



# Deep Dive on Earth Observation in support of Compliance Assurance

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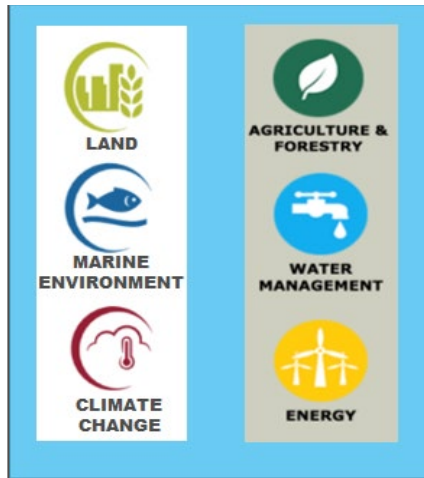
*June 2024*

# KCEO & DD assessments

Pilot Use cases – transition to operations

C4EC Survey

## Copernicus Services



### Policy Uptake and Coherence

Enhancing the uptake of EO in EU policy translating needs into technical EO products requirements



### Mainstreaming R&I

Analysing & prioritising research needs; Strategy of research investments



**KCEO**

Strategic Research and Innovation Agenda

Deep Dive Assessments on Specific Policy Areas (Biodiversity, Climate Adaptation, Compliance,...)

### Focused entry point

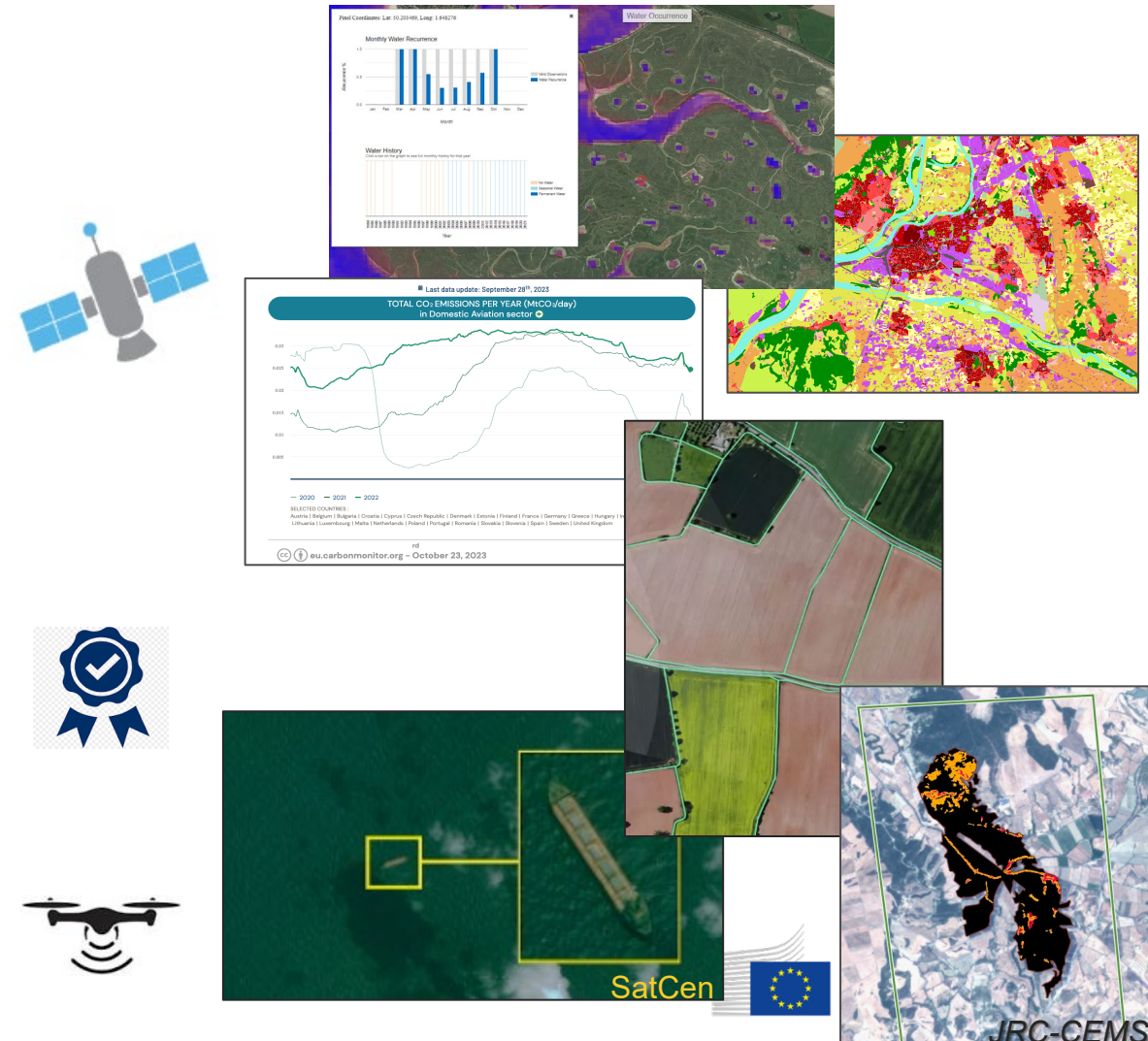
Inclusiveness & Transparency  
Dialogue with external partners, international organisation and society

# Compliance Assurance

Central role of the European Commission in overseeing and enforcing EU laws

**Compliance Assurance** refers to the process and mechanisms designed to ensure adherence to EU laws, regulations, and policies by individuals, organizations, and Member States. It comprises 3 components:

- EO supports **compliance promotion** by providing free-and-open data, fostering awareness and transparency, and educating stakeholders.
- EO enables broad-scale surveillance for detecting areas at risk of non-compliance, allowing **continuous monitoring** and ensuring prompt detection of any deviations.
- EO provides essential evidence for **legal interventions and enforcement**, and allows assessing impacts of illegal activities.



# Deep Dive Methodology

## Identify Policy areas and needs

### Technical Assessment:

1. EO already support or is sufficiently mature for supporting CA
2. EO is underutilized but has the potential to support Policy DGs

### Working Group meeting & Co-Design sessions

- Online meetings with DGs, experts, JRC colleagues & EEs
- Written feedback

# Deep Dive Methodology

*A state-of-the-art assessment*

## Lessons learnt from past and current experience

- CAP
- Security & Marine surveillance
- GHG inventories and Air quality
- Environment and forest monitoring

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## Define specific use cases to be developed collaboratively

*A case-by-case assessment*

- Translation of policy needs into technical requirements
- Analysis of the EO value chain
- Assessment of the fitness for purpose of existing products and services

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*Cross-cutting topics*

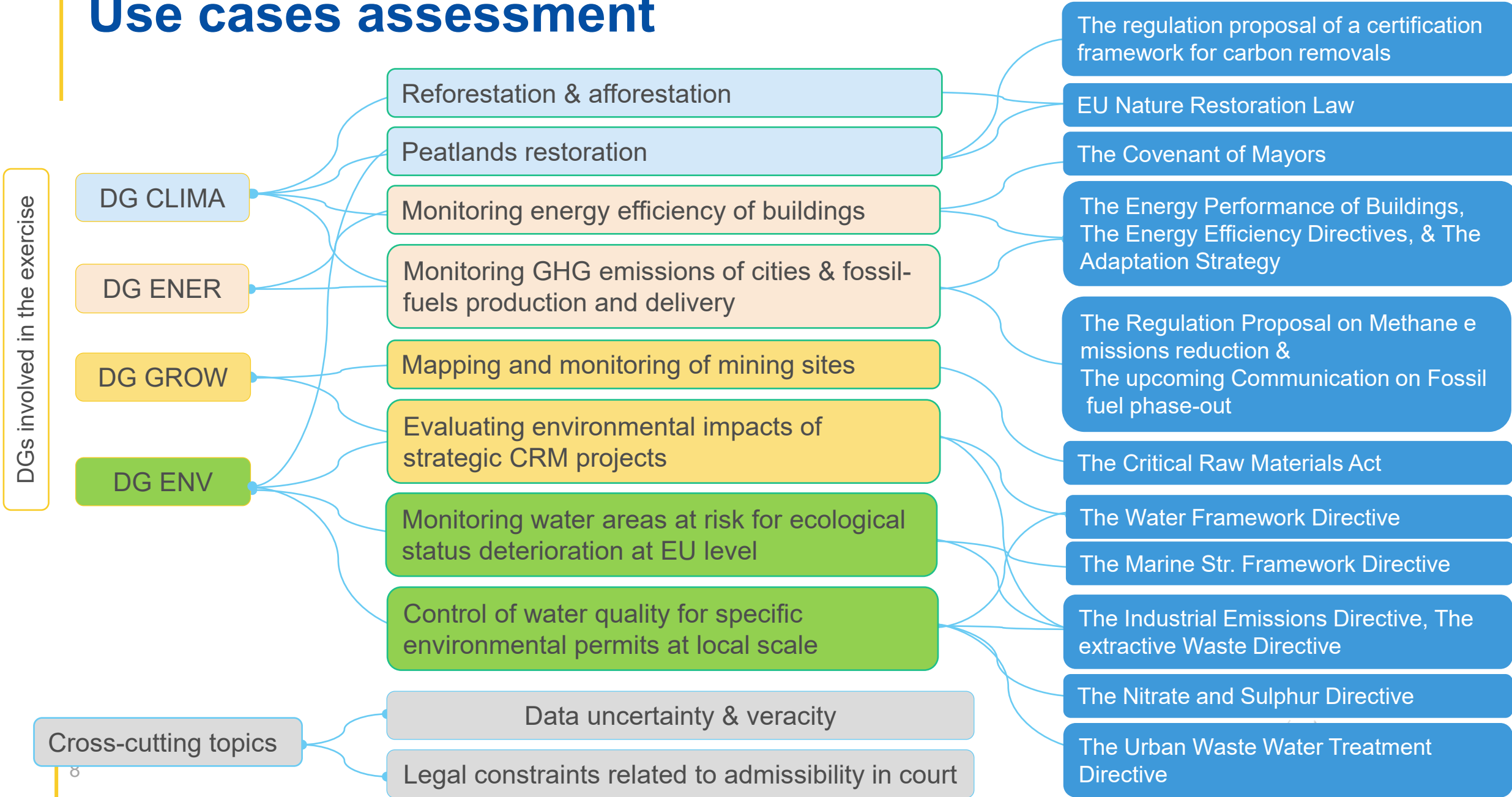
- Data uncertainty & veracity
- Methodology for assessing compliance/non-compliance ensuring traceability/reproducibility
- Legal constraints related to admissibility in court

## Identification of gaps and recommendations



# KCEO Deep Dive on Compliance Assurance

## Use cases assessment





# Use cases assessment

## DG ENER

Two different units at ENER (B1/TF), CLIMA.C1, JRC colleagues (C2-C5), ECMWF

### Monitoring of GHG emissions & Energy efficiency at local level

- CoM to support municipalities in achieving EU carbon reduction goals
- Systematic approach to provide robust baseline inventory and regular monitoring
- Alleviate the reporting efforts and provide independent information

**Provision of a baseline inventory and subsequent monitoring of CO<sub>2</sub> and CH<sub>4</sub> emissions for 13000 EU cities of the CoM**

**Monitor CH<sub>4</sub> and CO<sub>2</sub> emissions through the fossil fuels lifecycle at EU level**

**Inventory and monitoring of fossil fuels facilities and infrastructures at the global scale to control new investments**

**Monitoring energy efficiency of buildings (thermal transfer and PV mapping) for the EU cities of the CoM**

The Ambient Air Quality & the National Emission reduction Commitments Directives, the Zero Pollution Action Plan

The European Covenant of Mayors

The Regulation Proposal on Methane emissions reduction

The upcoming Communication on Fossil fuel phase-out

The revised Energy Performance of Buildings & The Energy Efficiency Directives

# Use cases assessment

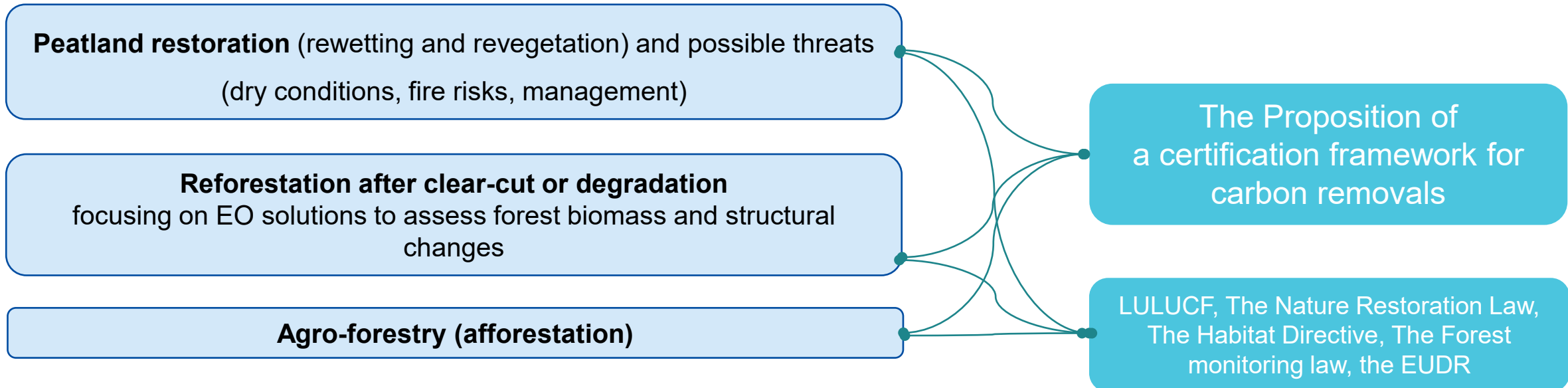
DG CLIMA

CLIMA C3 (C1), JRC colleagues involved in the CFC AA (D1, D3, D5)



## Support the new Carbon Removal Certification Framework, focussing on nature-based solutions

- The first EU-wide voluntary framework for certifying CR, carbon farming and carbon storage in products across Europe
- EO-based standardized approach to quantify the CR and control the adherence to different criteria
- The activities of CR operators will be regularly verified and certified by independent certification bodies
- This process will result in the issuing certificates of compliance and in the recording of CR units in public registries



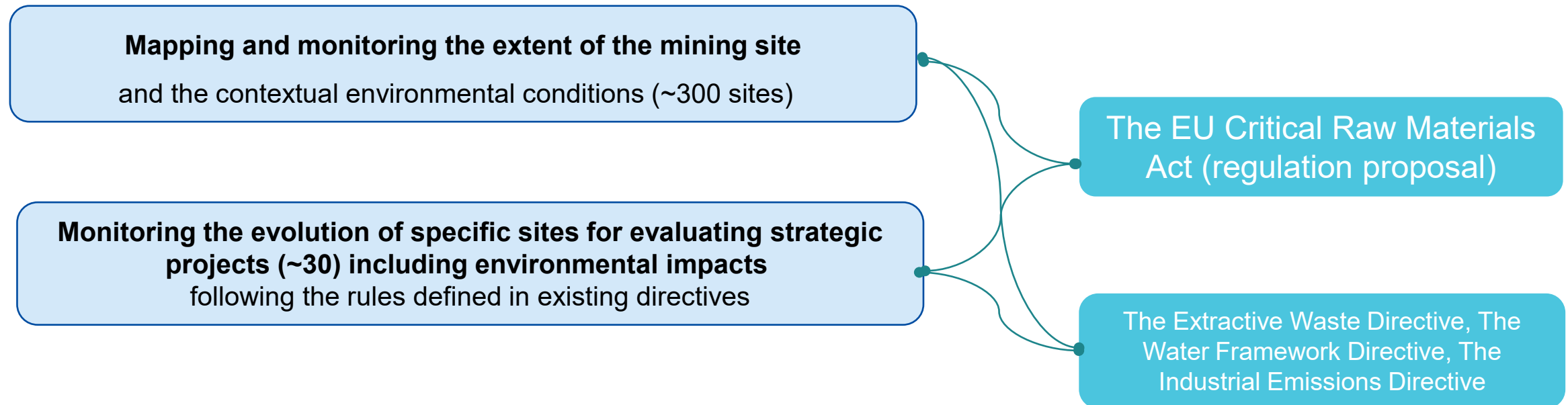
# Use cases assessment

## DG GROW

DG GROW (I1), JRC colleagues working on soil (D3)

### Mapping and monitoring critical raw material mining extractive areas in Europe

- In the context of the CRM Act, the MS have to monitor the development of CRM sites and report annually
- The Proposed Regulation also envisages a framework for selecting and implementing strategic raw materials projects

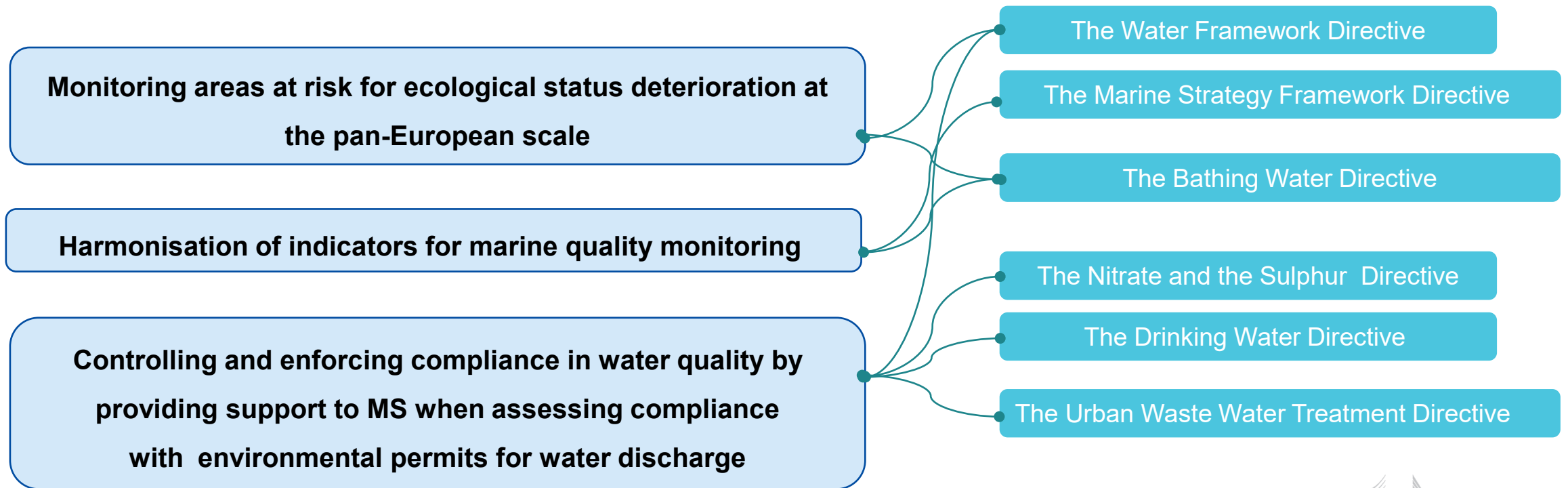


# Use cases assessment

DG ENV

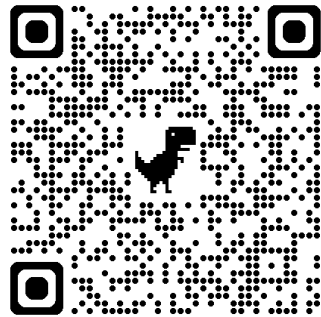
DG ENV (C1-C2, E2-E3-E4), JRC colleagues (D2), EEA, Mercator Ocean

## Support water quality monitoring and control



# NEXT

- Technical assessment of the use cases, reviewed by Policy DGs and partners involved
- State-of-the-art assessment and cross-cutting topics
- Finalization of the science for policy report & policy brief (September)
- 20 June KCEO Copernicus Workshop on CA



# Thank you



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