



Status of Local Soil Contamination in Europe: current situation and outlook

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- Soil is increasingly recognized as a public good that provides **life critical services** and **resilience** to both natural and man-made systems. Soil is a **limited natural resource, unequally divided** between nations and people.
- **Poor** waste control, inappropriate **land management** and **poor governance** leads to **human-induced soil degradation** and loss of soil functions. **Indirect** (cross border) **soil use** and **climate change exacerbate pressures**.
- **Soil degradation** is a key driver of **poverty, hunger, conflict, land grabbing, mass migration** and **desertification** – highly **evident in SDGs**.



- No comprehensive EU soil legislation: **soil protection is only partly addressed by other EU policies**
- **Absence of EU standards:**
 - ✓ Some MS have a solid legal basis on soil contamination while others do not have national legislation
 - ✓ MS apply their own risk assessment approach
- **Inventory** of soil-related policies at EU and national level **in 2015** launched by the Commission
 - ✓ Review of **35 EU and 671 national policy instruments** across EU-28 Member States
 - ✓ Gap analysis by clusters

http://ec.europa.eu/environment/soil/pdf/Soil_inventory_report.pdf



Policy gaps: general findings

- In **absence** of comprehensive **legislation**, soil is not subject to a coherent set of rules in the EU. No binding EU targets, but some **MS have national values**.
- **Protection and sustainable use of soil is scattered** in different Community policies contributing in various degrees to soil protection.
- **Lack of common definitions** across EU policies
- Some **definitions at global level** (Sustainable Soil Management, LDN) but not binding and not integrated in EU policies
- **No obligation** to monitor contaminants



Policy gaps: local contamination

- **No coordinated approach** to set baselines (except IED), references, targets or priorities
- **Historical activities not covered** – IPCC 1996, IED and ELD 2007 - IED does not cover small installations
- **No EU approach for orphan sites**
- **No unified approach** to identify (potentially) contaminated sites
- **No coherent set of rules** defining liability, responsibilities, thresholds and monitoring

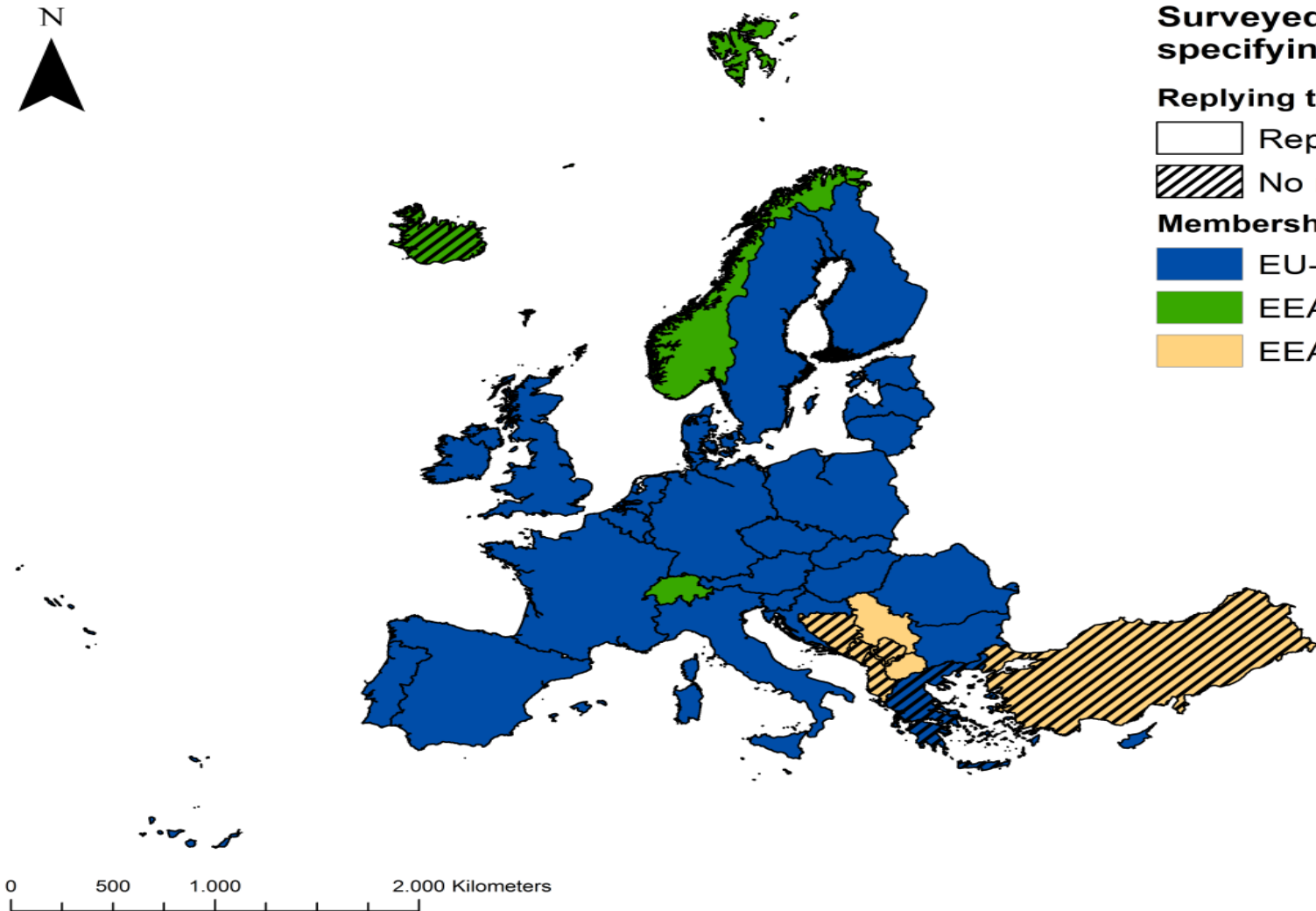
Objectives of the Status Report

To serve as the basis for the revision of the **Indicator “Progress in the management of contaminated sites in Europe”**, summarizing the actual status of **LOCAL** soil contamination and highlighting the differences between countries.

1. **What** is the extent of soil contamination?
2. **How** is Europe dealing with soil contamination? **How** much progress has been achieved in the management and control of local soil contamination?
3. Which sectors contribute most to soil contamination?
4. Which are the main contaminants affecting soil and groundwater in and around contaminated sites?
5. **How** much is being spent on cleaning-up soil contamination? How much of the public budget is being used?



What is the extent of soil contamination



Surveyed and replying countries specifying their membership

Replying to the Questionnaire 2016

□ Replying countries

▨ No replied

Membership

■ EU-28

■ EEA-33

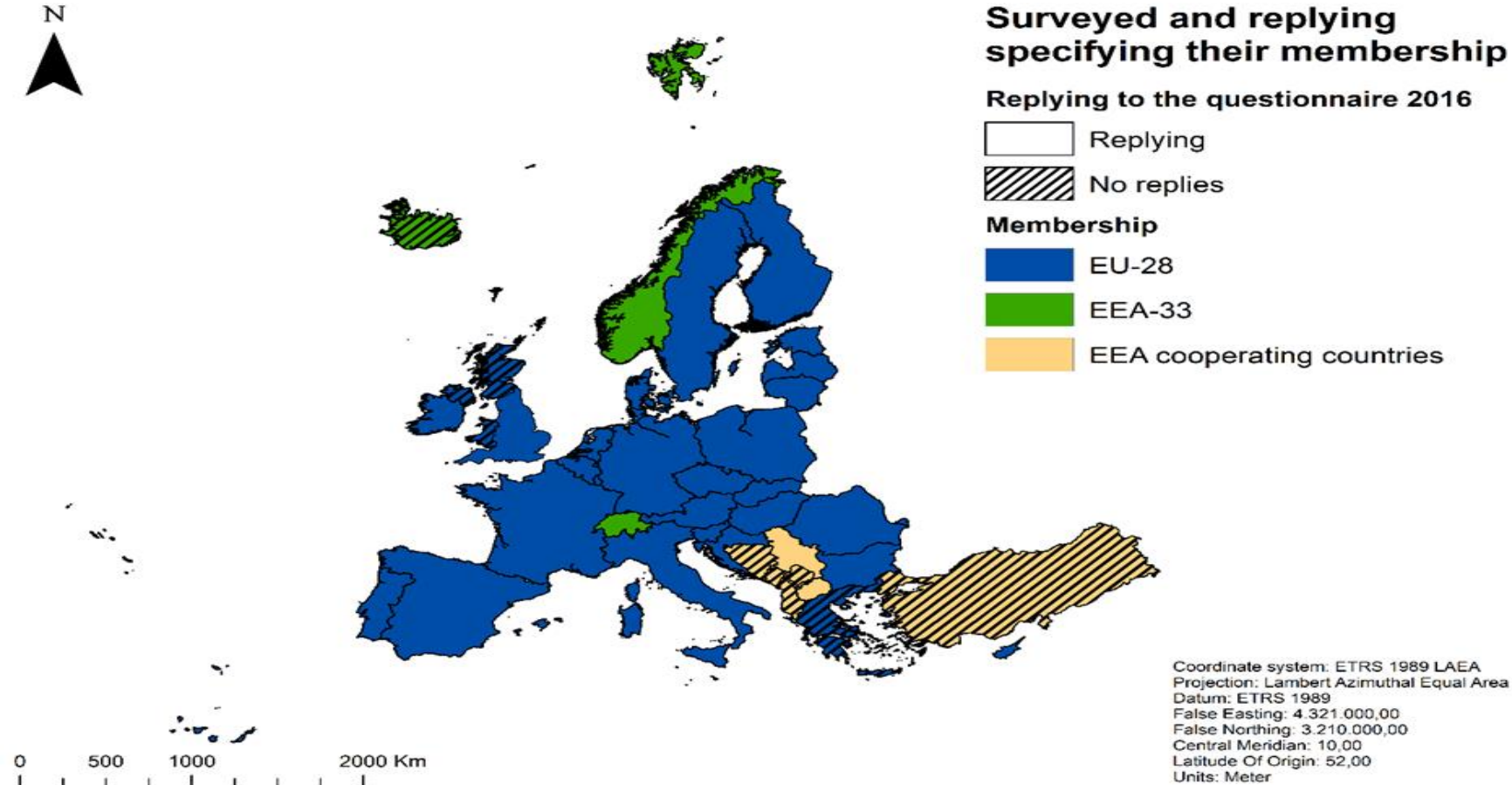
■ EEA cooperating countries

31 of the 39 surveyed countries replied

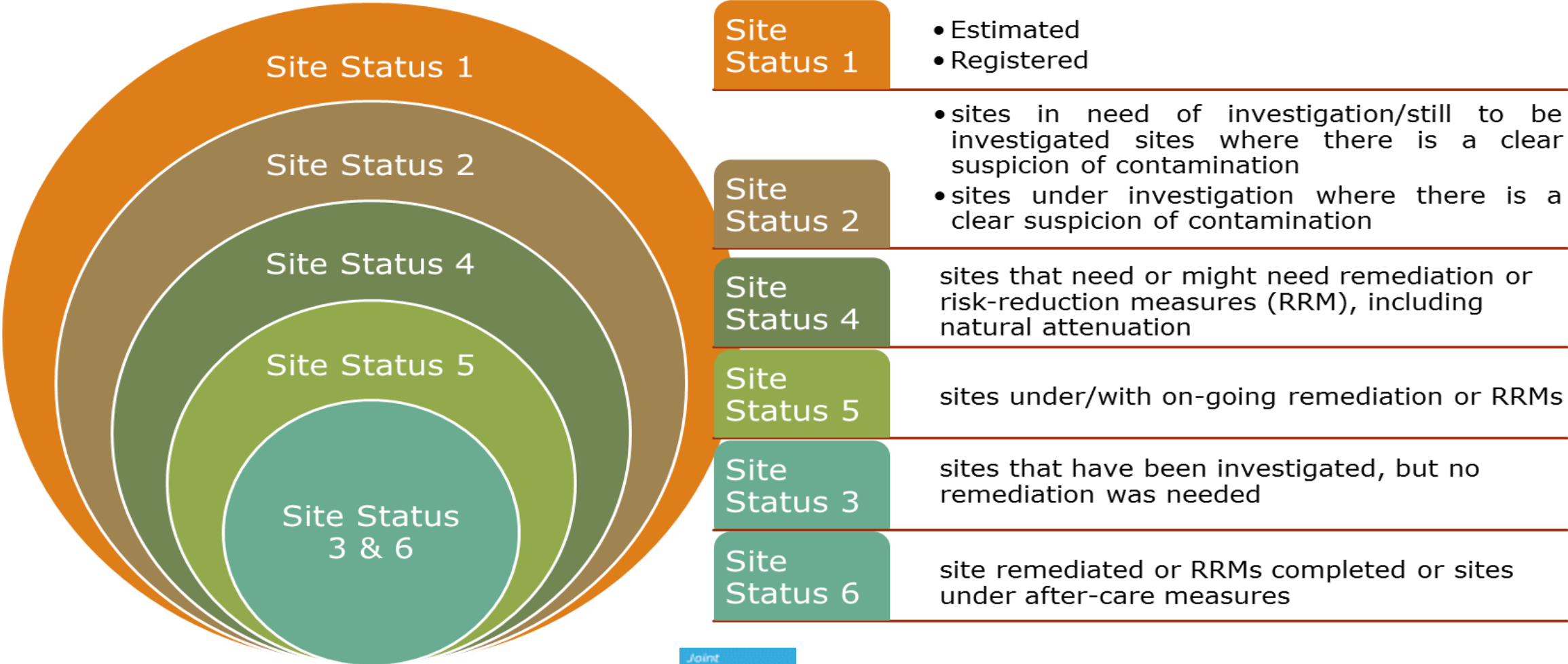
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Projection: Lambert Azimuthal Equal Area
Datum: ETRS 1989
False Easting: 4.321.000,0000
False Northing: 3.210.000,0000
Central Meridian: 10,0000
Latitude Of Origin: 52,0000
Units: Meter

Caution is needed in interpreting the results:

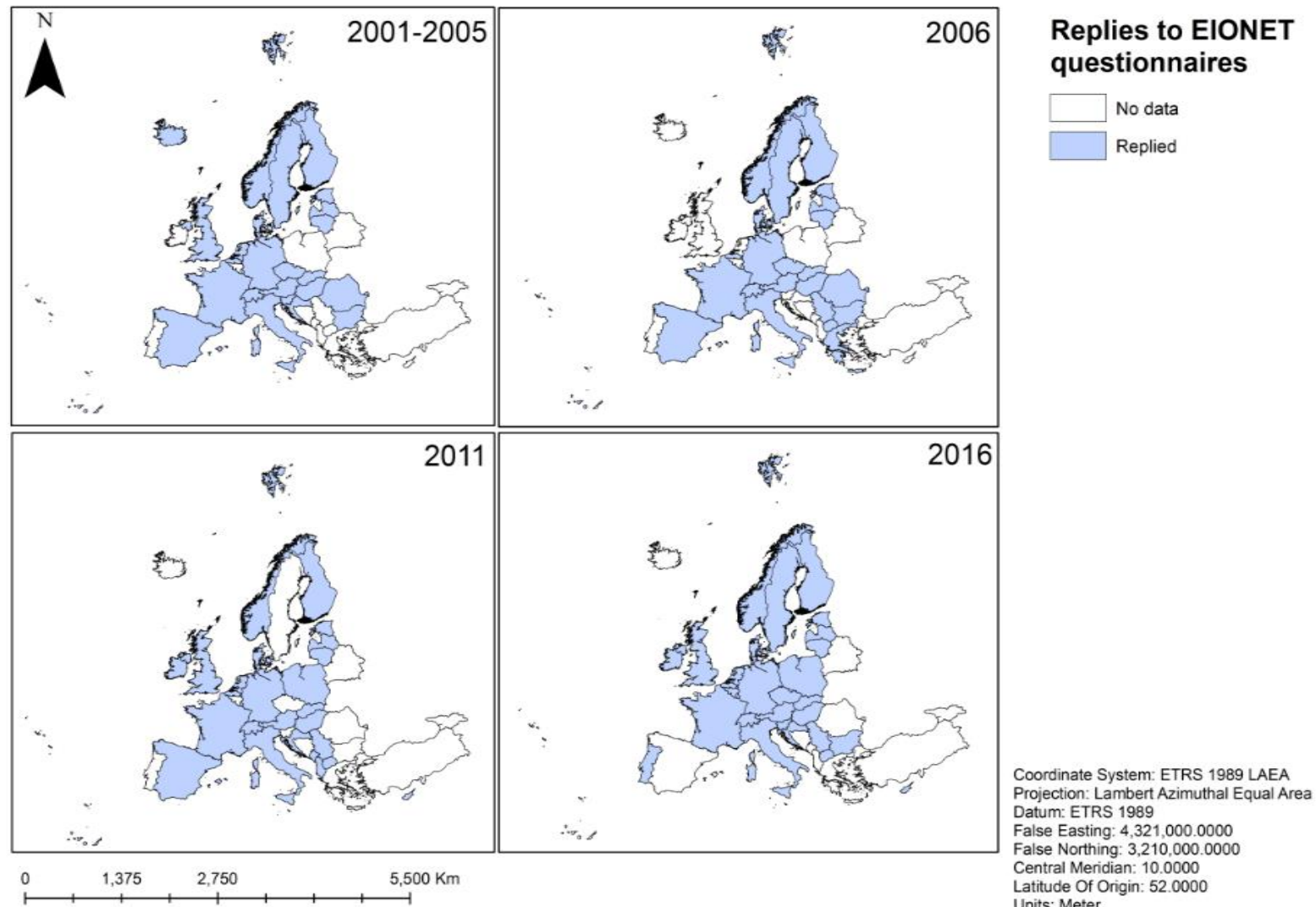
- 1 EU country did not reply (and 7 non EU)
- Not all countries responded to every question.
- Belgium, Italy and UK keep regional management systems and it has been not possible to collect data for all their regions.



New methodology



Trends



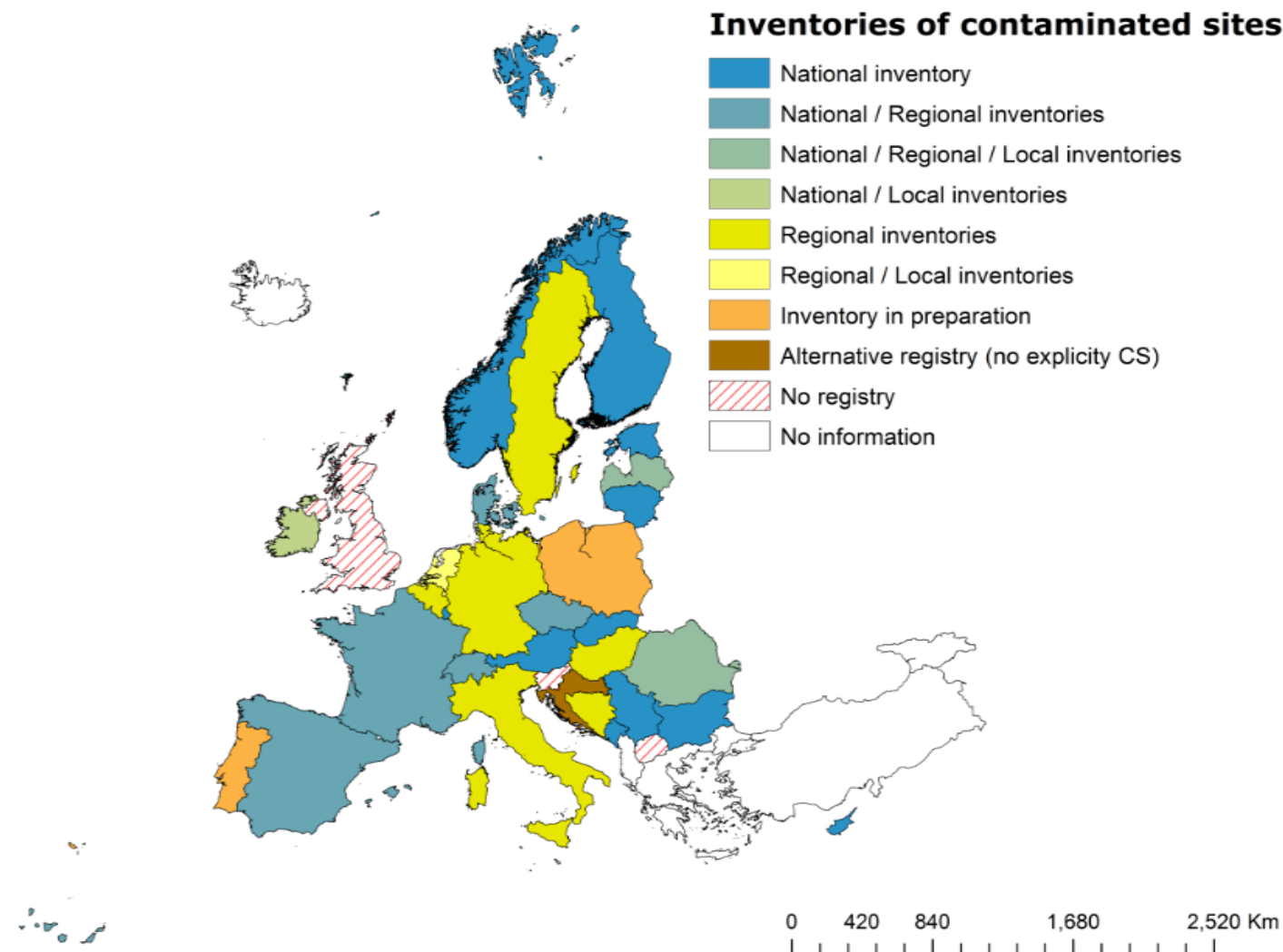
Caution must be taken:

- changes in the concepts of Site Status since the first data compilation (2001),
- changes in consideration of polluting activities
- different data available for each country between years

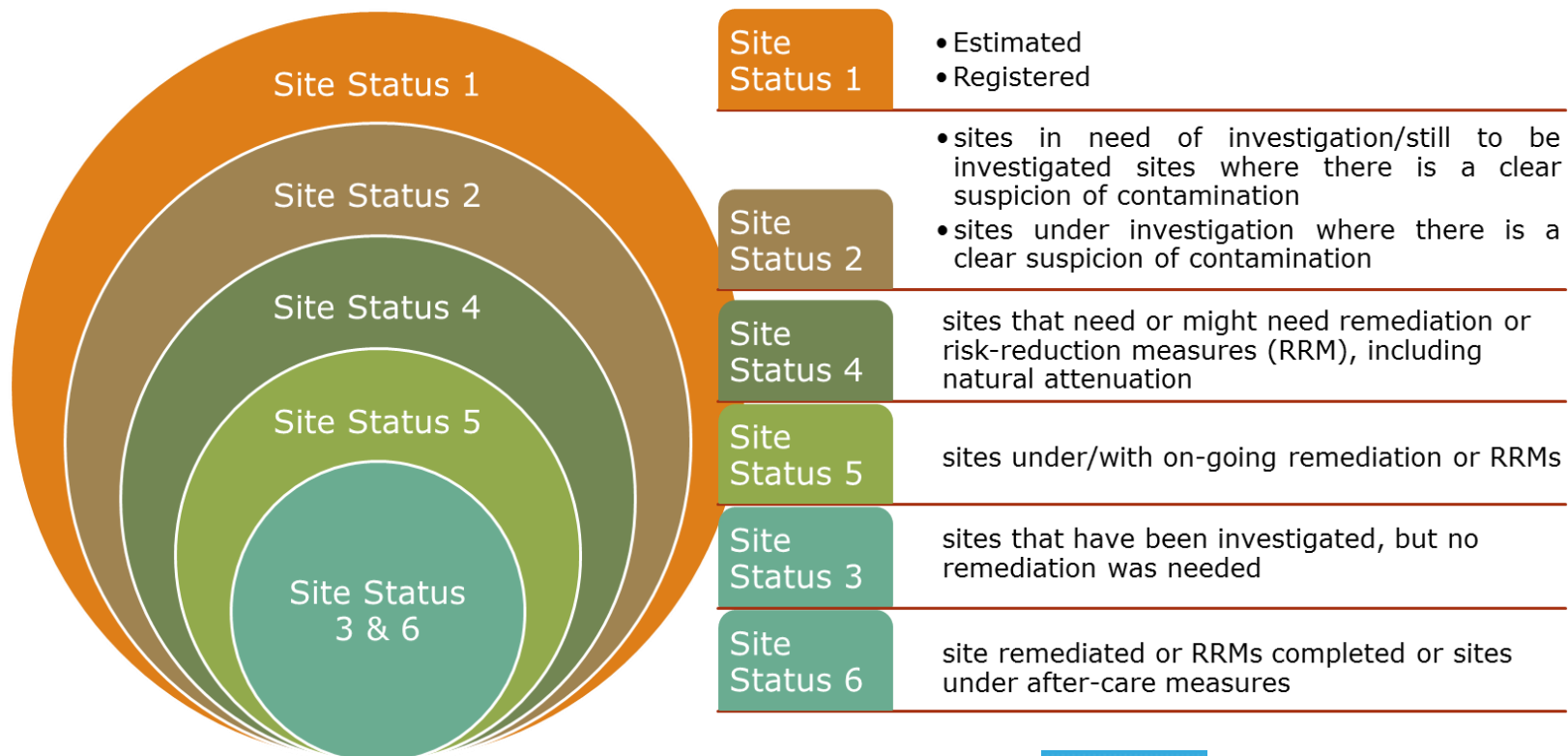
Inventories

No legal obligation in EU

Many EU countries (24 of 28) have developed their inventories of contaminated sites based on their own perspectives.



How much progress has been achieved ?



- **2,8 million sites** have been estimated where polluting activities have taken place considering the artificial surface.
- **694 000 registered sites** where polluting activities took/are taking place in national and regional inventories of replying countries;
- **more than 235 000 sites** have been **remediated**.
- Efforts focused on investigation and remediation of sites where polluting activities took/are taking place.

How much progress has been achieved? (EU 28)

Identification

- Only 13 countries have estimated the number of contaminated sites
- 45% of estimated contaminated sites are already identified

Investigation

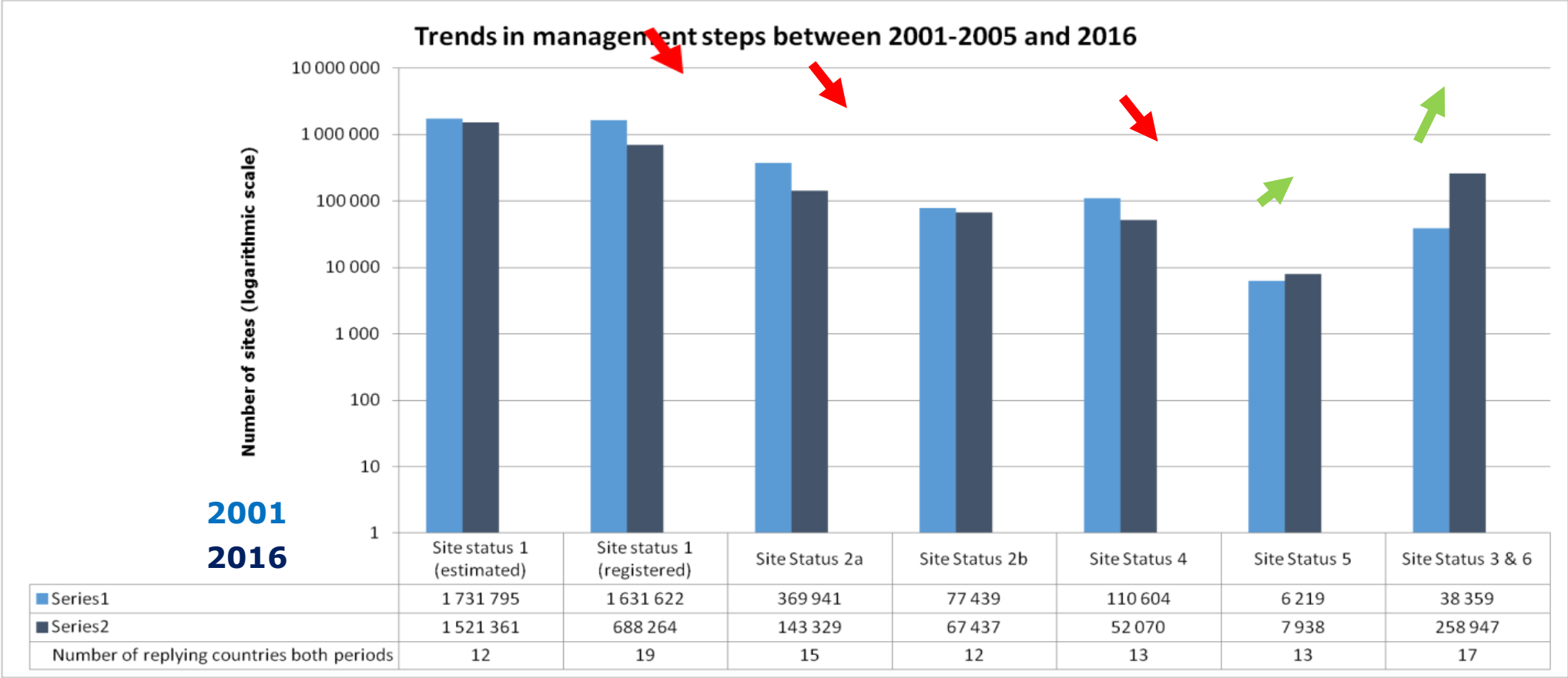
- **170 000** sites are in need of detailed investigation
- **125 000** of registered sites need remediation
- More than **120 000** sites investigated where no remediation needed

Remediation

- Near 14 400 sites under remediation
- more than 63 000 sites remediated



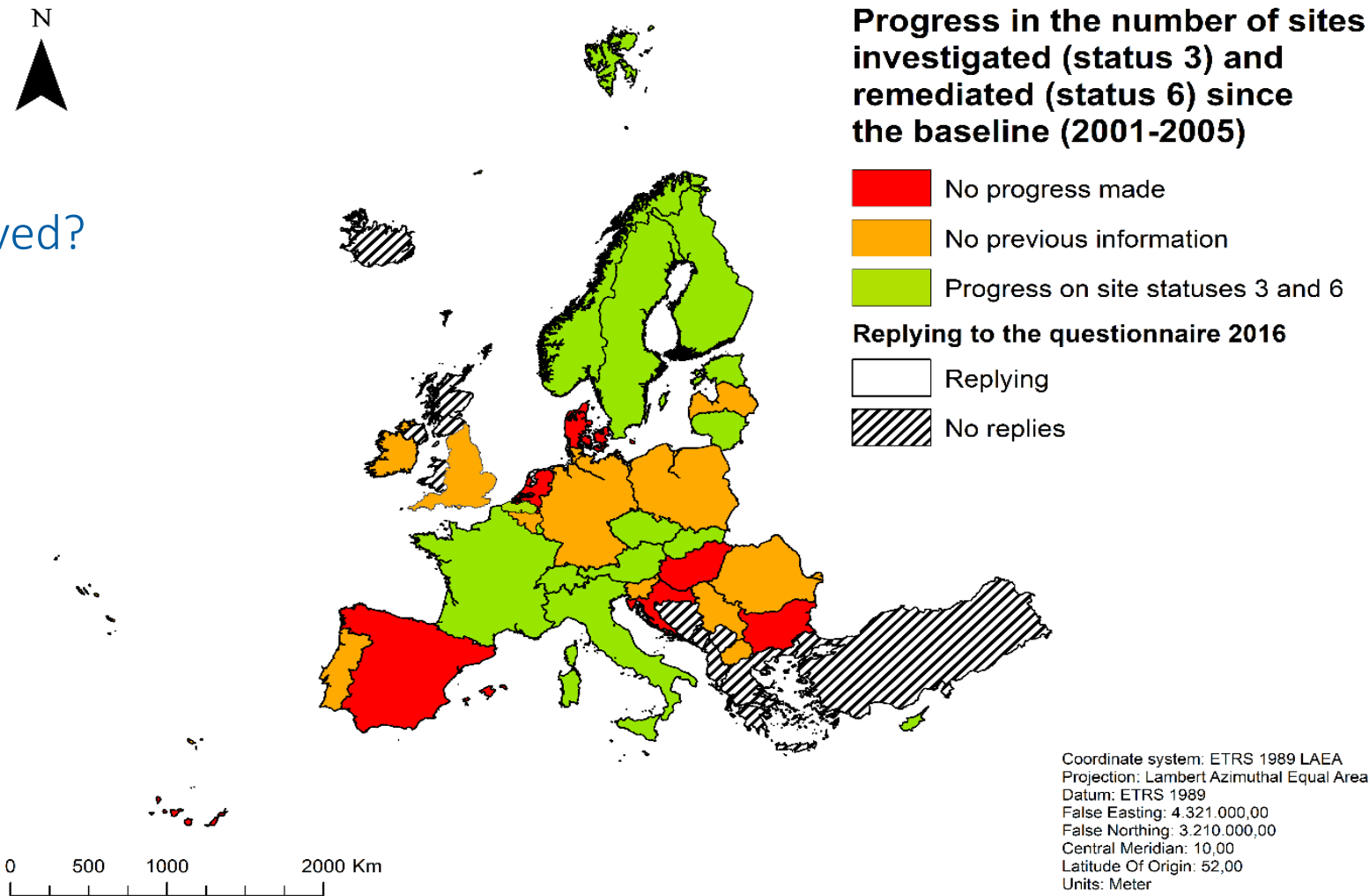
Progress in the management of contaminated sites



Improvements in the management of contaminated sites in Europe.
Efforts are mainly focused on investigation and remediation due to many countries already have an accurate inventory.

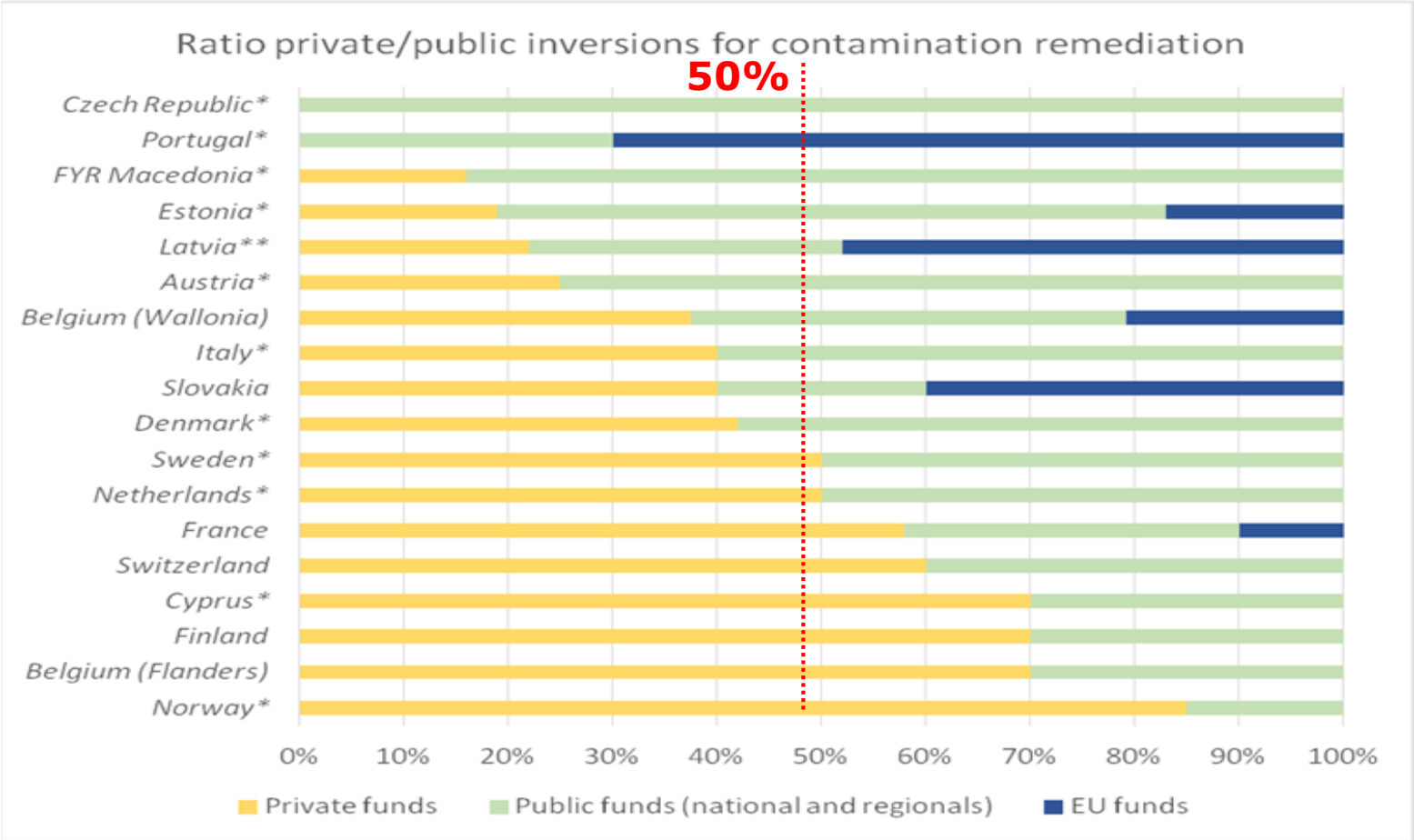


How much progress has been achieved?





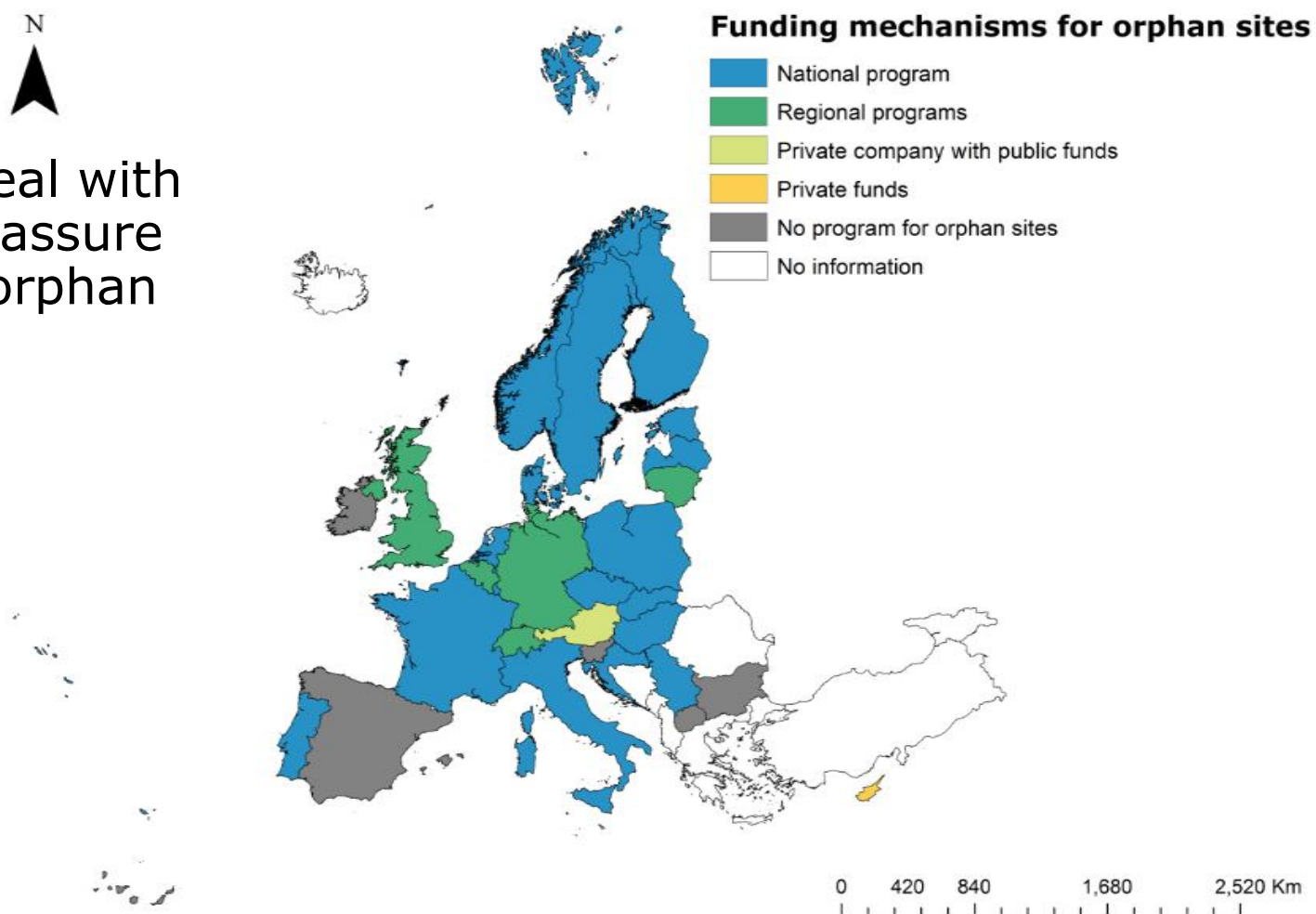
How much is being spent on cleaning-up soil contamination?



Ratio between private and public investment account for 50-50

Historical contamination and orphan sites

Many different approaches to deal with historical contamination and to assure funds availability to remediate orphan sites.



Remediation techniques

Off-site techniques (dig-and-dump) still seems to be the most commonly used → negative impact on the soil ecosystem



Move towards *in-situ* remediation, environmentally friendly and economically-feasible techniques.

References



2018



2017



2016



[EUROPEAN SOIL PORTAL](http://ESDAC.jrc.ec.europa.eu/)

<http://ESDAC.jrc.ec.europa.eu/>

2014



EC report on the implementation of the Soil Thematic Strategy and ongoing activities COM(2012) 46
http://ec.europa.eu/environment/soil/three_en.htm

JRC report on 'The state of soils in Europe' EUR 25186 EN, 2012
http://ec.europa.eu/dgs/jrc/downloads/jrc_reference_report_2012_02_soil.pdf

Evaluation of expenditures and jobs for addressing soil contamination in Member States, Ernst & Young report to the European Commission, 2013
http://ec.europa.eu/environment/soil/pdf/Soil_contamination_expenditure_jobs.pdf

Other considerations





UNEA3 “Towards a Pollution-Free Planet”

Action Areas

- ✓ **Knowledge:** Science for evidence-based policy and actions
- ✓ **Implementation:** Strengthening of implementation, design of incentives, integrated policy assessments, regulatory innovations, enhanced capacity building and enforcement, financing
- ✓ **Infrastructure:** Technologies and innovation, sustainable consumption and production/resource efficiency
- ✓ **Awareness:** Outreach, communication, education and consumer information
- ✓ **Leadership:** Mobilizing stakeholders, leaders and partners to address different forms of pollution

Soil and SDGs

Soil and Sustainable Development Goals

Editors:
Rattan Lal
Rainer Horn
Takashi Ko

Sustainable development in the European Union

MONITORING REPORT ON PROGRESS
TOWARDS THE SDGS IN AN EU CONTEXT

2018 edition



EUROSTAT
SUPPORTS THE SDGS



eurostat

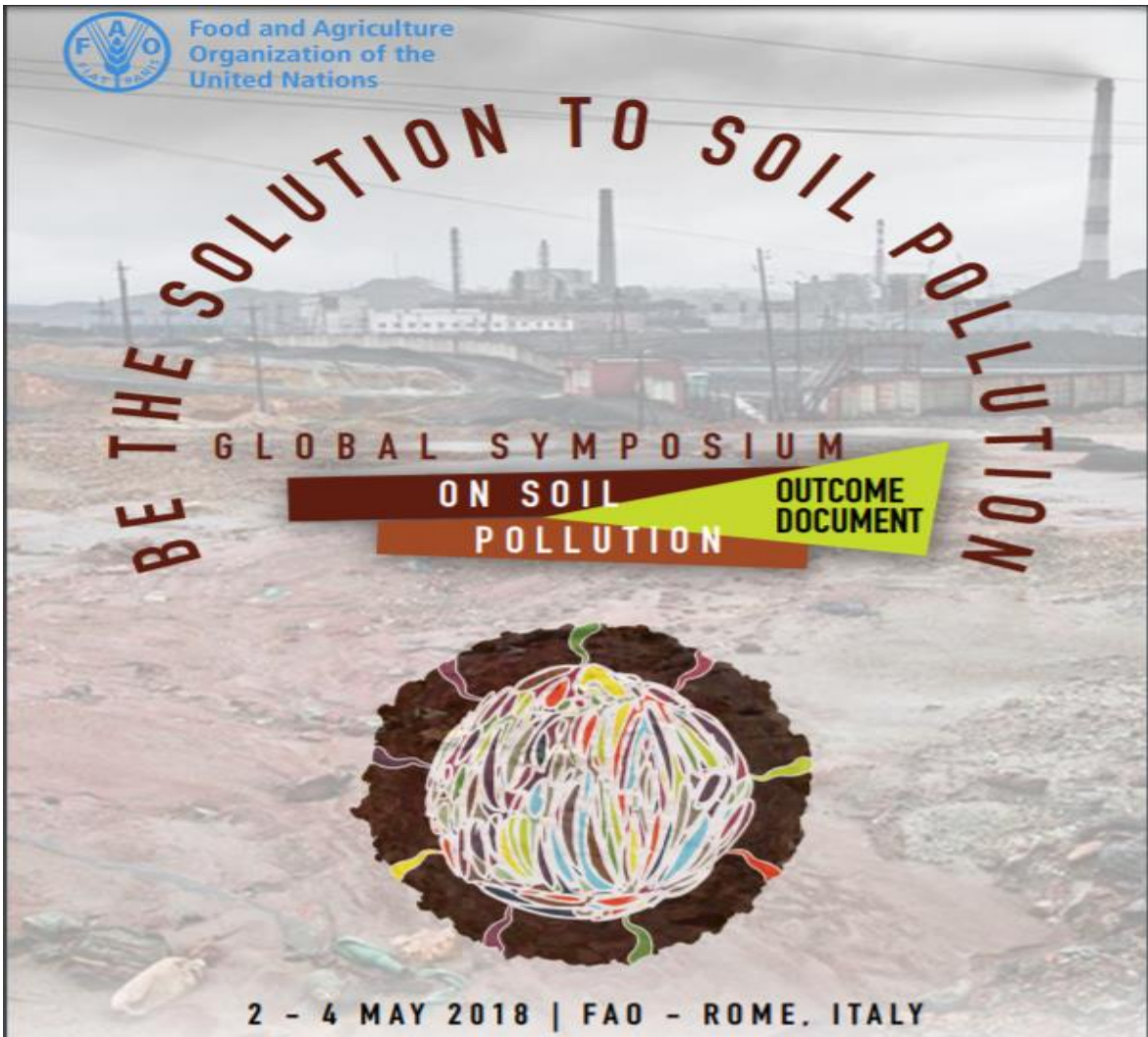
3 GOOD HEALTH AND WELL-BEING



Goal 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

No soil indicator!

FAO GSP Soil Pollution



1. Working Group “for developing feasible and regionally contextualized **guidelines** for measuring, mapping, monitoring and reporting on soil pollution” ;
 2. Working Group “to create a database on the best available techniques for the management and remediation of polluted soils” .
 3. a questionnaire to collect national information on soil to identify gaps and areas of intervention
- deadline 10 May 2019.

Networking and knowledge sharing

➤ **DIFUSE SOIL POLLUTION** **LUCAS SOIL – land use/land cover changes in Europe**

- Heavy metals, pesticides, emerging pollutants impact on soil biodiversity

➤ **SOIL POLLUTION AND HEALTH**

- COST Action – Industrially Contaminated Sites and Health (2015-2019)



environmental performance of European industry improved in recent decades. However, the sector still responsible for significant amounts of pollution air, water and soil, as well as generation of waste
European Environment Agency
<http://www.eea.europa.eu/soer-2015/europe/industry>

EUR 22000 EN - 2007

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Thanks for your attention

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