4/10 of a % increase

4 per 1000 - Soils for food security and climate



Understand the "4 per 1000" initiative

4 PER 1000 CARBON SEQUESTRATION IN SOILS FOR FOOD SECURITY AND THE CLIMATE

The quantity of carbon contained in the **atmosphere** increases by 4.3 billion tons every year bn tons carbon vear CO₂ emissions Forests $\Theta\Theta$ Oceans $\Theta\Theta$ Human activities ⊕⊕⊕⊕ Deforestation **⊕ ⊖** absorption **⊕** emission

1500 billion tons of carbon in the form of organic material absorption of CO₂ by plants storage of organic carbon in soils bn tons carbon

The world's **soils**

contain

If we increase by 4‰ (0.4%) a year the quantity of carbon contained in soils, we can halt the annual increase in CO₂ in the atmosphere, which is a major contributor to the greenhouse effect and climate change



farmlands, meadows, forests...



= more fertile soils= soils better able to cope with the effects of climate change



The 4‰ Initiative, launched by France, sets out to bring together all willing contributors in the public and private sectors (national governments, local and regional government, companies, trade organisations, NGOs, research facilities, and others) under the framework of the Lima-Paris Action Agenda (LPAA).

The aim of the Initiative is to demonstrate that agriculture, and agricultural soils in particular, can play a crucial role where food security and climate change are concerned.

Based on robust scientific evidence, the Initiative therefore invites all partners to declare or to implement practical programmes for carbon sequestration in soil and the types of farming methods used to promote it (e.g. agroecology, agroforestry, conservation agriculture, landscape management).

The goal of the Initiative is to engages stakeholders in a transition towards a productive, resilient agriculture, based on a sustainable soil management and generating jobs and incomes, hence ensuring sustainable development.



All the stakeholders commit together in a voluntary action plan to implement farming practices that maintain or enhance soil carbon stock on as many agricultural soils as possible and to preserve carbon-rich soils.

Every participant giving such undertakings by signing the joint declaration must state the target it has set for itself, the types of action taken, the relevant timetable and the dedicated resources.

All partners joining the programme and signing the joint declaration will be invited to participate in the official launch of the Initiative during COP21, on 1 December, as part of the Lima-Paris Action Agenda (LPAA).



A "4%" annual growth rate of the soil carbon stock would make it possible to stop the present increase in atmospheric CO2.

This growth rate is not a normative target for every country but is intended to show that even a small increase in the soil carbon stock (agricultural soils, notably grasslands and pastures, and forest soils) is crucial to improve soils fertility and agricultural production and to contribute to achieving the long-term objective of limiting the temperature increase to +1,5/2°C, threshold beyond which the IPCC indicates that the effects of climate change are significant.

This initiative is intended to complement the necessary efforts to comprehensively reduce global greenhouse gas emissions.n.



Primarily composed of carbon, the organic matter in soils plays a role in four important ecosystem services: resistance to soil erosion, soil water retention, soil fertility for plants and soil biodiversity.

Even small changes of the soil carbon pool have tremendous effects both on agricultural productivity and on global greenhouse gas cycle.

Why is it important?

Maintaining organic carbon-rich soils, restoring and improving degraded agricultural lands and, in general terms, increasing the soil carbon, play an important role in addressing the three-fold challenge of food security, adaptation of food systems and people to climate change, and the mitigation of anthropogenic emissions. **To achieve this, concrete solutions do exist and need to be scaled up.** What are they?

Find out more

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