



**COUNCIL OF
THE EUROPEAN UNION**

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NOTE

from : General Secretariat
to : Delegations

Subject : Outcome of the Conference on soil and climate change (Brussels, 12 June 2008)
- Information by the Commission

Delegations will find annexed information from the Commission on the above subject, which will be dealt with under "other business" at the meeting of the Council (Environment) on 20 and 21 October 2008.

Information concerning the Conference
Climate change – can soil make a difference?
12 June 2008, Brussels

The Conference was organised by the European Commission to highlight the link between soil and climate change. Approximately 300 people attended, making up a varied audience composed of policy-makers, civil servants from national and regional administrations, researchers, lobbyists and Commission officials.

The Chairman, Mr Luc Gnacadja (Executive Secretary of the United Nations Convention to Combat Desertification), reminded the audience that very low soil organic matter levels is one of the key factors that contribute to desertification, and that the consequences of desertification are devastating for the lives of so many of the world's poorest people.

The Environment Commissioner, Mr Stavros Dimas, stressed that soil organic matter is a major contributor to soil fertility and is the second biggest carbon pool on the planet after the oceans. There are more than 70 billion tonnes of organic carbon stored in EU soils alone, an enormous quantity especially in comparison to annual total Member State emissions of about 2 billion tonnes.. Scientific evidence strongly suggests soil carbon is being lost and the EU needed to recognise this and take action as a means of mitigating global warming, diminishing desertification risks and sustaining agricultural production.

The leading scientists invited presented the results of their research and conveyed the following key messages.

Adopting sound soil management practices, maintaining and, where possible, increasing carbon in soil can help to offset fossil fuel emissions. Despite some limitations and uncertainties, soil carbon sequestration is beyond doubt a globally significant climate mitigation measure as agricultural/soil-carbon management strategies are cost-competitive with mitigation measures in other sectors.

In order to mitigate greenhouse gas emissions from soils and to improve the functioning of soil as a carbon pool, emissions of carbon dioxide, methane and nitrous oxide should first be reduced. This is particularly relevant for drained peatlands and intensively managed agricultural land, as preserving existing carbon stocks could be more effective than trying to create new ones. Secondly, carbon should be sequestered permanently in the form of stable humus. Thirdly, fertility should be enhanced by, inter alia, putting more organic residues into the soil. Finally, soil resilience should be ensured by improving water holding capacity and erosion control.

The adoption of recommended agricultural practices (e.g. no-till in conjunction with mulching and cover cropping, integrated nutrient management to create a positive nutrient budget, crop rotation, use of compost and other soil improvers) can sequester carbon in soil at a rate of 200 to 1 000 kg/ha/y with a total potential of between 70 and 190 million tonnes for western Europe over a number of years. At worldwide level, the potential carbon sink capacity of terrestrial ecosystems is estimated to be equivalent to offsetting about 50 parts per million of atmospheric carbon dioxide (currently in the region of 380 parts per million).

It was stressed that emissions or reduced emissions over the next 10 to 20 years will determine the level of temperature increase – from +2 to +6°C or more – that the world will experience by 2100. Since the benefits from carbon sequestration in soils can be accrued in this relatively short term as long as action is taken now, an urgent need was expressed to quantify where and to what extent European soils are losing organic matter. The scientists underlined that all sectors of human activities – land use, land-use change, forestry (LULUCF) and agriculture included – had to contribute, hence the importance of sound soil management practices to maintain or increase soil organic matter.

The panel members echoed and built on the scientific contributions made in the first part of the Conference.

Ms Nathalie Kosciusko-Morizet (French Minister of State for Ecology) was of the opinion that soil should be included as a mandatory accounting category for industrialised countries in any post-Kyoto agreement and that the CAP should address climate change aspects further and enable farmers to take climate change considerations fully into account.

Mr Janez Podobnik (Minister of the Environment and Spatial Planning of Slovenia and President of the Environment Council) wondered whether Community measures to reduce the impact of climate change should not include permanent monitoring of reference areas and measures for sound soil management in an effort to preserve and increase the capacity of soil to capture carbon dioxide.

Mrs Þórunn Sveinbjarnardóttir (Minister for the Environment of Iceland) stressed the interrelations between the Convention to Combat Desertification, the Framework Convention on Climate Change, the Convention on Biodiversity, and food security, especially in less developed countries. Carbon in soils is the fundamental ingredient of soil fertility and is a vital part in the role of soils in ecosystem services, such as water retention.

Mr Humberto Rosa (State Secretary for the Environment of Portugal) and Mr Vittorio Prodi (Vice-President of the Temporary Committee on Climate Change of the European Parliament) made passionate pleas in favour of soil protection, the importance of soil organic matter and the need to adopt the Soil Framework Directive as soon as possible, since European legislation was necessary in this field.

Mr Staffan Nilsson (European Economic and Social Committee) recalled the opinion adopted by his Institution in favour of European legislation on soil protection, despite the intense lobbying by farmers' organisations. He mentioned the importance of good quality organic improvers and sewage sludge for maintaining sufficient soil organic matter levels.

In conclusion, the main messages from the Conference can be summarised as follows:

- **Soil is both part of the problem and of the solution for climate change.** It is imperative to support land use practices that help to maintain and increase soil organic matter levels; preserving and restoring existing carbon stocks (e.g. in grassland and peatland) might be more effective than trying to create new ones.
- **The quantification of where and to what extent European soils are losing organic matter must be a priority for EU action.** Identifying and quantifying soil organic matter losses is a fundamental precondition for effective soil carbon accounting, for assessing soil greenhouse gas balances and trends, for effective climate change policy and for implementation of soil protection measures.
- Soil degradation, particularly soil organic matter loss, has transboundary effects, and thus **there is a need for a common European legislative framework** to tackle this phenomenon, to maintain and restore soil fertility and fight climate change.
- It is clear that the EU (and the world) has to adapt to climate change and that **soil has a crucial role to play to secure food and other social, economic and environmental services against negative climatic conditions.**

The speeches and the presentations made at the Conference, together with a Report summarising the discussion, are available on the web site of the European Commission at

http://ec.europa.eu/environment/soil/conf_en.htm.