

# EU mission in the area of Soil health and food



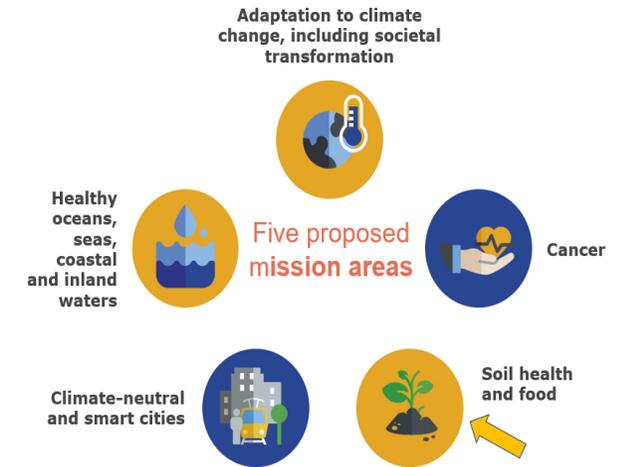
# Horizon Europe Missions

A new instrument under the Horizon Europe research programme to find solutions to major societal challenges and trigger action across instruments and policies;

Five mission areas are proposed – each with about 1bn€ budget for seven years;

Missions consist of a substantial portfolio of coordinated activities, and should

- be **bold and inspirational**, with wide societal relevance;
- indicate a clear direction: **targeted, measurable and time-bound**;
- be **ambitious** but realistic spark innovation **across disciplines, sectors and actors**;
- be based on a **bottom-up approach** of multiple solutions



## The proposed mission by Mission Board Soil health and food



Caring for soil is caring for life

by 2030, at least 75% of all soils in each EU Member State are either **healthy** or show a **significant measurable improvement for all indicators** where levels are below accepted thresholds, to support the provisioning of essential ecosystem services

Board proposes a set of eight indicators for soil health

# The need for a mission on soil health

- Healthy Soils are the **basis for nutritious and safe food**. About 95% of our food is produced on soils.
- Soils deliver **vital, interconnected ecosystem functions**: water regulation, hosting biodiversity, nutrient cycling, climate mitigation and adaptation, carrying landscapes and cultural services.
- Soil is a **scarce, non-renewable resource**: it takes hundreds of years to generate 1 cm of top soil but only a couple of years or less to destroy it.
- **Healthy soils are needed if the Green Deal is going to succeed** (Farm to Fork, Biodiversity, Forestry, Zero Pollution and Climate strategies).
- None of the targets on the reduction of pesticides and nutrients, the conversion to organic farming, a pollution free environment or climate can be achieved without decisive action on soils.

# Why do we have to act now?

Soil is a vital, scarce, yet threatened resource

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**

**60-70% of all soils in Europe are unhealthy** due to current management practices, pollution, urbanisation and the effects of climate change

# What do we want to achieve with this mission?

1. **Reduce land degradation**, including desertification and salinization
2. **Conserve soil organic carbon stocks** (e.g. in forests, permanent pastures, wetlands)
3. **Stop soil sealing** and increase re-use of urban soils
4. **Reduce soil pollution and enhance restoration** (incl. Green Deal targets: at least 25% area of EU farmland under organic agriculture; an additional 5-25% of land with reduced risk from eutrophication, pesticides, anti-microbials and other contaminants);
5. **Prevent erosion and stop erosion** on 30-50% of land with unsustainable erosion rates
6. **Improve soil structure** to enhance habitat quality for soil biota and crops; reduction of high-density subsoils by 30-50%
7. **Reduce by 20-40% the global footprint of EU's food and timber imports** on land degradation
8. Significantly improve **soil literacy** in all Members States

**Mission to address all types of land uses not only agricultural soils!**

# How to achieve the mission goal?

## Interlinked Mission Building Blocks

Communication material, training curricula for different target groups and specialised “soil advisors”

4. Soil literacy, communication citizen engagement

Data infrastructures and platforms; knowledge on soil functions and soil health; management practices, business models, technologies

1. R&I programme



Who will act?

co-implementation of mission by: researchers, land managers, businesses, policy makers, citizens



Indicators for soil health; approaches for measuring, assessing and dynamic monitoring of soil health across Europe

3. Soil monitoring and indicators

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

2. Living labs and lighthouses

# Proposed indicators for soil health

1. Presence of soil pollutants, excess nutrients and salts
2. Soil organic carbon
3. Soil structure including bulk density and the absence of soil sealing and erosion
4. Soil biodiversity
5. Soil nutrients and pH
6. Vegetation cover
7. Landscape heterogeneity
8. Area of forest and other wooded lands



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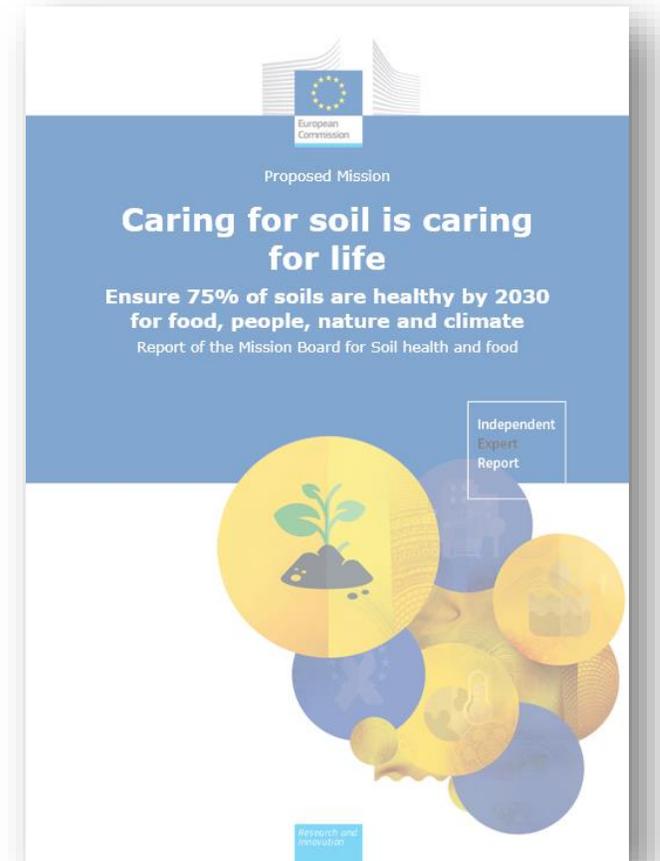
# Next steps



In the meantime what can you do? Spread the gospel and back the mission!

Thank you!  
#MissionSoil  
#EUmissions # HorizonEU

<http://ec.europa.eu/mission-soil>



# Useful links

- **EU mission Caring for soil is caring for life (mission report)**

<https://op.europa.eu/en/publication-detail/-/publication/4ebd2586-fc85-11ea-b44f-01aa75ed71a1/language-en/format-PDF/source-159637857>

- **Video on the Mission on Soil health and food** [https://www.youtube.com/watch?v=53bbzE2lpKc&feature=emb\\_logo](https://www.youtube.com/watch?v=53bbzE2lpKc&feature=emb_logo)

- **Mission report handover to the European Commission (EU R&I Days)**

<https://youtu.be/oAG5-CQIOoc>

- **Soil mission session (EU R&I Days)**

<https://research-innovation-days-conference.online/hubs/mission>

- **On a mission to save our soils - the EU's plan to rebuild the land (Futuris episode, euronews)**

<https://www.euronews.com/2020/09/21/on-a-mission-to-save-our-soils-the-eu-s-plan-to-rebuild-the-land>