

# Deep Dive on Earth Observation in support of Compliance Assurance

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June 2024

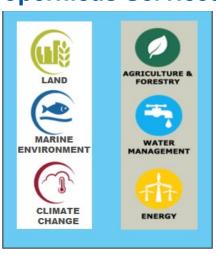


### KCEO & DD assessments

**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



Strategic Research and Innovation Agenda

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

#### **Focused entry point**

**KCEO** 

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

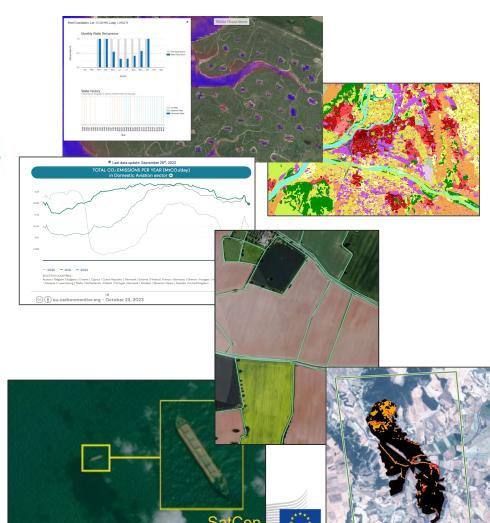


### **Compliance Assurance**

#### 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.









#### **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



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

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A case-by-case assessment

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

Identification of gaps and recommendations

DGs involved in the exercise

### KCEO Deep Dive on Compliance Assurance

**Use cases assessment** 

Reforestation & afforestation

Peatlands restoration

Monitoring energy efficiency of buildings

Monitoring GHG emissions of cities & fossilfuels production and delivery

Mapping and monitoring of mining sites

Evaluating environmental impacts of strategic CRM projects

Monitoring water areas at risk for ecological status deterioration at EU level

Control of water quality for specific environmental permits at local scale

Data uncertainty & veracity

Legal constraints related to admissibility in court

The regulation proposal of a certification framework for carbon removals

**EU Nature Restoration Law** 

The Covenant of Mayors

The Energy Performance of Buildings, The Energy Efficiency Directives, & The Adaptation Strategy

The Regulation Proposal on Methane e missions reduction & The upcoming Communication on Fossil fuel phase-out

The Critical Raw Materials Act

The Water Framework Directive

The Marine Str. Framework Directive

The Industrial Emissions Directive, The extractive Waste Directive

The Nitrate and Sulphur Directive

The Urban Waste Water Treatment Directive

Cross-cutting topics

DG CLIMA

DG ENER

**DG GROW** 

**DG ENV** 

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# 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 CO2 and CH4 emissions for 13000 EU cities of the CoM

Monitor CH4 and CO2 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

The Ambiant Air Quality & the National Emission reduction Commitments
Directives, the Zero Pollution Acion Plan

The European Covenant of Mayors

The Regulation Proposal on Methane e missions reduction

The upcoming Communication on Fossil fuel phase-out

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

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

**Peatland restoration** (rewetting and revegetation) and possible threats (dry conditions, fire risks, management)

Reforestation after clear-cut or degradation

focusing on EO solutions to assess forest biomass and structural changes

The Proposition of a certification framework for carbon removals

**Agro-forestry (afforestation)** 

LULUCF, The Nature Restoration Law, The Habitat Directive, The Forest monitoring law, the EUDR

# 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

Mapping and monitoring the extent of the mining site

and the contextual environmental conditions (~300 sites)

Monitoring the evolution of specific sites for evaluating strategic projects (~30) including environmental impacts following the rules defined in existing directives

The EU Critical Raw Materials
Act (regulation proposal)

The Extractive Waste Directive, The Water Framework Directive, The Industrial Emissions Directive

# Use cases assessment DG ENV

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

Support water quality monitoring and control

Monitoring areas at risk for ecological status deterioration at the pan-European scale

Harmonisation of indicators for marine quality monitoring

Controlling and enforcing compliance in water quality by providing support to MS when assessing compliance with environmental permits for water discharge

The Water Framework Directive

The Marine Strategy Framework Directive

The Bathing Water Directive

The Nitrate and the Sulphur Directive

The Drinking Water Directive

The Urban Waste Water Treatment Directive



## **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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