



Funded by
the European Union

**EU MISSIONS:
concrete solutions
for our greatest
challenges**

**Mission “A Soil Deal for Europe”: 100 living labs and
lighthouses to lead the transition towards healthy soils
by 2030**

Dr Guillermo Cardon

European Commission - DG Agriculture and Rural Development

Unit F2 Research and Innovation – Mission Soil Secretariat



Funded by
the European Union

Missions: a new instrument under the EU R&I Framework Programme Horizon Europe (2021-2027) to address major societal challenges

A mission is a portfolio of actions across disciplines intended to achieve a **bold and inspirational and measurable goal** within a set timeframe, with **impact** for society and policy making as well as relevance for a significant part of the European population and wide range of European citizens.

Adaptation to
Climate Change



Cancer



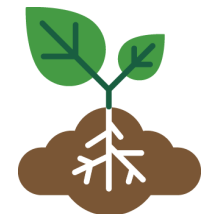
Climate-neutral
and Smart Cities



Restore our
Ocean and Waters



Soil Deal
for Europe



Officially launched on 29/9/2021



Funded by
the European Union



Why a mission on soil health?

- Healthy soils are the **basis for nutritious and safe food.**
- Soils deliver **vital, interconnected ecosystem functions**
 - water purification and regulation (protection from droughts and floods)
 - hosting biodiversity
 - nutrient cycling
 - climate mitigation and adaptation
 - range of cultural services
- Soil is a **scarce, non-renewable resource.**
- **Soils are threatened: 60-70% of soils in Europe are considered to be unhealthy** due to current management practices, pollution, urbanisation and the effects of climate change.



Funded by
the European Union

We need to act now!

Soils need our attention! EU Examples:

- 2.8 million potential **contaminated sites** (only 24% inventoried) posing major health risks
- 65-75% of agricultural soils with **nutrient inputs** at levels risking **eutrophication of soils and water** and affecting biodiversity
- Cropland soils **losing carbon** at a rate of 0.5% per year; 50% of peatlands drained and losing carbon – this is contributing to the climate crisis
- 24% of land with **unsustainable water erosion rates**
- 25% of land at high or very high risk to **desertification** in Southern, Central and Eastern Europe in 2017
- The **costs associated with soil degradation in the EU exceed 50 billion € per year**

The effects of climate change put further pressure on soils and accelerate land degradation!



Funded by
the European Union

The Soil Mission supports a number of European Green Deal strategies and policies that promote soil health

- Farm to Fork Strategy
- EU Biodiversity Strategy for 2030
- Climate Adaptation Strategy
- Forest Strategy
- Zero Pollution Action Plan for air, water and soil
- Organic Action Plan
- Long term vision for rural areas
- Common Agricultural Policy
- **New EU Soil Strategy for 2030 (adopted 17/11/2021)**

Examples of soil-relevant Green Deal Targets

By 2030

- 25% of land under organic farming
- Reduce the overall use and risk of chemical pesticides by 50% and the use of more hazardous pesticides by 50%
- Reduce fertilizer use by at least 20%
- Reduce nutrient losses by at least 50%
- Reduce by 30% microplastics released into the environment
- Reduce net greenhouse gas (GHG) emissions by at least 55% compared to 1990 levels.

By 2035

- the EU should aim to reach climate neutrality in the land use, forestry & agriculture sectors



Funded by
the European Union

The new EU Soil Strategy for 2030

- It sets out a framework and concrete measures to **protect and restore soils**, and ensure that they are **used sustainably**.
- It sets a vision and objectives to achieve **healthy soils by 2050**, with **concrete actions by 2030**.
- It also announces **a new Soil Health Law by 2023** to ensure a level playing field and a high level of environmental and health protection.

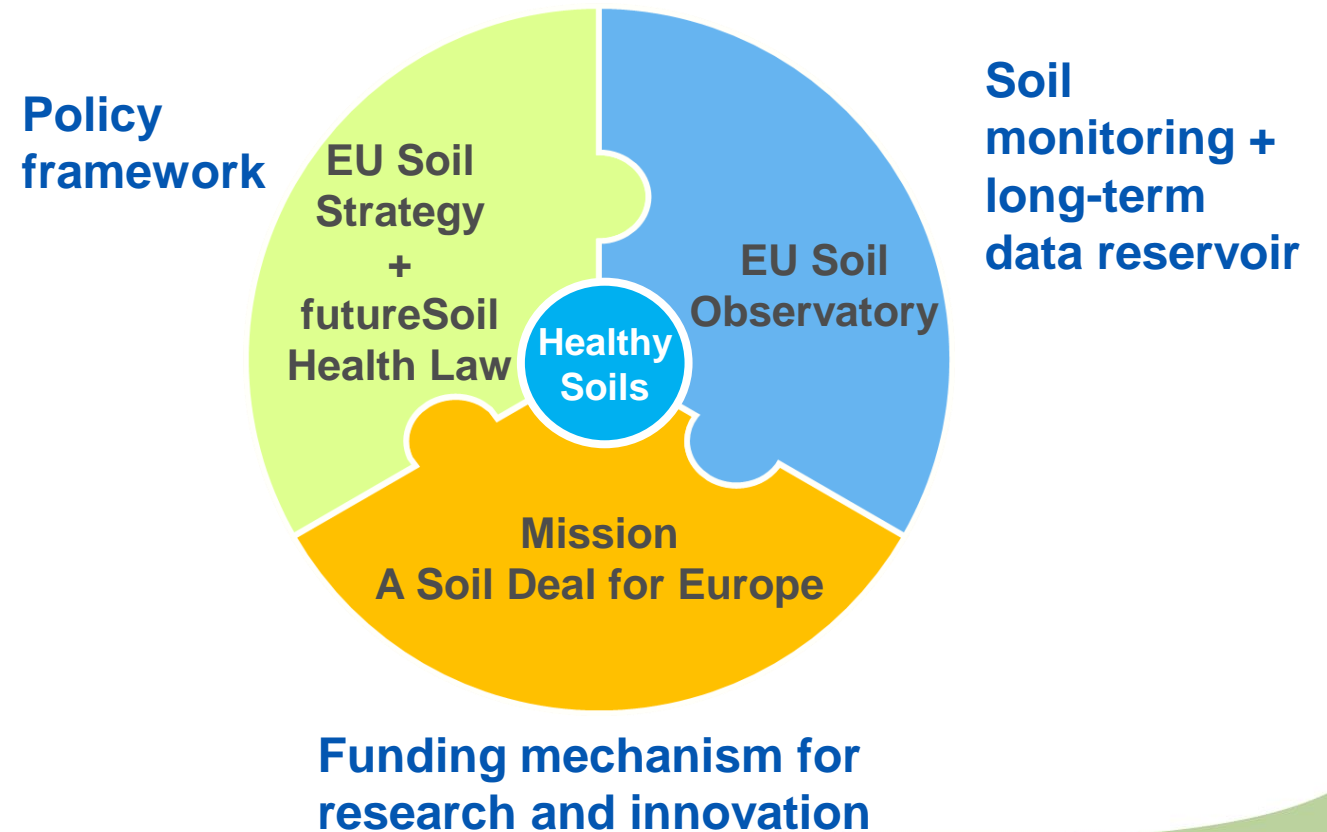
Increasing research, data and monitoring on soil is one of the key actions of the strategy



Funded by
the European Union

Europe's pathway to healthy soils

Soil Strategy and upcoming Soil Health Law (2023), European Soil Observatory and Mission together build an **effective framework for soil protection and restoration**





Funded by
the European Union

Goal of mission “A Soil Deal for Europe”: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

Specific objectives

1. Reduce desertification

2. Conserve soil organic carbon stocks

3. Stop soil sealing and increase re-use of urban soils

4. Reduce soil pollution and enhance restoration

5. Prevent erosion

6. Improve soil structure to enhance soil biodiversity

7. Reduce the EU global footprint on soils

8. Improve soil literacy in society



Each specific objective is backed by **one or more quantified targets** and **measurable indicators**. Objectives apply to **all types of land use**.

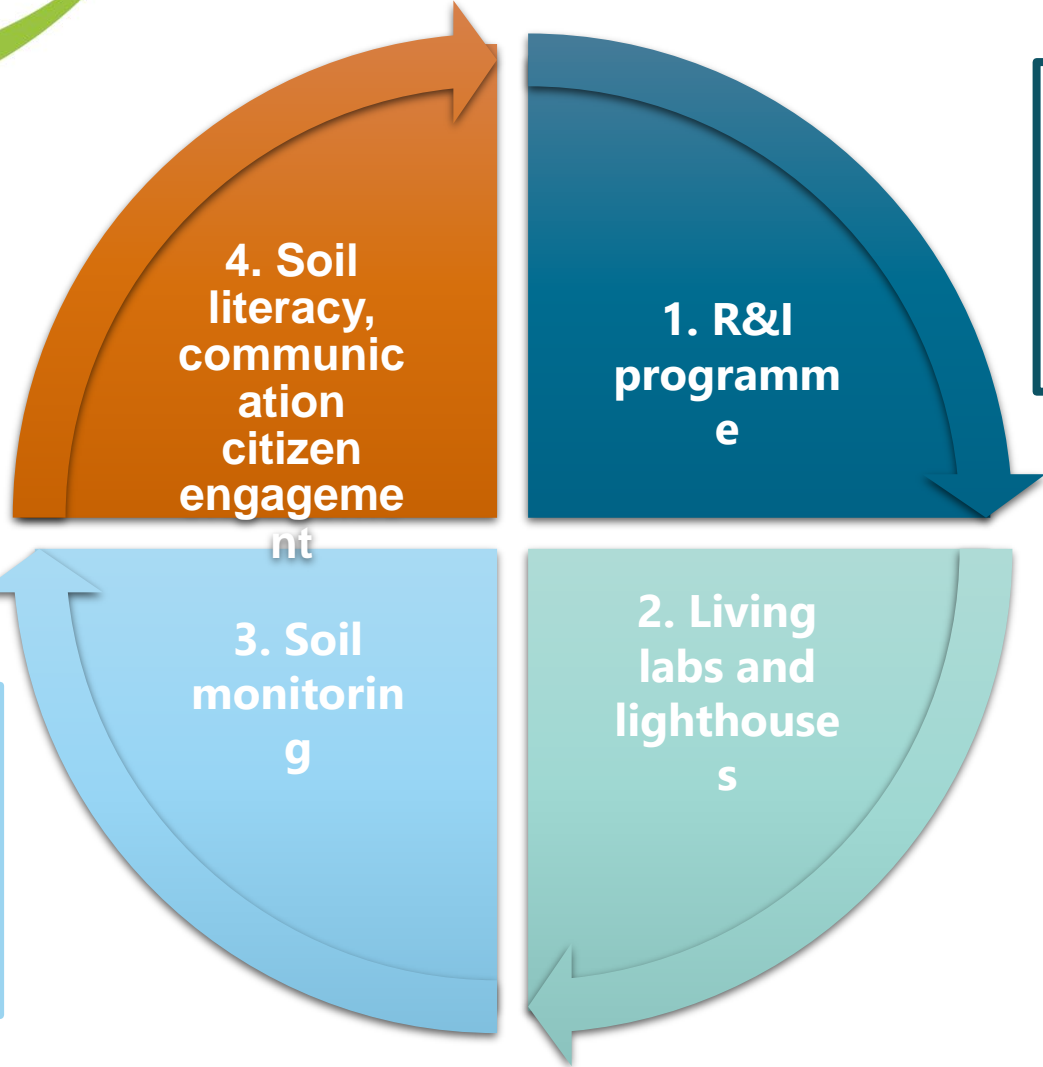


Funded by the European Union

How will the mission be implemented?

Communication, training and advise targeted to different target groups; specialised "soil advisors"

Harmonization of soil health monitoring and reporting across Europe; contribution to European Soil Observatory



Knowledge, data, technologies and infrastructures to support practices and business models for soil health

A comprehensive network of real-life sites for co-creating, testing, demonstrating and upscaling of solutions

Co-implementation of mission by: researchers, land managers, regions, businesses, policy makers, citizens and international partners



Activities under the **four building blocks** to address **soil health** and the **drivers of soil health**

320m€ funding for 2021 - 2023



Funded by
the European Union

Living Labs and Lighthouses

- **Living labs are real-life sites in rural or urban areas in which people from various sectors and backgrounds experiment and test solutions in a co-creative manner.**
 - Each living lab contains a cluster of 10 – 20 sites (e.g. farms) working together at regional or sub-regional level.
 - Specific criteria for living labs have been developed under the mission to ensure common approach and comparability of data and experiences.
- **Lighthouses are sites of exemplary performance** with regards to a certain practice
 - They are individual sites, such as a single farm, to showcase good practices.
 - They are places for demonstrations, training and communication.

Living labs and lighthouses are key to accelerate the adoption of sustainable practices by users and co-developed methods adapted to the local conditions





Funded by
the European Union

International dimension of the Soil Mission

Soil degradation is a global issue which goes hand in hand with an overall decline in environmental quality and threatens the livelihoods of millions of people around the world

The soil mission will significantly contribute to:

- reaching the targets of the **Sustainable Development Goals (SDGs)**
- the implementation of the **EU international commitments** towards Biodiversity, Climate Change, Nutrition, Hunger and Poverty Eradication





Funded by
the European Union

The Soil Mission and international cooperation

- The soil mission is part of Horizon Europe, therefore **participation in calls in general open to the world** and any proposal can include international partners, albeit under a variety of conditions.
- **WP topics can also specifically recommend or request international cooperation:** topic “Building an International Research Consortium on (agricultural) soil carbon” (WP 2021 HE-CL6)
- International cooperation through ‘**twinning**’ of **Horizon Europe projects with projects funded by third country partners** is also possible.
- Significant interest of international partners in linking up with the mission.





Funded by
the European Union

Call – Research and Innovation and other actions to support the implementation of the soil mission (Soil Mission Work Programme 2022)

Opening date: **12 May 2022**

Deadline date: **27 September 2022** 17:00:00 Brussels time

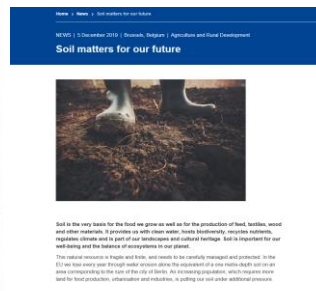
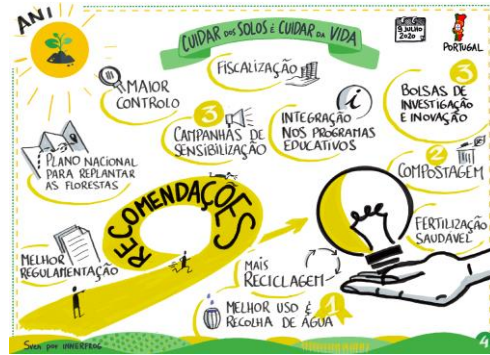
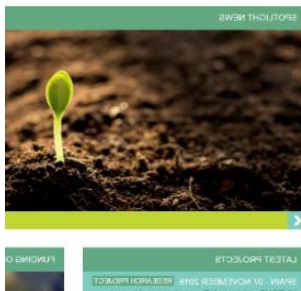
Overall indicative budget: EUR 95 million

	Topics
2022-SOIL-01-01	Building the mission's knowledge repository and advancing the European Soil Observatory (Innovation Action - IA)
2022-SOIL-02-02	Improving food systems sustainability and soil health with food processing residues (Research and Innovation Action - RIA)
2022-SOIL-02-03	Soil biodiversity and its contribution to ecosystem services (RIA)
2022-SOIL-02-04	Remediation strategies, methods and financial models for decontamination and reuse of land in urban and rural areas (RIA)
2022-SOIL-02-05	Monitoring, reporting and verification of soil carbon and greenhouse gases balance (RIA)
2022-SOIL-02-06	Network on carbon farming for agricultural and forest soils (Coordination and Support Action - CSA)
2022-SOIL-02-07	Foster soil education across society (RIA)
2022-SOIL-02-08	Framework Partnership Agreement (FPA) for a Living Lab network support structure
2022-SOIL-02-09	Citizen science for soil health (RIA)
2022-SOIL-02-10	Innovations for soil improvement from bio-waste (IA)



Funded by
the European Union

Soil literacy, communication and engagement



- 200+ co-creation and engagement events from Sept. 2019 to March 2022
 - including 3 International fairs (International Green Week 2020, Salon de l'Agriculture 2020-22), EUSO stakeholder forum 2021, F2F Conference 2021 (600+ participants), Citizen engagement conference in 2022 in Paris, and global events (e.g. FAO World Soil Day 3 Dec. 2021, GFFA 2022 session)
 - **Upcoming: Mission Info days 17-18 May 2022, R&I days 28-29 Sept. 2022**
- 2 #EIPAgriSoil campaigns; new one planned in 2022
- Articles, press releases, newsletters, social media, 4 videos
- **New factsheet on Living Labs and Lighthouses**
- Podcast episodes in the European podcast series *Behind the Scenes* (EU research and innovation) and *Food for Europe*
- Soil health results pack
- Interactive games for kids and composting training for children and adults



Funded by
the European Union

Useful links

- **Mission A Soil Deal for Europe** webpage <http://ec.europa.eu/mission-soil>
- **Mission A Soil Deal for Europe** Implementation Plan https://ec.europa.eu/info/files/eu-mission-soil-deal-europe-implementation-plan_en
- **Mission A Soil Deal for Europe** factsheet <https://op.europa.eu/en/publication-detail/-/publication/90779d7a-227c-11ec-bd8e-01aa75ed71a1/language-en/format-PDF/source-232536601>
- **Funding opportunities (open calls)** https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/soil-health-and-food_en#funding-opportunities
- **Press release –Missions launch:** https://ec.europa.eu/commission/presscorner/detail/en/IP_21_4747
- **EU Missions** https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/missions-horizon-europe_en
- **Video EU Mission “A Soil Deal for Europe”** <https://youtu.be/3hPIZqwwhhM>
- **Behind the Scenes** podcast episode *A blossoming career as a soil keeper* <https://play.acast.com/s/behind-the-scenes-conversations-with-researchers-and-innovat/s02e05-a-blossoming-career-as-a-soil-keeper>



Funded by
the European Union

For further information and questions please contact the mission secretariat:

AGRI-SOIL-MISSION-BOARD@ec.europa.eu

#MissionSoil #EUmissions #HorizonEU

THANK
YOU