



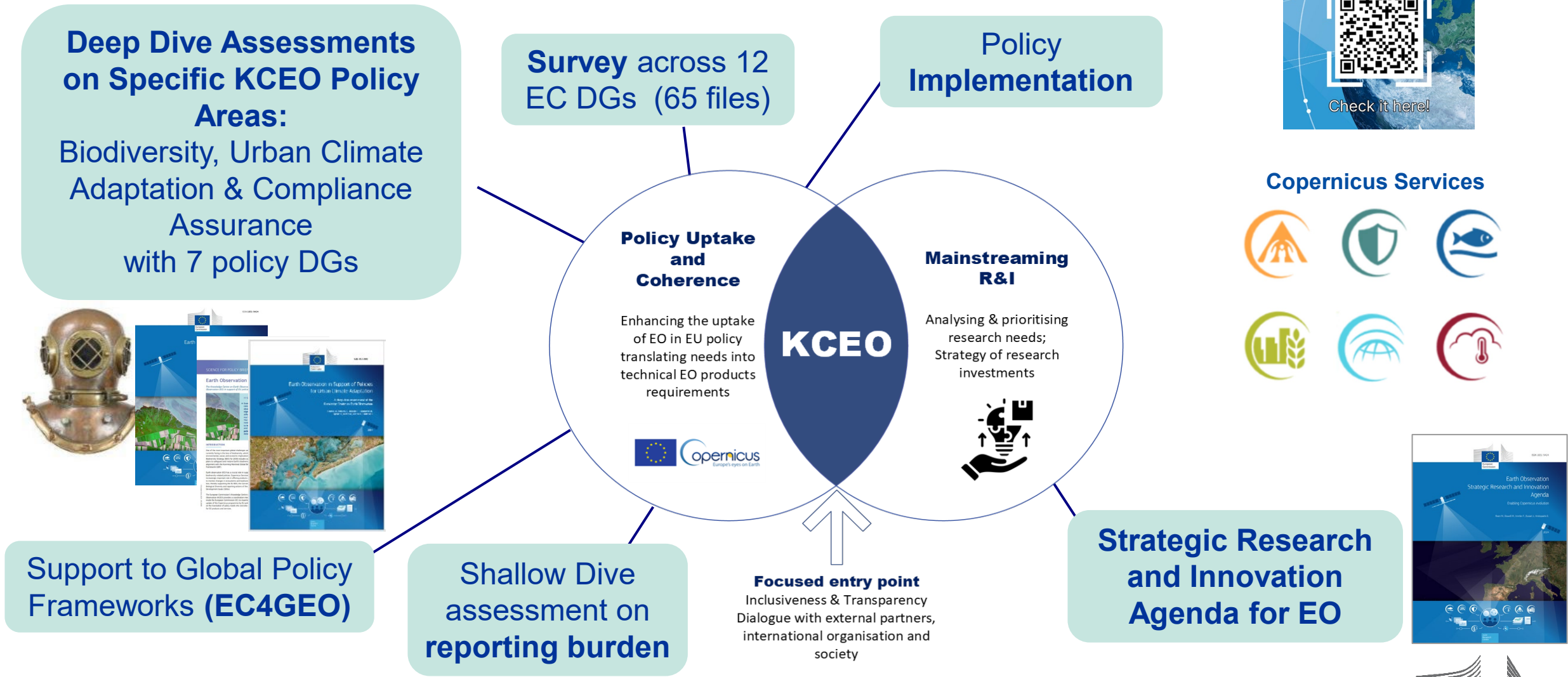
Streamlining of reporting requirements across EU policies: for reduction of the reporting burden, and integration of Earth Observation (EO) in official statistics

Presented by M. Dowell

F. Somma, M. Lahsaini, P. Remeta, Mayra Zurbaran, C. Martins

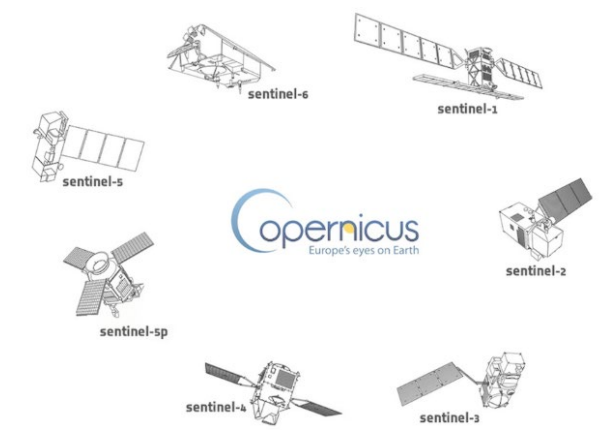
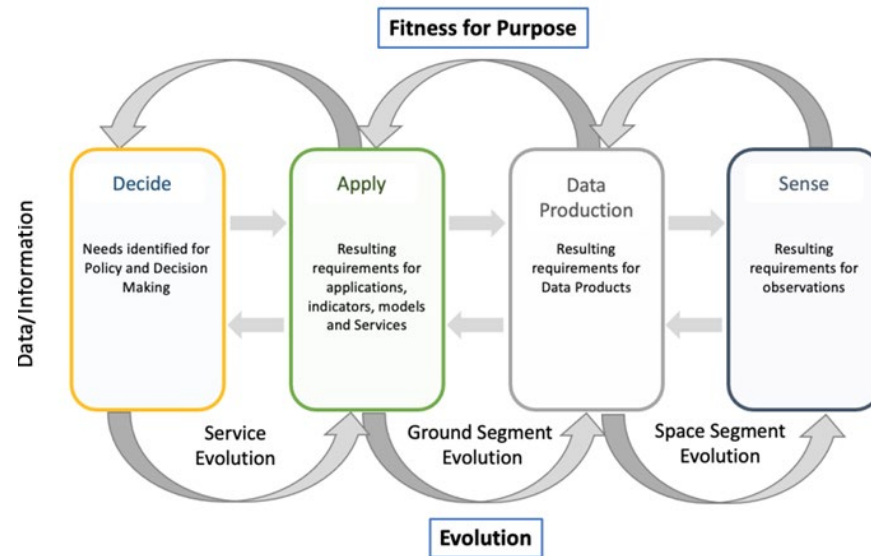
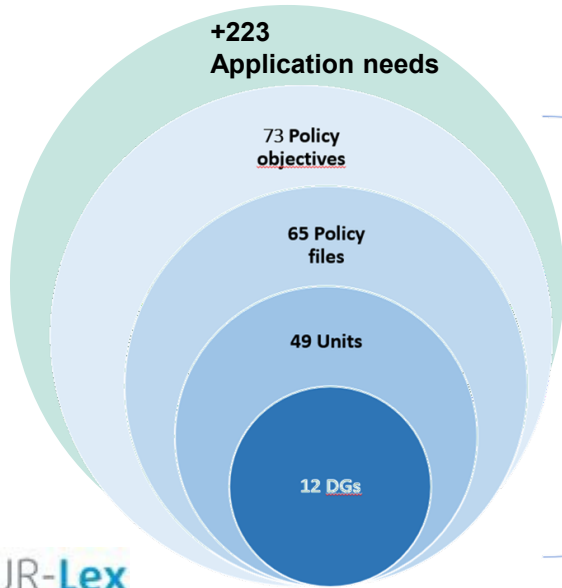
StatEO26 - 05 - 07 May 2026 - ESA-ESRIN, Frascati (IT)

KCEO Activities Overview



KCEO assessment flowchart

Survey



EO Products and Services

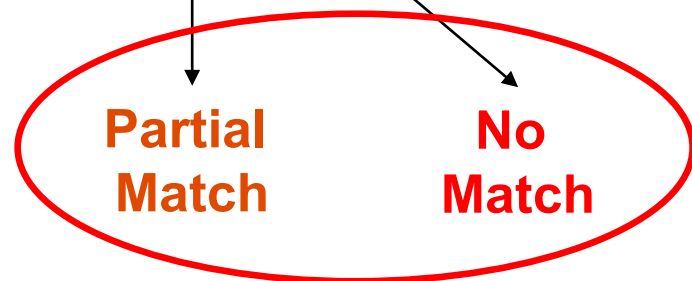
89 EO products

Multiple Sensing Platforms



Deep Dives

Full Match

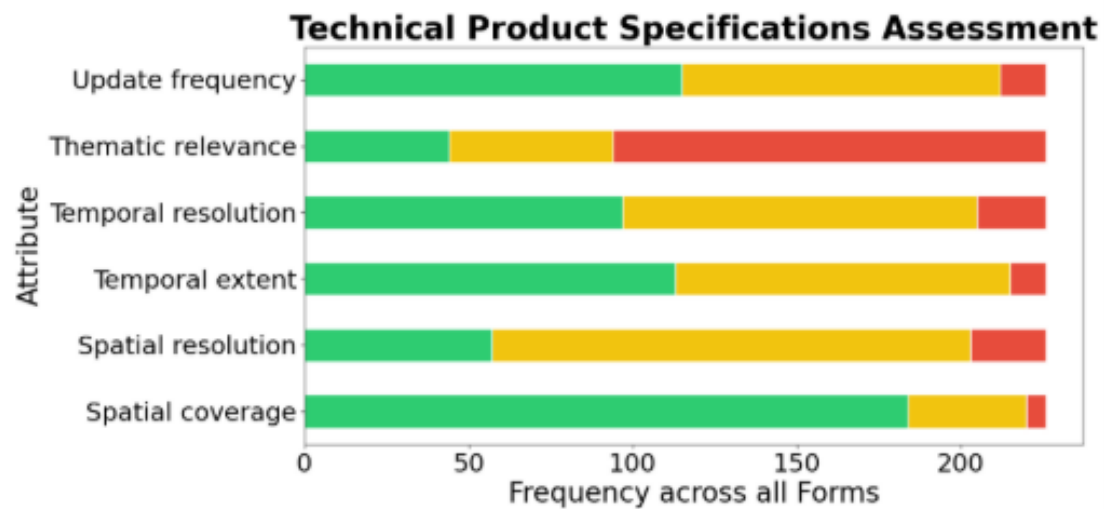
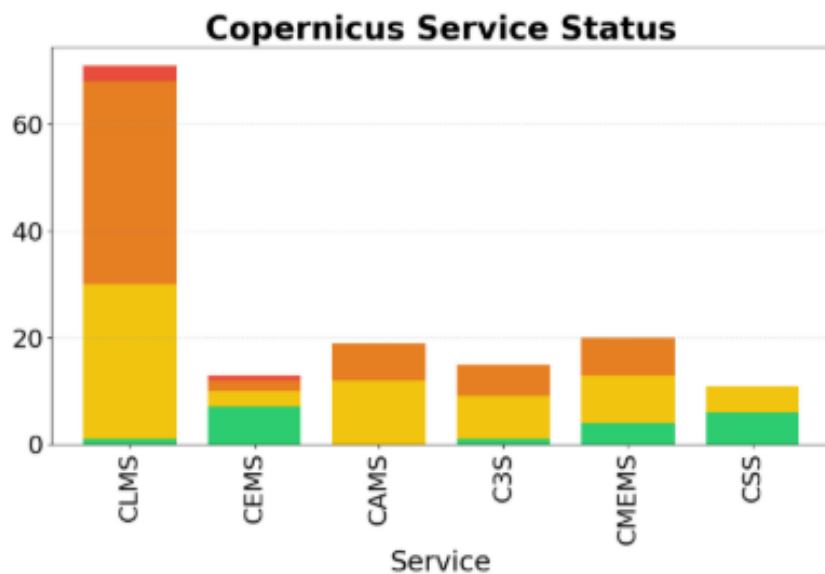
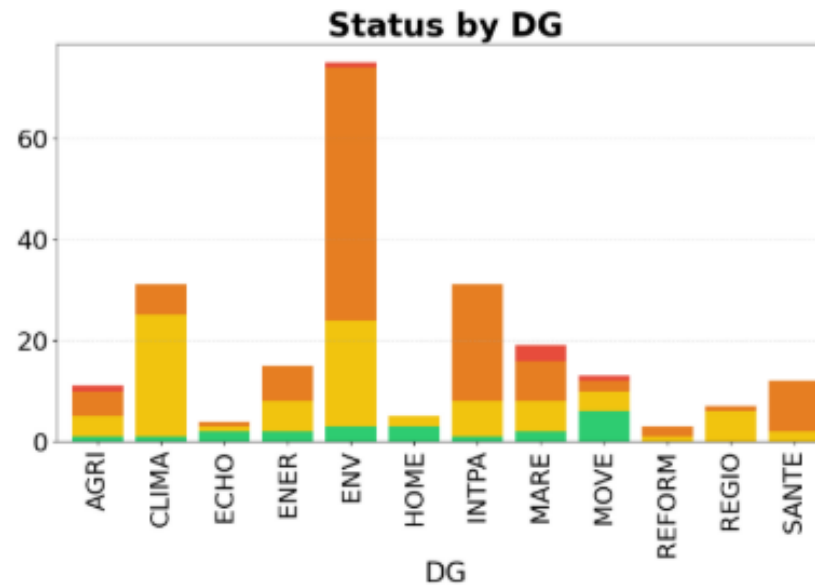
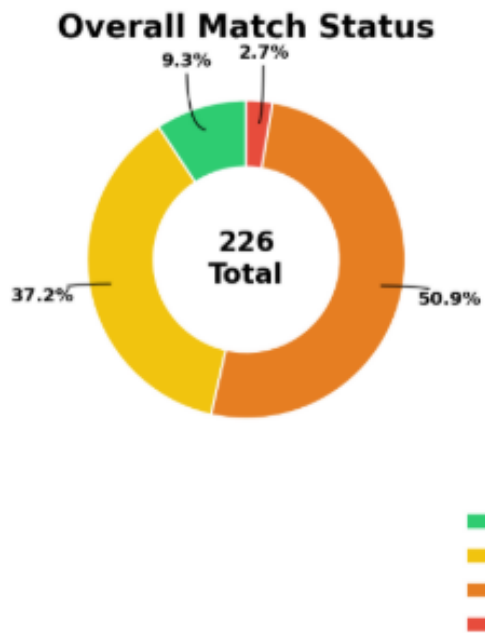


Partial Match

No Match



Survey – Data assessment



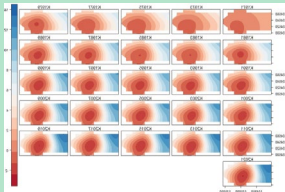
SURVEY QUESTIONS

REPORT ONCE - USE MANY TIMES

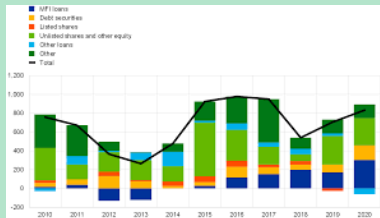
Rationalise reporting



Decrease monitoring cost

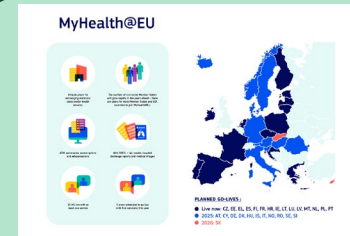


Improve spatial/temporal information



Improve consistency across EU

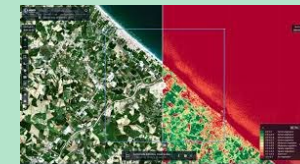
EO in EUROSTAT products



Enhance-enrich ESTAT products



Assist policy implementation



Relevant feature:
Spatial coverage
Geographical scale
Timeliness
Comparability




BACKGROUND



Increasingly complex policy landscape



Fragmentation of monitoring and reporting frameworks across polices



Different legal instruments → similar information → different indicators, spatial units, methodologies, or reporting cycles → duplication of effort → reduced efficiency in data collection



Substantial administrative burden for Member States, competent authorities, industry and data providers.



Increasing volumes of information to report

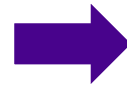


Overview



Reporting often rely on **shared underlying information**, such as:

- Environmental conditions
- Land cover/land use
- Infrastructure
- Other spatially explicit data



Potential to reuse common monitoring inputs, datasets, and inventory systems from EO across policies and official statistics



The key challenge is not lack of data, but **fragmented use of the same data** across statistics & policies



METHODOLOGY

Basis

Policies identified in the KCEO survey

Step 1

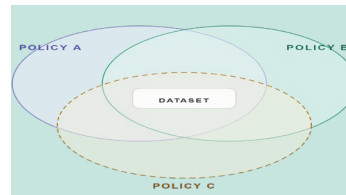
Identification of reporting requirements

Step 2

Identification of reporting indicators

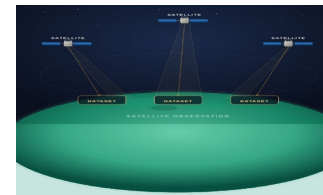
Step 3

Screening for EO applicability



Question 1

Report across
2 or more
policies



Question 2

Potential for
EO-supported
reporting

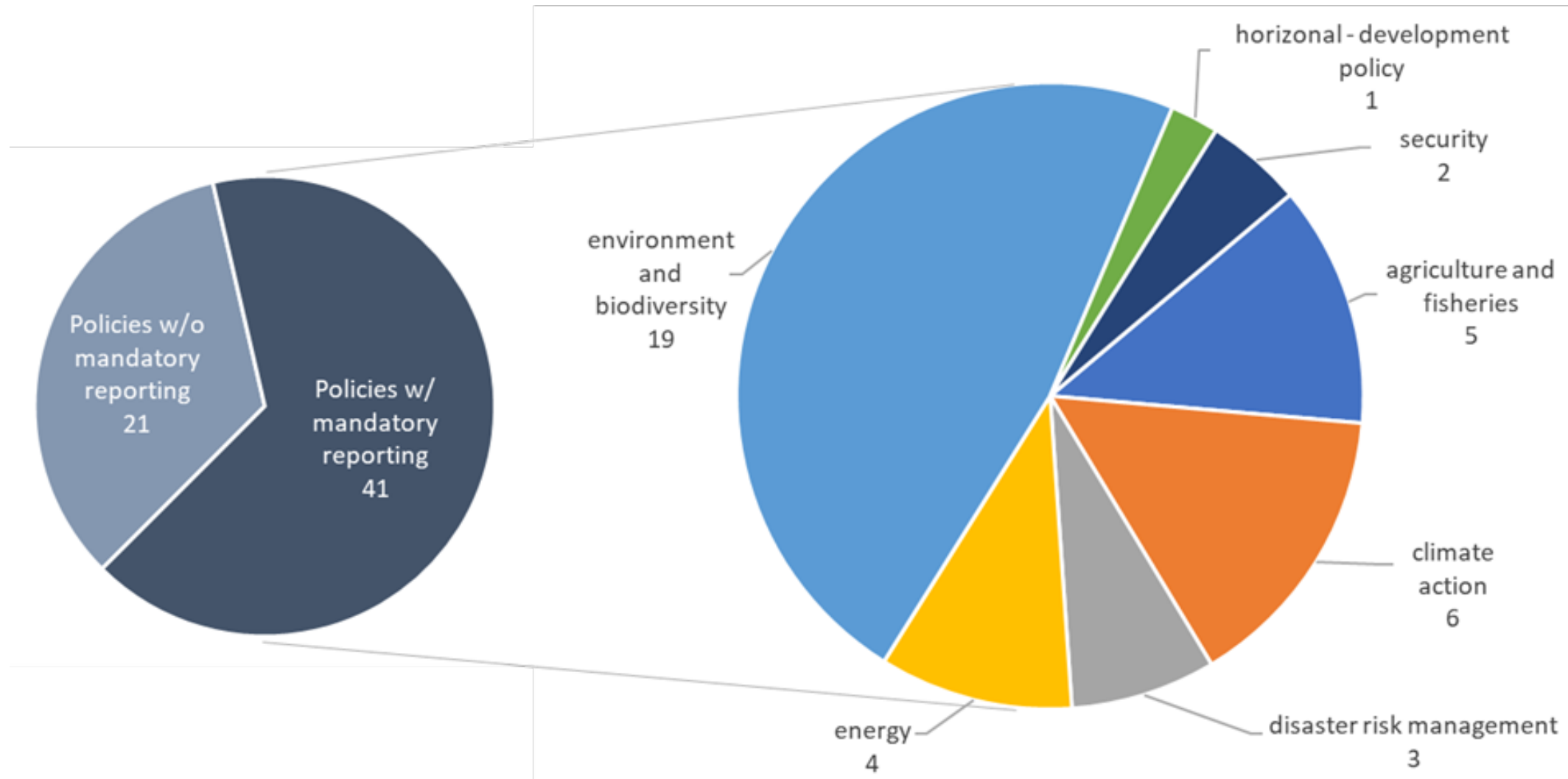


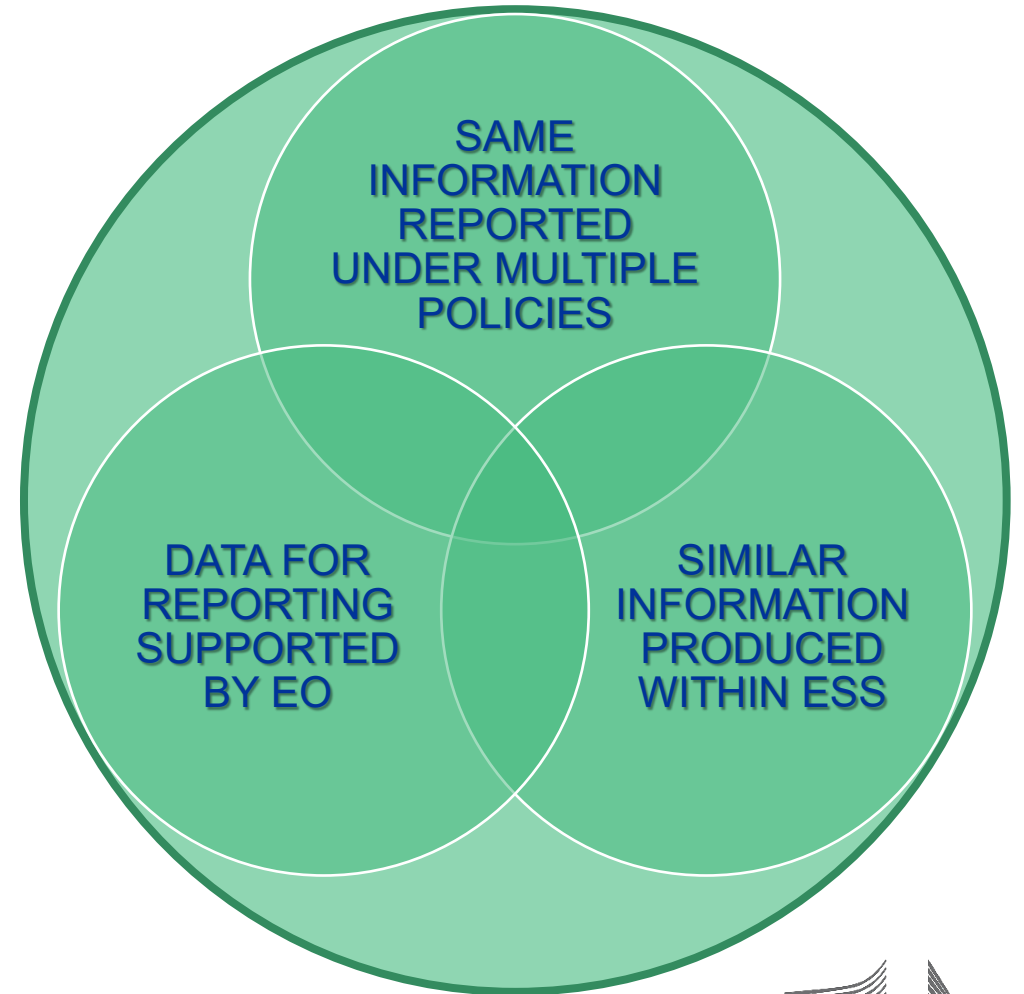
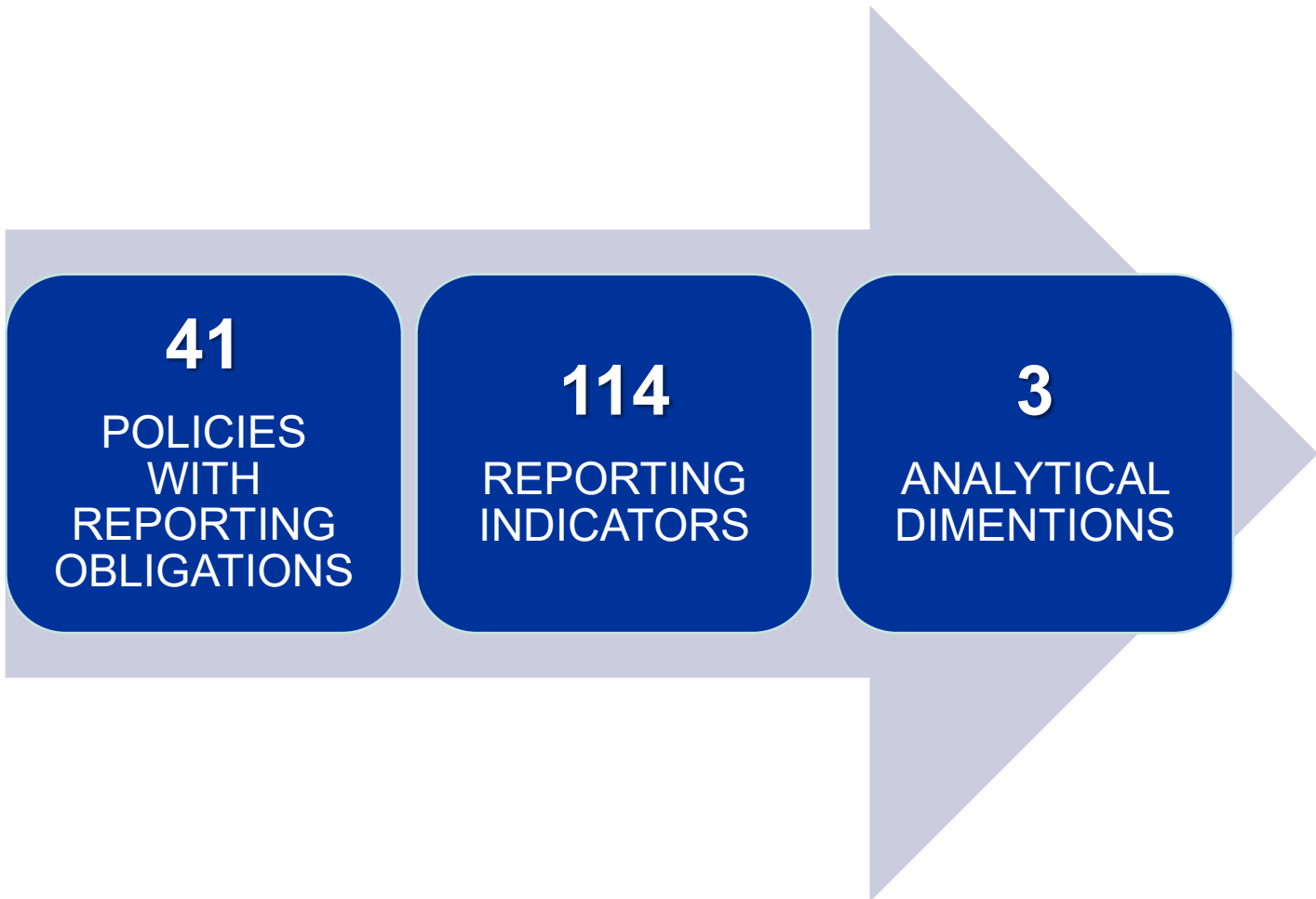
Question 3

Links between
reporting and
official
statistics



SCREENING RESULTS

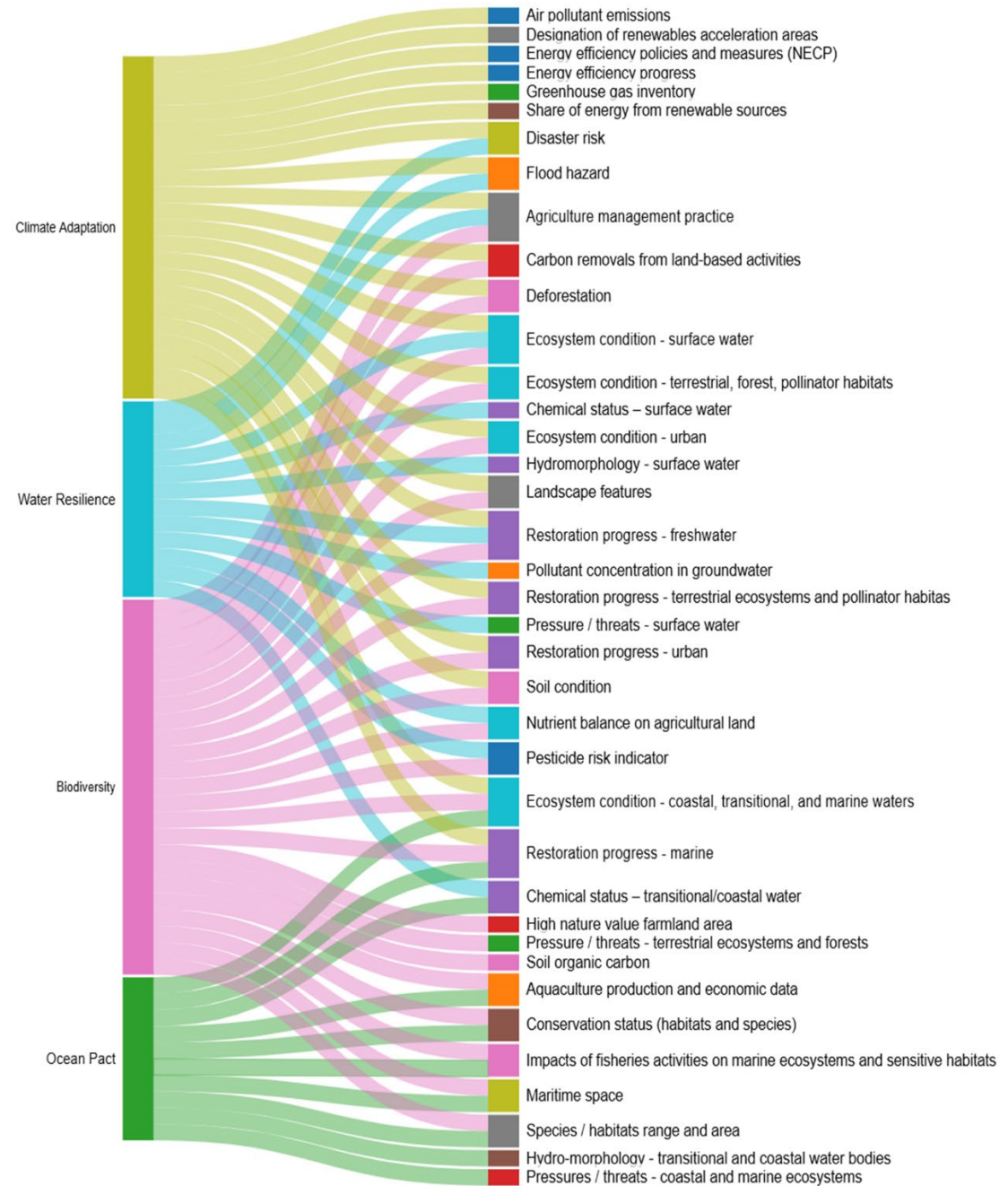




* Reporting phenomenon: type of information required for reporting obligation (e.g., emissions, land use, ecosystem condition).



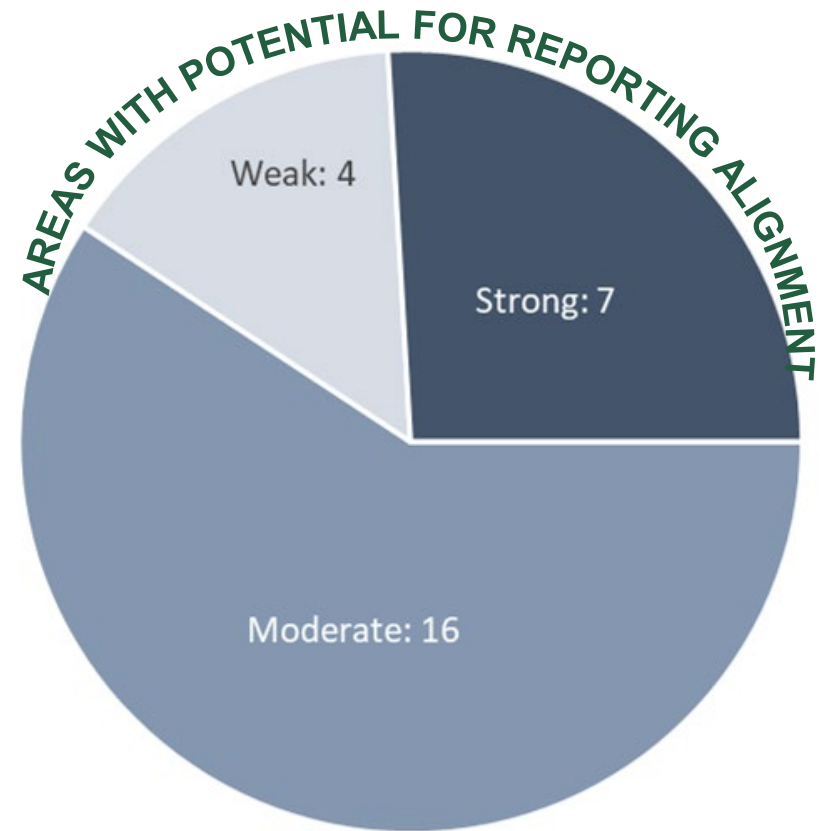
Relationship between selected EU strategies and analysed reporting phenomena



Shared reporting phenomena across EU policies: opportunities for alignment

CRITERIA:

- reported indicator represents same physical quantity/dataset across policies
- monitoring based on same inventory/monitoring network/geospatial dataset
- spatial units/reporting cycles compatible or reconcilable
- differences limited to interpretation/level of detail (rather than the underlying data)
- single monitoring input supports several reporting requirements (even if reporting outputs remain policy specific)



REPORTING ALIGNMENT

Question 1

Report across 2 or more policies

Question 2

Potential for EO-supported reporting

Question 3

Links between reporting and official statistics

STRONG CANDIDATE

Air pollutant emissions: *NEC, IED, Sulphur Directive*

Reporting alignment: all require reporting of air pollutant emissions (at different levels within the same emission accounting system)

EO support for data collection: Indirect. EO cannot produce emission inventories but can support atmospheric monitoring

Eurostat link: Strong. datasets Air emission inventories (env_air_ai) and Air pollutants by source sector (env_air_emis)

STRONG CANDIDATE

Carbon removals (land-based): *CRCF, LULUCF*

Reporting alignment: same carbon accounting data and modelling frameworks underpin inventory reporting, climate monitoring, and certified removal schemes; differences in scale and purpose of reporting.

EO support for data collection: Indirect: EO cannot measure carbon removals directly, but it can support key input data used in carbon accounting

Eurostat link: Partial. dataset Greenhouse gas emissions and removals by sector (env_air_gge)

STRONG CANDIDATES

Conservation status: Habitats/ Birds, NRR

Energy efficiency: EED, EPBD

Greenhouse gas: CAP, LULUCF, ETS

Landscape features: CAP, CAP-IACS, NRR

Species / habitat range and area: Habitats/ Birds, NRR, FML



Total reporting requirements from mandatory reporting

114

Reporting demand is high and fragmented across policies → Efficiency gains depend on systematic alignment of data sources, not just reducing individual obligations.



Reporting requirements shared by at least 2 policies

75

66% of reporting requirements rely on recurring information across policies → Strong potential for “measure once, report many times”, especially where common datasets or inventories already exist.



Reporting requirements with potential for EO-supported data collection

58

51% of reporting requirements involve spatially explicit information → EO can improve consistency, coverage, and comparability, in some cases as a complement to in-situ and administrative data, not a replacement.



Reporting requirements with potential links to ESS datasets

28

25% of reporting requirements have a corresponding dataset within the ESS → Strong alignment between policy reporting and statistical production in cases where the same underlying data sources are used (e.g., inventories), while differences in scope and aggregation limit direct reuse in most cases suggesting an untapped potential for improvement



RECOMMENDATIONS

- Further improve **consistency of monitoring inputs** for ecosystem, soil, water, forest, and restoration-related reporting.
- Continue **developing shared EO-supported reference datasets** for spatially explicit reporting phenomena.
- Promote **systemic reuse of monitoring data across policies** even where reporting outputs differ.
- Explore **strengthening coordination between policy reporting and official statistics** where common data sources already exist.
- **Leverage existing expert groups** to support further alignment of monitoring and reporting approaches.

