

# A resourceful approach to the environment

Humanity is consuming the Earth's finite resources at an unprecedented pace, which is both unsustainable and bad for the planet, and hence for our own well-being. EU efforts to promote the efficient and sustainable use of natural resources are crucial for our collective future.

## Facts and figures

In recent years, the global environmental debate has focused primarily on climate change. And the European Union has been taking massive strides towards reducing its climate footprint. Over the past two decades, emissions have gone down by 16%, while the economy has grown by 40% over the same period, illustrating that 'decoupling' growth from emissions is possible.

While climate change is undoubtedly a crucial issue and we ignore it at our own peril, it is not the entire story. Our consumption of the Earth's finite resources – ranging from water and food to rare earth metals and minerals – has been accelerating at breakneck speed, and this growth looks likely to continue as more and more emerging economies take their place among the industrialised nations of this world, unless action is taken.

Such unchecked consumption is likely to cause unprecedented environmental degradation. Not only that – there is also a simple economic imperative behind it. Although the apparently limitless growth our economies have undergone since the Industrial Revolution may tempt us to imagine that this can continue indefinitely, the reality is that the resources we use are not only finite but often quite scarce.

### ▶ Did you know that ...

- While emissions have gone down by 16%, the EU economy has grown by over 40% during the past two decades
- By stepping up climate action, 1.5 million additional jobs could be created by 2020
- Europe is in a vulnerable position when it comes to the supply of 14 'critical raw materials'



## Demanding times

For example, with the wheels of the global economy running largely on petroleum and with demand set to outstrip supply soon, oil reserves are only expected to last a matter of decades. At current production levels, supplies of oil's dirtier cousin, coal, could run out within just over a century, and much faster if it is ever used as an oil substitute.

One by-product of this growing scarcity will be greater global competition for resources which will either, at best, create a situation of spiralling prices or, at worst, lead to political tensions, conflicts and instability in many parts of the world. In order to avert the environmental, economic, social and political repercussions of increasing scarcity, we must act now to control our consumption by using resources more efficiently and wisely. This concept is known as 'resource efficiency', i.e. finding ways of producing more economic value using fewer materials and switching to alternative consumption patterns.

By so doing, we can limit the risks of scarcity and keep environmental impacts within our planet's natural limits. As a positive consequence, the creation or further development of greener sectors and industries will create jobs and prosperity.

## ► Resource efficiency and your money back

The investments in new technologies and innovative solutions required to use resources more efficiently can be viewed as an additional cost which money-strapped businesses on the tail-end of a recession can ill afford. However, following the initial outlay, such investments are huge cost-savers saving both the environment and money.

For example, potential input savings to UK firms alone from unexploited resource efficiency savings with a pay-back period of less than one year are estimated at around €6.4 billion annually, while investments with longer recovery periods could deliver savings that are four times greater.

Through careful analysis, individual firms can identify wastage in their production processes and take innovative action to remedy it, feeding directly into their bottom lines. One example of this is a Dutch chemicals firm which has secured a cost-effective and reliable supply of water by taking the local community's waste water and reusing it twice – to generate steam and in its cooling towers.

More information:

<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/43&format=HTML&aged=0&language=EN&guiLanguage=en>

## EU policy

Given its crucial importance to our economic, social and physical well-being and survival, the environment has been a central pillar of European Union policy for decades.

In fact, the EU has some of the highest environmental standards and some of the most ambitious environment-related targets in the world. For instance, the Union launched its groundbreaking Emissions Trading System as a cost-effective mechanism for reducing emissions through the 'cap and trade' principle.

Not only is the EU spearheading efforts to reach a new global climate change agreement, but it is on track - if its current policies are fully implemented - to achieve its 2008 targets of reducing emissions to 20% below 1990 levels and raising the share of renewables in its energy mix to 20% by the year 2020.

### Waste not, want not

The Union's current environmental priorities focus on combating climate change, preserving biodiversity, reducing health problems from pollution, and using natural resources more responsibly and efficiently. In terms of resource efficiency, it was an integral component of the EU's 2001 Sustainable Development Strategy – revised and updated in 2006 – which counts the sustainable management of natural resources as one of its key objectives.

Spearheaded by the European Commission, the EU has formulated plans, as part of its ambitious Europe 2020 strategy for the coming decade, to promote greater resource efficiency. In fact, one of Europe 2020's flagship initiatives has quite clearly been named 'A resource-efficient Europe'.

Launched in 2011, the initiative sets out a general policy framework for resource efficiency. By so doing, it also complements and supports other Europe 2020 flagships, such as the 'Integrated industrial policy for the globalisation era' and the 'Innovation Union'. To explain this inter-linkage and interdependence, Industry and Entrepreneurship Commissioner Antonio Tajani said: "There will be no sustainability without competitiveness, and there will be no long-lasting competitiveness without sustainability. And there will be none of them without a quantum leap in innovation."

In March 2011, a road map was drawn up that highlights the technological changes required by 2050, along with a more detailed plan of the objectives and means required to move us closer to them up to 2020.

To make the transition to a low-carbon economy and to reap benefits such as a lower oil bill, the Commission

## ► Policy milestones

2001	EU's Sustainable Development Strategy launched
2005	Emissions Trading System launched
2006	Sustainable Development Strategy revised and updated
2008	EU leaders approve ambitious plan to reduce greenhouse gas emissions and cut energy consumption; Commission launched the Raw Materials Initiative
2010	Europe 2020 launched
2011	General framework for 'A resource-efficient Europe' outlined; release of 'Road map for moving to a competitive low-carbon economy in 2050; release of raw materials strategy

estimates the EU would need to invest an additional €270 billion or 1.5% of its GDP annually, on average, over the next four decades. The extra funding injections are not a cost but an investment that will spur growth within a wide range of manufacturing sectors and environmental services across Europe.



## In a material world

Making better use of natural resources is not just an environmental issue – it is also an economic one. A vast array of raw materials, especially minerals and ‘high-tech metals’, play a key role in the development of industrial applications and advanced consumer products. This means that they are crucial to Europe’s industrial competitiveness, including in sectors developing environmentally friendly technologies, such as electric cars and photovoltaics.

However, many of the most versatile and useful materials are not found in Europe and must be imported from other parts of the world. Rapid economic growth in developing and emerging countries, as well as the development of new technologies, has led to a tightening of supply, with some supplier nations imposing restrictions on imports. In fact, global patterns have shifted so significantly that China has become the world’s largest consumer of metals.

This leaves the EU potentially vulnerable to both supply and price fluctuations. According to a report released by a Commission-backed expert group in 2010, Europe is in a vulnerable position when it comes to the supply of 14 ‘critical raw materials’ (antimony, beryllium, cobalt, fluor spar, gallium, germanium, graphite, indium, magnesium, niobium, platinum group metals, rare earths, tantalum and tungsten).

Many of these materials are vital to products we take for granted. For instance, flat-screen TVs and mobile phones need metals such as antimony, cobalt, lithium, tantalum and tungsten. Meanwhile, new planet-saving technologies also depend on them – for example, electric cars require lithium and neodymium, while solar panels use gallium and indium.

Although this report was released in 2010, alarm bells have been sounding for a number of years, which is why the European Commission unveiled its Raw Materials Initiative (RMI) in 2008. The RMI seeks to find a mutually beneficial and fair middle ground between importers and suppliers that can ensure fair access to the EU without hindering the development prospects of resource-rich countries and emerging importers. The initiative rests on three pillars: ensuring access to foreign supplies for European industry, improving conditions for mining within Europe, and increasing the recycling rates of these important materials.

In February 2011, in the context of Europe 2020, the Commission fleshed out the RMI further to create a comprehensive raw materials strategy for the EU. The key elements of the strategy include: monitoring the development of access to critical raw materials with a view to identifying priority actions; engaging in ‘raw materials diplomacy’; developing bilateral co-operation with African countries in the area of raw materials; improving the regulatory framework for sustainable extraction within the EU; enhancing resource efficiency and promoting recycling; and promoting further research and innovation along the entire raw materials value chain.

In the area of raw materials diplomacy, the EU seeks, among other things, to promote good governance, human rights, conflict resolution, non-proliferation and

## ► When less is more

This year’s Green Week, the largest environmental conference in the EU, which takes place in Brussels and other parts of Europe, focused on resource efficiency, under the slogan ‘Using less, living better’. With a programme containing some 40 high-level sessions attended by leading experts and policy-makers, Brussels’ Green Week explored issues related to resource depletion and scarcity, reducing food and other kinds of waste, as well as the challenges and opportunities presented by constraints on resources.

The conference showcased public and private initiatives that are promoting a shift towards a low-carbon economy and greater resource efficiency. The Green Week exhibition space housed 50 stands featuring civil society action in this area, green business solutions, and the activities of regional and national governments, as well as intergovernmental organisations.

More information: <http://ec.europa.eu/environment/greenweek/index.html>

regional stability in resource-rich countries. Examples of existing actions in this area include the agreement between the African Union Commission (AUC) and the European Commission to work together on governance, infrastructure and geological knowledge and skills. In

addition, the 10th European Development Fund has been supporting better governance in Africa, and the EU-Africa Infrastructure Fund has financed geological surveys to enable resource-rich countries to be better aware of what mineral wealth they possess.

## Further information

- Resource efficiency: a business imperative<sup>1</sup>
- European Environment Agency publications<sup>2</sup>
- Energy infrastructure brochure<sup>3</sup>
- EU energy and transport in figures<sup>4</sup>
- Climate action – energy for a changing world<sup>5</sup>
- Environment DG's page on resource efficiency<sup>6</sup>
- Road map for moving to a low-carbon economy in 2050<sup>7</sup> and related FAQ<sup>8</sup>

## Communicators' toolkit

- Time to invest in energy efficiency<sup>9</sup> (video)
- Green cars<sup>10</sup> (video)
- You control climate change<sup>11</sup> (videos)
- Energy Magic<sup>12</sup>
- Carbon Detectives<sup>13</sup>
- Eco Agents<sup>14</sup>
- Environment for Young Europeans<sup>15</sup>

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- 1 [http://ec.europa.eu/environment/pubs/pdf/factsheets/resource\\_efficiency/en.pdf](http://ec.europa.eu/environment/pubs/pdf/factsheets/resource_efficiency/en.pdf)
  - 2 [http://www.eea.europa.eu/publications#&c9=all&c14=&c12=&c7=en&b\\_start=0](http://www.eea.europa.eu/publications#&c9=all&c14=&c12=&c7=en&b_start=0)
  - 3 [http://ec.europa.eu/energy/publications/doc/2011\\_energy\\_infrastructure\\_en.pdf](http://ec.europa.eu/energy/publications/doc/2011_energy_infrastructure_en.pdf)
  - 4 [http://ec.europa.eu/energy/publications/statistics/doc/2010\\_energy\\_transport\\_figures.pdf](http://ec.europa.eu/energy/publications/statistics/doc/2010_energy_transport_figures.pdf)
  - 5 [http://ec.europa.eu/climateaction/index\\_en.htm](http://ec.europa.eu/climateaction/index_en.htm)
  - 6 [http://ec.europa.eu/environment/resource\\_efficiency/index\\_en.htm](http://ec.europa.eu/environment/resource_efficiency/index_en.htm)
  - 7 [http://ec.europa.eu/clima/policies/roadmap/index\\_en.htm](http://ec.europa.eu/clima/policies/roadmap/index_en.htm)
  - 8 [http://ec.europa.eu/clima/faq/roadmap/index\\_en.htm](http://ec.europa.eu/clima/faq/roadmap/index_en.htm)
  - 9 <http://ec.europa.eu/avservices/video/videoplayer.cfm?ref=1069512&sitelang=en>
  - 10 <http://www.europartv.europa.eu/en/player.aspx?pid=1c36b310-8f80-4ba2-9920-60f573e5bf93>
  - 11 <http://www.youtube.com/user/eutube#p/c/18/FsmPFAzYtQY>
  - 12 [http://www.learn-energy.net/kidscorner/u11\\_select.html](http://www.learn-energy.net/kidscorner/u11_select.html)
  - 13 <http://www.carbondetectiveseurope.org/>
  - 14 <http://ecoagents.eea.europa.eu/>
  - 15 [http://ec.europa.eu/environment/youth/index\\_en.html](http://ec.europa.eu/environment/youth/index_en.html)