

# Thematic strategy for soil protection

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The Commission presents a report providing an overview of the implementation of the [Thematic Strategy for Soil Protection](#) since its adoption in September 2006. The report also presents current soil degradation trends both in Europe and globally, as well as future challenges to ensure protection.

**Findings:** both in the EU and worldwide, soil degradation has increased in the past decade. Between 1990 and 2000, at least 275 hectares of soil were lost per day in the EU, amounting to 1,000 km<sup>2</sup> per year. Between 2000 and 2006, the EU average loss increased by 3%, but by 14% in Ireland and Cyprus, and by 15% in Spain. In the period 1990-2006, 19 Member States lost a potential agricultural production capability equivalent to a total of 6.1 million tonnes of wheat, with large regional variations. This is a far from insignificant figure, given the levelling off of agricultural productivity increases that has already been experienced and the fact that, to compensate for the loss of one hectare of fertile land in Europe, it would be necessary to bring into use an area up to ten times larger in another part of the world.

This trend is likely to continue unless several factors are addressed:

**Land use:** the growth in world population, the rising consumption of meat and dairy products in the emerging economies, and the increased use of biomass for energy and other industrial purposes, will all lead to increased global land use and potential soil degradation. At the same time, weather events linked to climate change, desertification and land take for urbanisation and infrastructure will exacerbate this trend. This matters to Europe because competition for land and water resources creates serious risks of geopolitical imbalances. In addition, land degradation leads to a global decrease in the amount of multi-functional land. The EU will thus be even more dependent in future on its finite land resources – which include some of the most fertile soils in the world – and on their sustainable use.

**Preservation of soil organic matter:** EU soils contain more than 70 billion tonnes of organic carbon, which is equivalent to almost 50 times our annual greenhouse gas emissions. However, intensive and continuous arable production may lead to a decline of soil organic matter. In 2009, European cropland emitted an average of 0.45 tonnes of CO<sub>2</sub> per hectare (much of which resulted from land conversion). The conversion of peatlands and their use is particularly worrying. For instance, although only 8% of farmland in Germany is on peatland, it is responsible for about 30% of the total greenhouse gas emissions of its whole farming sector<sup>40</sup>. However, with appropriate management practices, soil organic matter can be maintained and even increased. Apart from peatlands, particular attention should be paid to the preservation of permanent pastures and the management of forests soils, as carbon age in the latter can be as high as 400-1,000 years. **Keeping carbon stocks is thus essential for the fulfilment of present and future emission reduction commitments of the EU.**

A more efficient use of resources: agriculture is highly dependent on soil fertility and nutrients availability. For example, it used 20-30 million tonnes of phosphorus annually over the last thirty years, largely coming from outside the EU. Phosphate fertilisers used in the EU do contain cadmium impurities, which accumulate in soil. At the same time, large amounts of manure, bio-waste and sewage sludge are produced every year, and are sometimes disposed of despite the fact that they contain nutrients and organic matter. A way forward to address security of supply, improve soil conditions and limit cadmium pollution is to **ensure a proper collection, treatment and use of these wastes and residues.**

These challenges and the fact that soil degradation in Europe continues, make it important that the EU improves the way in which it deals with soil-related issues, particularly in the absence of Union legislation. Whilst the Soil Thematic Strategy has helped raise the profile of these issues, there is **still no**

## **systematic monitoring and protection of soil quality across Europe some five years after its adoption**

. This means that knowledge about the status and quality of soils remains fragmented and soil protection is not undertaken in an effective and coherent way in all Member States.

**Continuing activities:** for its part, the Commission is continuing with the following activities in line with the Strategy:

- **Awareness raising initiatives** (e.g. conferences, publications, public campaigns), training for young researchers, integration of soil and soil protection aspects in EU- funded information and training events, and specific soil deliverables for the rotating Presidencies of the Council (e.g. information material on national soil types).
- **Supporting research projects**, particularly in the areas of landslides, soil sealing, soil functions and their link to biodiversity, the soil carbon and nitrogen cycles (with a focus on peatland restoration), soil fertility, and nutrients recycling in agriculture. Continuing to expand the activities of the European Soil Data Centre which hosts soil data and information at European level.
- To **consolidate harmonised soil monitoring** for a variety of purposes, including food security and safety, diffuse contamination, and climate change adaptation and mitigation, the Commission is considering repeating soil investigations at regular intervals (five-ten years), also by using new remote-sensing techniques. This harmonised monitoring will be implemented in synergy with Decision No 280/2004/EC (Monitoring Mechanism Decision) currently being revised. The Global Monitoring for Environment and Security (GMES) programme (Regulation (EU) No 911/2010) will also be a source of information, particularly on soil sealing.
- **Further integration of soil protection in different policies:** the Commission is developing a European Innovation Partnership on Agriculture Productivity and Sustainability with a particular focus on land management, including the efficient use of resources and sustainable use of agricultural soil. It will work in the context of the [EU Biodiversity Strategy](#) to 2020 to improve knowledge and raise awareness about soil biodiversity. It is actively engaged with Member States in discussing the soil- related measures in the [Resource Efficiency Roadmap](#), the CAP and Regional Policy. Lastly, it will finalise guidelines on how to limit, mitigate and compensate soil sealing, which will support the development of the Blueprint to Safeguard Europe's Water and be used in the implementation of Cohesion Policy.

**Legislation:** the Commission in 2012 will review the Environmental Impact Assessment Directive, which will provide an opportunity for better integrating soil concerns at an early stage of project planning. Furthermore, it will consider how to devise incentives to reduce carbon emissions and maintaining soil organic matter by accounting for the land use, land use change and forestry (LULUCF) sector as part of the EU's climate change commitment for 2020.

**International level:** the **Commission will** promote the establishment of an inter-governmental panel on soils in the context of the FAO-sponsored Global Soil Partnership. Along with Germany and the Secretariat of the United Nations Convention to Combat Desertification (UNCCD), the Commission is actively supporting an initiative on the economics of land degradation to set out incentives for investment in sustainable land management policies. In addition, it will assess the desirability of declaring the EU an affected party under that Convention.