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

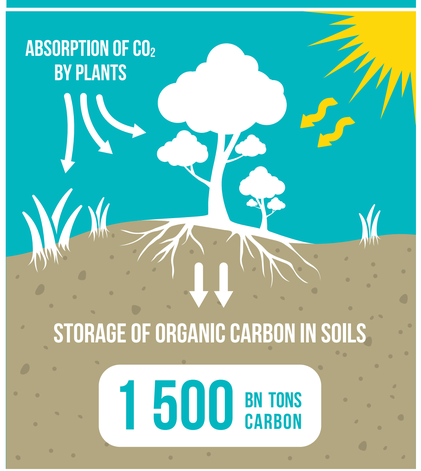
+4.3
BN TONS CARBON / YEAR

CO_2 EMISSIONS

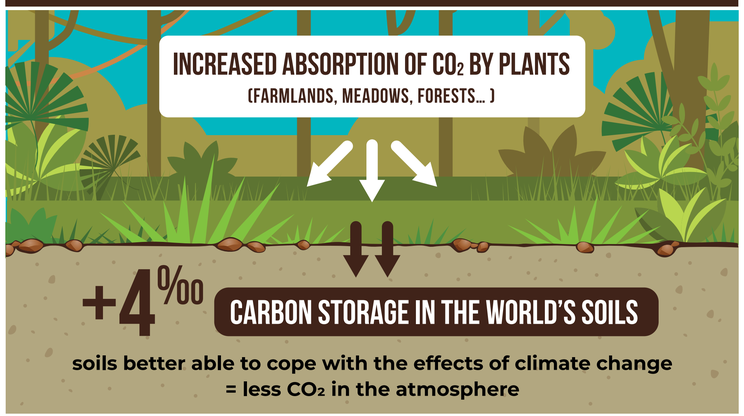
HUMAN ACTIVITIES (+ + + +) | DEFORESTATION (+) | FORESTS (- -) | OCEANS (- -)

(+) EMISSION (-) ABSORPTION Values: Le Quéré et al. 2014

The world's soils contain **1 500 BILLION TONS OF CARBON** in the form of organic material



While pursuing the indispensible effort to decrease drastically the green house gases (GHG) emissions due to human activities, increasing soil organic carbon sequestration could make a substantial contribution to GHG mitigation efforts. A theoretical annual increase of the world soil organic carbon stock by 0.4% of its value would be larger than the 2015 annual increase in CO_2 in the atmosphere, which is a major contributor to the greenhouse effect and climate change: **this is the origin of the "4 per 1000" title of this initiative.**



HOW CAN SOILS STORE MORE CARBON?

The more soil is covered, the richer it will be in organic material and therefore in carbon. Until now, the combat against global warming has largely focused on the protection and restoration of forests. In addition to forests, we must encourage more plant cover in all its forms.

- Never leave soil bare and work it less, for example by using no-till methods
- Introduce more intermediate crops, more row intercropping and more grass strips
- Add to the hedges at field boundaries and develop agroforestry
- Optimize pasture management with adapted grazing periods and rotations
- Restore land in poor condition e.g. the world's arid and semi-arid regions
- Improve water and fertilizers management and use organic fertilizers and compost

" This international initiative can reconcile the aims of food security and the combat against climate change, and therefore engage every concerned country in COP21. "

Stéphane Le Foll,
Vice Chair of the "4 per 1000" Initiative Consortium and former French Minister of Agriculture, Agrifood and Forestry