustainable development through the negotiation and implementation of dedicated provisions in its international trade agreements and should consider other policy options to reduce the impacts of EU consumption on the environment in non-EU countries. An example of such a policy option are the bilateral Forest Law Enforcement, Governance and Trade (FLEGT) partnerships, which establish a framework to ensure only legally-harvested timber enters the EU market from partner countries.
99. The EU should continue to promote environmentally responsible business practices. New obligations under the EU's Responsible Business Initiative⁸¹ for listed and large unlisted extractive and primary forest logging companies to report payments they make to governments will result in greater transparency and accountability in the way natural resources are exploited. As a leading provider of environmental goods and services, the EU should promote global green standards, free trade in environmental goods and services, the further deployment of environment and climate-friendly technologies, protection of investment and intellectual property rights and the international exchange of best practice.
100. In order to increase the EU's effectiveness in addressing regional and global environmental and climate challenges, the programme shall ensure that by 2020:

⁷⁹ CBD Strategic Plan for Biodiversity 2011-2020.

⁸⁰ CBD Decision XI/4.

⁸¹ Proposals for the revision of the Transparency Directive COM(2011) 683 and the Accounting Directives COM(2011) 684.

- (a) The outcomes of Rio+20 are fully integrated into the EU's external policies and the EU is contributing effectively to global efforts to implement agreed commitments, including those under the Rio conventions.
- (b) The EU is providing effective support to national, regional and international efforts to address environment and climate challenges and to ensure sustainable development.
- (c) The impact of consumption in the EU on the environment beyond its borders is reduced.

This requires, in particular:

- (a) Working towards the adoption of Sustainable Development Goals that: a) address priority areas of an inclusive green economy and wider sustainable development objectives, such as energy, water, food security, oceans and sustainable consumption and production, as well as cross-cutting issues such as equity, social inclusion, decent work, rule of law and good governance; b) are universally applicable, covering all three areas of sustainable development; c) are assessed and accompanied by targets and indicators, and d) are coherent and integrated with the post-2015 development framework, and supportive of climate actions.
- (b) Working towards a more effective UN structure for sustainable development through strengthening UNEP in line with the outcome of Rio+20, while continuing to strive for an upgrade of UNEP's status to that of UN Agency, and supporting ongoing efforts to enhance synergies between Multilateral Environmental Agreements;
- (c) Strengthening the impact of various sources of funding, including taxation and domestic resource mobilisation, private investment, new and innovative sources, and creating options for using development aid to leverage these other sources of financing as part of the sustainable development financing strategy established in Rio, as well as in the EU's own policies, including international commitments on climate and biodiversity finance.
- (d) Engaging with partner countries in a more strategic way. This should involve focusing cooperation: 1) with strategic partners on the promotion of best practice in domestic environment policy and legislation and convergence in multilateral environmental negotiations; 2) with countries covered by the European Neighbourhood Policy on gradual approximation with key EU environment and climate policy and legislation and on strengthening cooperation to address regional environmental and climate challenges; 3) with developing countries to support their efforts to protect the environment, fight climate change and reduce natural disasters, and implement international environmental commitments as a contribution to poverty reduction and sustainable development.
- (e) Engaging in multilateral environmental processes, including the UNFCCC, CBD and the chemicals-related conventions, as well as other relevant fora, such as the International Civil Aviation Organization and the International Maritime Organization, in a more consistent, proactive and effective way with

a view to ensuring that commitments for 2020 are met at EU and global level, and to agree on international action to be taken beyond 2020.

- (f) Ratifying all key multilateral environmental agreements well before 2020.
- (g) Assessing the environmental impact, in a global context, of EU consumption of food and non-food commodities and possible related responses.

MONITORING PROGRESS

- 101. The Commission will ensure that implementation of the programme is monitored in the context of the Europe 2020 Strategy's regular monitoring process. An evaluation of the programme will be carried out before 2020, in particular on the basis of the EEA's State of the Environment report.
- 102. The indicators used to monitor progress towards meeting priority objectives include those used by the EEA to monitor the state of the environment and those to monitor the implementation of existing environment and climate-related targets and legislation, including the climate and energy targets, biodiversity targets, and resource efficiency milestones. Additional indicators to measure overall progress towards a resource-efficient European economy and society and its contribution to prosperity and well-being will be developed in coordination with stakeholders in the context of the Roadmap to a Resource-efficient Europe.