



GREAT Webinar

EC Policy Perspective

Johan Bodenkamp – European Commission, CONNECT.G1

1 March 2023

European Commission priorities 2019-2024

- The twin green & digital transition is at the top of the policy agenda



A European Green Deal

Europe aims to be the first climate-neutral continent by becoming a modern, resource-efficient economy.



A Europe fit for the digital age

The EU's digital strategy will empower people with a new generation of technologies.



An economy that works for people

The EU must create a more attractive investment environment, and growth that creates quality jobs, especially for young people and small businesses.



A stronger Europe in the world

The EU will strengthen its voice in the world by championing multilateralism and a rules-based global order.



Promoting our European way of life

Europe must protect the rule of law if it is to stand up for justice and the EU's core values.



A new push for European democracy

We need to give Europeans a bigger say and protect our democracy from external interference such as disinformation and online hate messages.



”

The European Green Deal is our roadmap for making the EU's economy sustainable.

It is one of the key components of the EU's growth strategy and a path to a green, robust and durable recovery from the health pandemic and its economic impact.

#EUGreenDeal





The European Union
to be climate neutral
by 2050

**CLIMATE
PACT AND CLIMATE
LAW**

**PROMOTING
CLEAN
ENERGY**

**INVESTING IN MORE
SUSTAINABLE,
SMARTER MOBILITY**

PROTECTING NATURE

**STRIVING
FOR GREENER
INDUSTRY**

The European Green Deal

**FROM FARM
TO FORK**

**ELIMINATING
POLLUTION**

**LEADING THE
GREEN CHANGE
GLOBALLY**

**ENSURING
A JUST TRANSITION
FOR ALL**

**MAKING
HOMES ENERGY
EFFICIENT**

**FINANCING
GREEN
PROJECTS**

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European strategy for data

- Vision to create a **European single market for data**
- Data can flow between sectors and countries
- Data use in full respect of European values
- Clear rules on data access and use
- Unlock huge potential of data



EU Single Data Market

COM/2020/66



Creating a single European market for data

European Data Strategy

- [Published Feb 2020](#)
- *Genuine* internal data market
- Built on EU values and rules

Common European data spaces

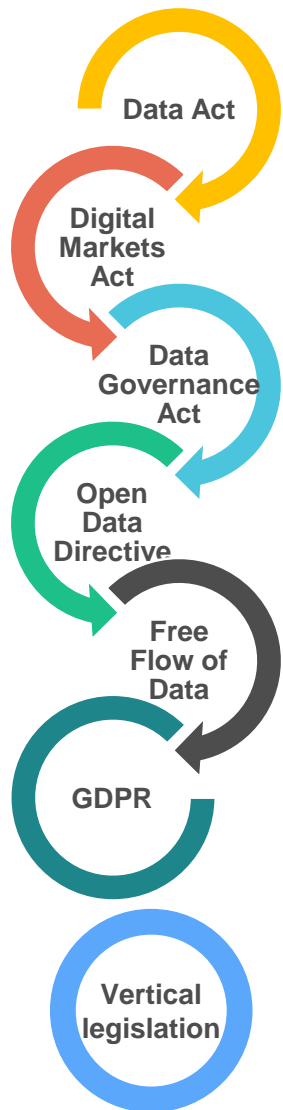
- [Staff Working Document – Feb 2022](#)
Overview development data spaces, at request European Council
 - ✓ Horizontal aspects (concept, legislation, EU programmes/funding)
 - ✓ Sectoral/domain-specific initiatives

A cross-sectoral legislative framework

- [Data Governance Act](#) – July 2022
- [Data Act](#) – Proposal Feb 2022
- [Implementing Act on High-value datasets](#) (Open Data Directive) – December 2022



A comprehensive legislative framework



Aim	Data Covered	Regulated Actors
Ensure FAIRNESS in the allocation of data value among the actors of the data economy	Private sector data, personal and non-personal data, and co-generated (IoT) data	Businesses, public sector bodies, cloud and other data processing service providers
Tackle imbalances caused by the MARKET POWER of gatekeepers	Personal data and private sector data held by online platforms and originating from the users	Cloud and other data processing service providers, large data platforms
Ensure TRUST in data transactions	Public and private non-personal data, and personal data voluntarily made available by data holders	Data intermediation service providers, public sector bodies, (Recognised) Data Altruism Organisations
Promote use of OPEN DATA	Data in an open format that can be freely used, re-used and shared by anyone for any purpose	Public sector bodies, bodies governed by public law, public undertakings, universities
Ensure FREE FLOW OF DATA other than personal data within the Union	Non-personal data	Member States, competent authorities, professional users
Ensures a high-level of DATA PROTECTION and free flow of personal data in the Union	Personal data	Data controller, data processor, data subject, DPO, supervisory authorities, EDPB
Promote a competitive market according to SECTOR-SPECIFIC rules where necessary, e.g. automotive	Personal and non-personal data	Individuals and private and public sector bodies

Brussels, 23.2.2022
SWD(2022) 45 final

COMMISSION STAFF WORKING DOCUMENT

on Common European Data Spaces

Common European Data Spaces

Objective & Concept

” The creation of **EU-wide common, interoperable data spaces** in strategic sectors aims at **overcoming legal and technical barriers to data sharing** by combining the necessary tools and infrastructures and addressing issues of trust by way of common rules.

A common European data space **brings together** relevant **data infrastructures and governance frameworks** in order to facilitate data pooling and sharing. “

[EC Staff Working Document
\(2022\) 45 – Feb 2022](#)

Key characteristics of a data space

EC Staff Working Document
(2022) 45 – Feb 2022

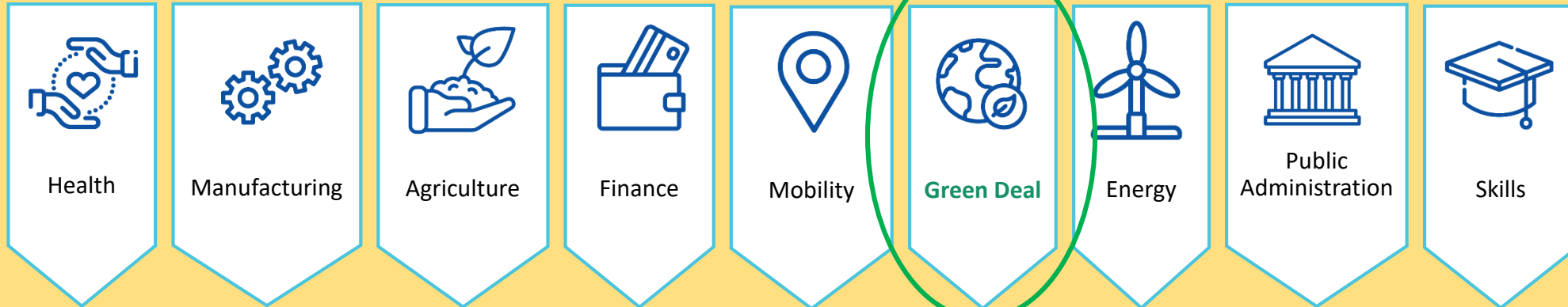
- A **secure and privacy-preserving IT infrastructure** to pool, access, process, use and share data.
- A **data governance mechanism**, comprising a set of rules of administrative and contractual nature that determine the rights to access, process, use and share data in a trustful, transparent manner and in compliance with existing legislations.
- **Data holders are in control** of who can have access to their data, for which purpose and under which conditions it can be used.
- Presence of vast amounts of data that are **made available on a voluntary basis** and can be reused against remuneration or for free, depending on the data holder's decision.
- Participation by an **open** number of organisations/individuals in full respect of competition rules and ensuring non-discriminatory access for all participants.

European data space actors

- **Data Spaces Support Centre (DSSC)**
 - coordination of all relevant actions on sectoral data spaces in Europe
 - blueprint, best practices, common standards, support activities and knowledge transfer
 - funded by the DIGITAL Europe Programme
- **Coordination and Support Actions (CSAs)**
 - for sectoral/domain-specific data spaces
 - community of practice, priority datasets, stakeholder engagement, governance/business models, roadmap
 - funded by the DIGITAL Europe Programme
- **European Data Innovation Board (EDIB)**
 - Consultative and advisory body established by the Data Governance Act, to be set up in September 2023
 - guidelines for interoperability of common European data spaces



Common European data spaces



- Rich pool of data of varying degree of openness
- Driven by stakeholders
- Technical tools for data access, pooling and sharing
- Data governance mechanisms (access rights, usage rights, contracts, licenses)

Data Spaces Support Centre

- Coordinating the development of data spaces
- Assuring common standards and interoperability

Technical infrastructure for data spaces



Edge & cloud Services

Smart Middleware solutions

Marketplace

High-Performance Computing

AI on demand platform

AI Testing and Experimentation Facilities

Thank you for your attention



ec.europa.eu/



[europeancommission](https://www.instagram.com/europeancommission)



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[@EuropeanCommission](https://www.facebook.com/EuropeanCommission)



[EU Spotify](https://www.spotify.com/EU)



[European Commission](https://www.linkedin.com/company/European-Commission)

GREEN DEAL DATA SPACE FOUNDATION & IT'S COMMUNITY OF PRACTICE





The Green Deal Data Space



Single Market for data
COM/2020/66



Tackling climate and environmental-
related challenges COM/2019/640

Green Deal Data Space

A federation of data ecosystems enabling policy makers, businesses, researchers and citizens, from Europe and around the world, to jointly tackle climate change.



Green Deal Data Space Foundation & its Community of Practice

- **Duration:** 18 Months
- **Running:** September 2022 – February 2024
- **Consortium:** 11 Partners 3 Associated Partners



Consiglio Nazionale
delle Ricerche



European Association
of Remote Sensing
Companies



EUROPEAN CENTRE FOR MEDIUM RANGE WEATHER FORECASTS



Utrecht
University



seascape
BELGIUM



ERI EUROPEAN RESEARCH
INFRASTRUCTURE
CONSORTIUM



ISTITUTO NAZIONALE
DI GEOFISICA E VULCANOLOGIA

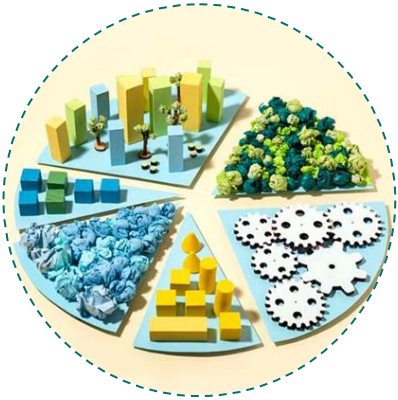


Instytut Geofizyki
Polskiej Akademii Nauk





Overall objectives



**Community
of Practice**



**High Priority
Dataset**



Blueprint



**Governance & Business
Models**

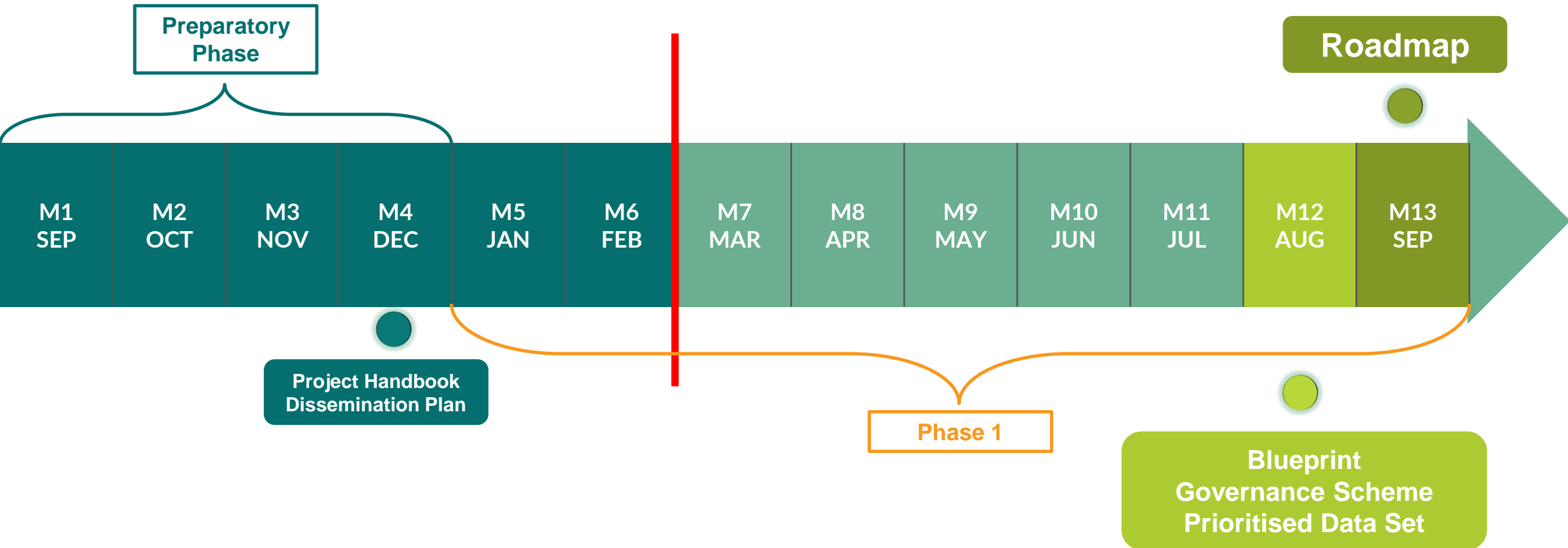


Roadmap





Timeline



Strategic Green Deal Actions

1

2030 Biodiversity Strategy

A woman's face is shown in profile, looking upwards. Her face is partially obscured by a dense arrangement of green leaves and thin branches, symbolizing nature and biodiversity.A small version of the GREAT logo, consisting of a green leaf icon and the word "GREAT" in white text on a green background.

2

Zero Pollution Action Plan

Two footprints are shown on a light-colored concrete surface. The footprints are made of green leaves and small leaf fragments, symbolizing a clean, green footprint.A small version of the GREAT logo, consisting of a green leaf icon and the word "GREAT" in white text on a green background.

3

Climate Change Adaptation Strategy

An hourglass is shown with a globe of the Earth in the bottom bulb and a snow-capped mountain range in the top bulb. The hourglass is partially filled with water, symbolizing the passage of time and the impact of climate change.A small version of the GREAT logo, consisting of a green leaf icon and the word "GREAT" in white text on a green background.



GREAT

DPP

GREAT

CLIMATE PACT AND CLIMATE LAW

PROMOTING CLEAN ENERGY

INVESTING IN SMARTER, MORE SUSTAINABLE TRANSPORT

Smart Cities

Mobility

GREAT

PROTECTING NATURE

Tourism

STRIVING FOR GREENER INDUSTRY

Manufacturing

Agriculture

FROM FARM TO FORK

Health

Cultural Heritage

ELIMINATING POLLUTION

Smart Cities

GREAT

GREAT

LEADING THE GREEN CHANGE GLOBALLY

THE EUROPEAN GREEN DEAL

ENSURING A JUST TRANSITION FOR ALL

Smart Communities

Energy

Smart Cities

MAKING HOMES ENERGY EFFICIENT

FINANCING GREEN PROJECTS

Finance



Collaboration with Data Spaces Support Centre & other sectoral data space CSAs

Data space reference architecture, common building blocks and toolboxes



Guidance on regulation compliance (Data Act, Data Governance Act...)



Common standards, including semantic standards and interoperability protocols



Data governance models, business models and strategies for running data spaces



Framework for discussion with other data spaces



Cross-sectoral stakeholder engagement



Working with Initiatives & Partnerships



Digital Twins of the Earth



Copernicus services, Sentinel data & DIAS (Cloud platforms)



INSPIRE Directive and GreenData4All





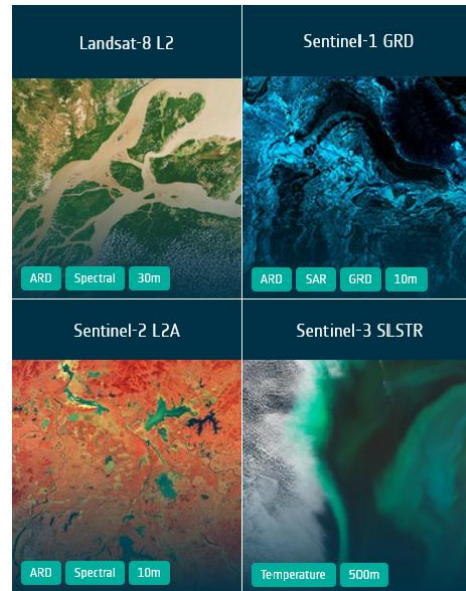
Examples: Specific Data Sets for the GDDs

Focus:

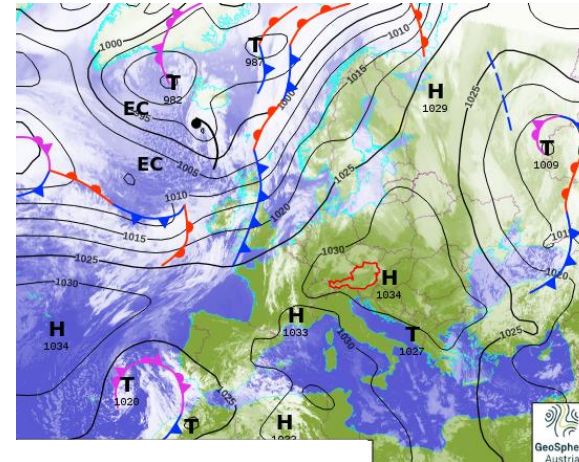


High Priority
Data sets

Earth Observation &
Environment:



Meteorological:



Statistical &
Geospatial:



And many more...



Community of Practice

Establish a GDDS community of practice, including major sectoral EGD initiatives and data ecosystems, that is committed to join efforts under a common governance framework to offer an interoperable, trusted digital ecosystem for data exploitation.





Call for Use Cases & Community Engagement

WHO CAN CONTRIBUTE?

- Data consumers, Data providers, Data intermediaries
- Using diverse data to support the implementation of Green Deal in any of the strategic actions: Biodiversity, Zero Pollution, Climate Change

HOW CAN YOU CONTRIBUTE? (Different Levels of engagement)

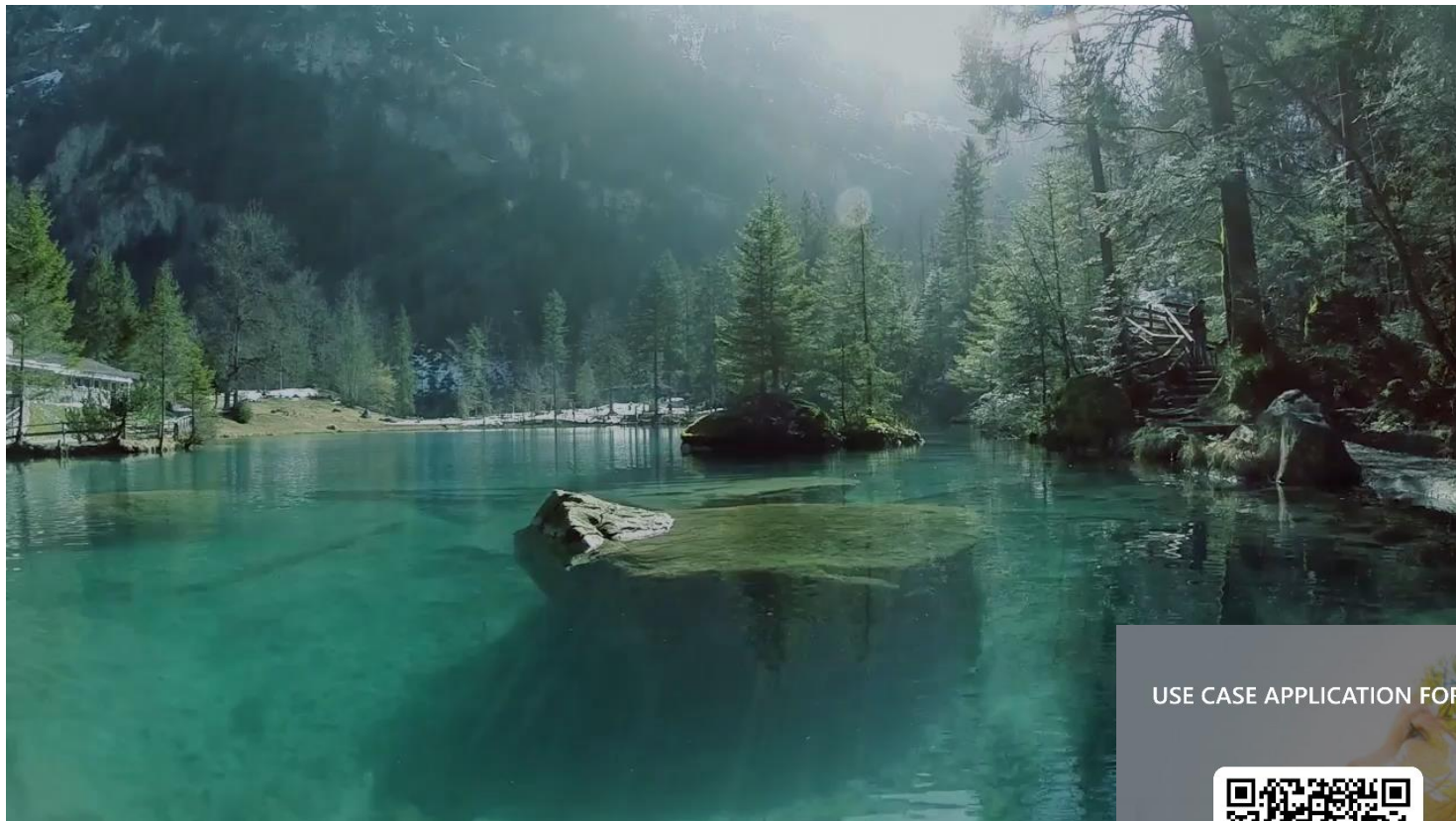
- Tell us what datasets you have, what do you use them for?
- Contribute with a use case
- Tell us what data is missing, problems accessing data

HOW DO YOU HELP THE PROJECT?

- Co-design and validate the GDDS requirements and reference models

WHAT IS THERE FOR YOU?

- Become part of the GDDS Community and have your say
- Contribute to events, gain visibility & recognition
- Become an early adopter, contribute to roadmap design and more



USE CASE APPLICATION FORM





Follow us!



<https://www.greatproject.eu/>



@GreenDealDS



Green Deal Data Space



Thank you!

info@greatproject.eu

GOS4M Knowledge Hub: from EO data to decision making

Chair: Nicola Pirrone, CNR, Italy

Focus: To provide EOs data and products to support policy makers and stakeholders in evaluating cost-effective strategies for reducing the impact of mercury contamination on human health and ecosystems

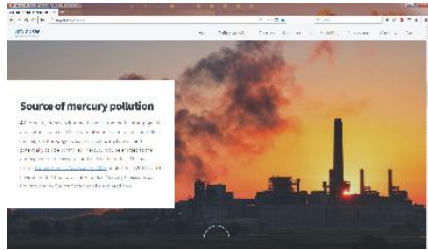
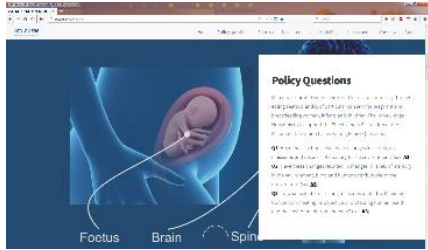
URL: www.gos4m.org



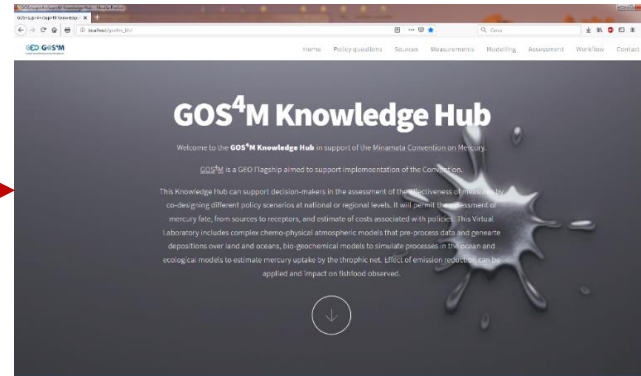
GOS4M Knowledge Hub

(conceptual framework)

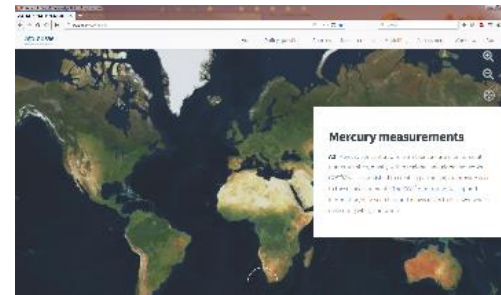
Policy questions



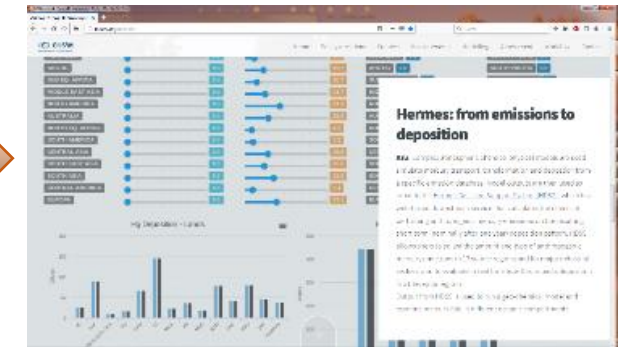
Co-design Policy Scenarios



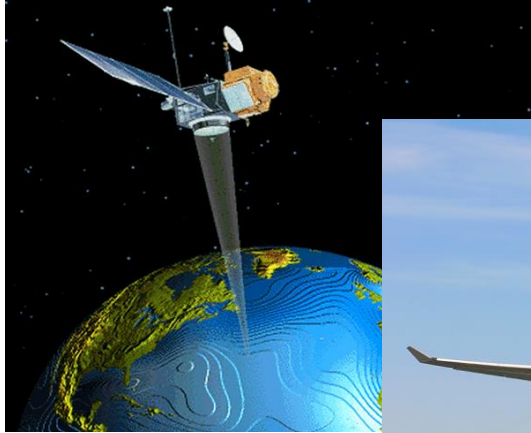
EOs data sets



Policy scenarios assessment

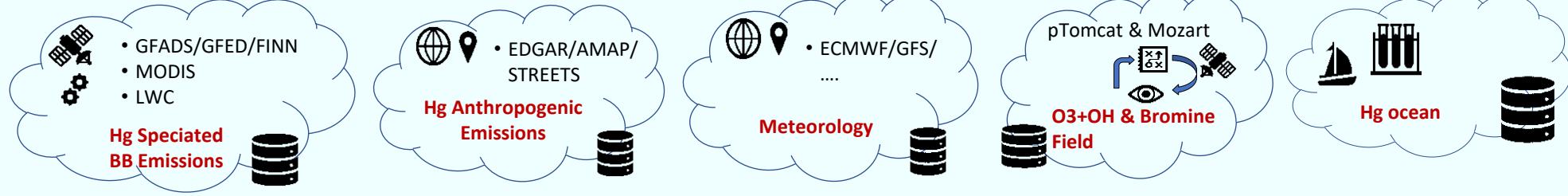


EO data for GOS4M KH are provided by different platforms

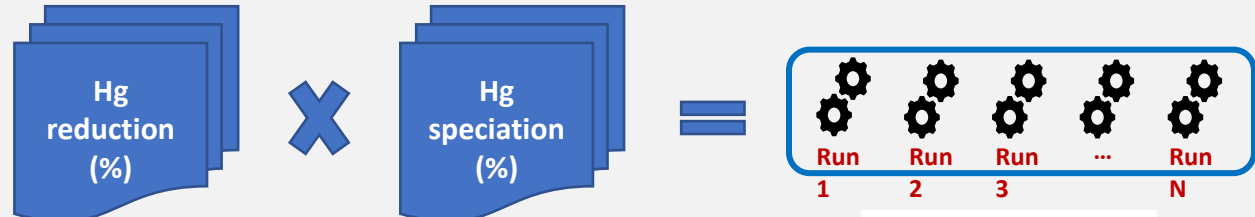


Pre-processing

EO data for GOs4M Modelling (satellite + in-situ)



Emissions perturbation policy scenarios & Atmospheric Model Runs



Model runs

Post-processing

Trophic transfer model

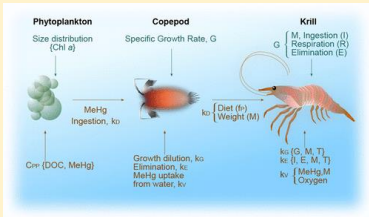


Image credits: Schartup et al., 2018

Marine biogeochemical model

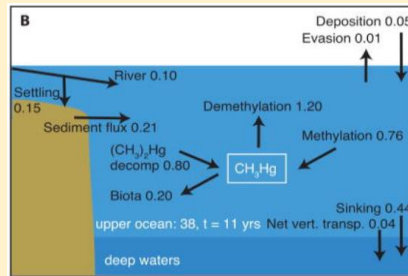
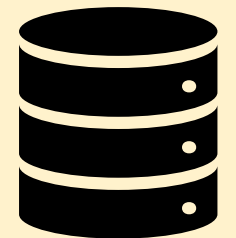


Image credits: Mason et al., 2012

Emulated depositions (Hermes)



Workflow

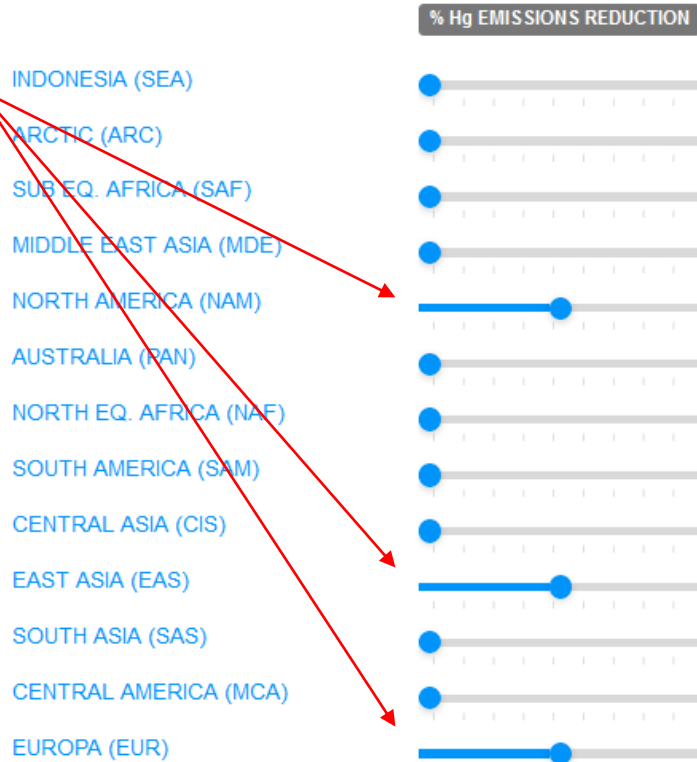
Example

- 50%
- Europe
- North America
- East Asia

ANTHROPOGENIC EMISSION PERTURBATION

It is possible to reduce Hg Anthropogenic emission from 12 source regions

CURRENT GLOBAL DEPOSITION 1912.79 Show Map



DEPOSITION CHANGES

The inputs are passed in near-real time to the statistical engine that calculates the change (%) on Hg deposition due to the selected emission reductions. If a reduction is not statistically significant (95% confidence interval) the deposition change is shown in blue. If reduction is significant for a given receptor the value is displayed in green. (De Simone et al., 2017)

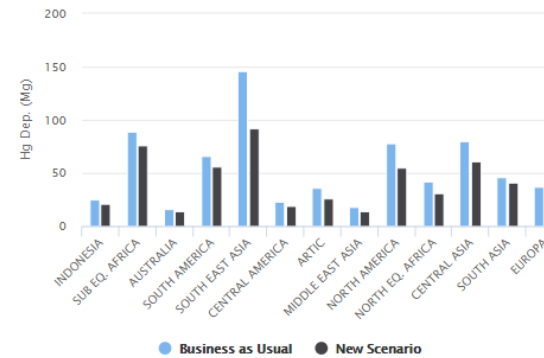
GLOBAL DEPOSITION SCENARIO 1492.08

LAND (%)	OCEAN (%)
INDONESIA (SEA)	-17.99
ARCTIC (ARC)	-26.48
SUB EQ. AFRICA (SAF)	-15.39
MIDDLE EAST ASIA (MDE)	-21.93
NORTH AMERICA (NAM)	-29.95
AUSTRALIA (PAN)	-13.09
NORTH EQ. AFRICA (NAF)	-25.28
SOUTH AMERICA (SAM)	-15.22
CENTRAL ASIA (CIS)	-23.06
EAST ASIA (EAS)	-37.05
SOUTH ASIA (SAS)	-10.61
CENTRAL AMERICA (MCA)	-20.16
EUROPA (EUR)	-37.11
NORTH PACIFIC	-25.01
SOUTH PACIFIC	-15.69
MEDITERRANEAN	-31.82
INDIAN	-15.76
NORTH ATLANTIC	-25.43
SOUTH ATLANTIC	-14.92
SOUTH OCEAN	-14.28
ANTARCTIC (ANT)	-14.06
GLOBAL OCEANS	-20.41
Biogeochemical response	
Oceans at 10 years	-17.59

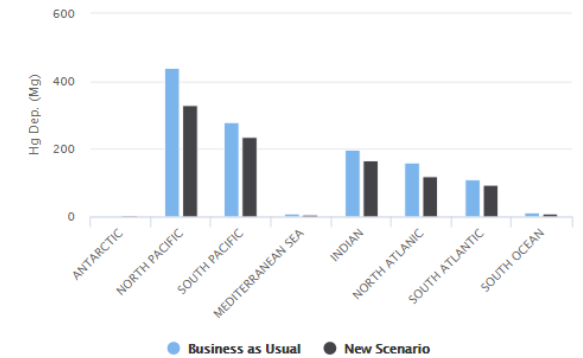
% of reduction is shown

blue = not significant
green = significant

Hg Deposition - Lands



Hg Deposition - Oceans



The needs for costs to be included

It is an **objective** of the GOS4M KH to provide **policy makers** with an **estimate**, even if only a ball-park figure, **of the costs** for implementing Hg emission reduction scenarios, in real time, **effectively at the click of a mouse**.

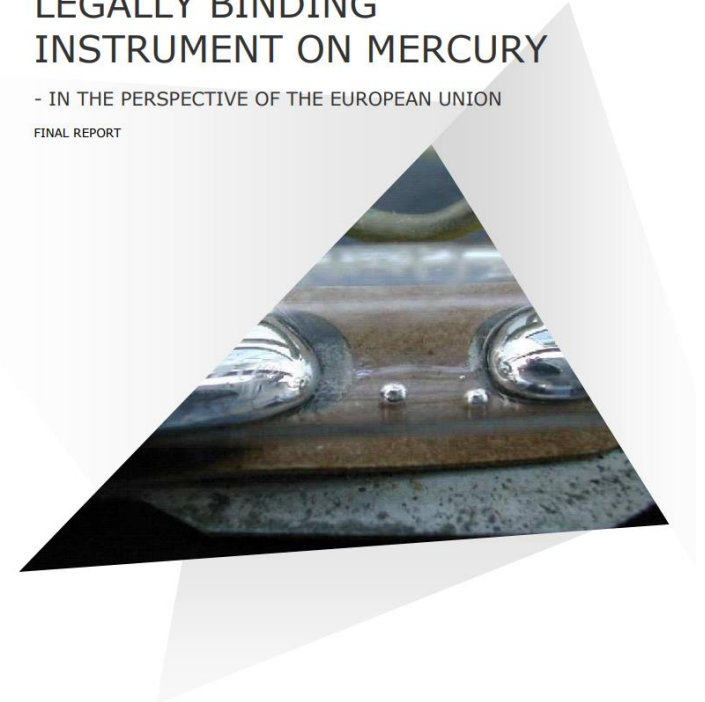
We have included Hg abatement costs based on a rather outdated document from the European Commission, based on a summary of the money spent (EUR) per kg of Hg atmospheric emission reduction, considering two groups of countries: North America + Europe and rest of the world..

MAY 2012
EUROPEAN COMMISSION - DIRECTORATE-GENERAL ENVIRONMENT
CONTRACT NO 07.0307/2011/605841/SER/C3 - SUPPORT TO THE COMMISSION FOR
THE INTERNATIONAL NEGOTIATIONS ON A GLOBAL LEGALLY BINDING INSTRUMENT
ON MERCURY

COST EFFECTIVENESS OF OPTIONS FOR A GLOBAL LEGALLY BINDING INSTRUMENT ON MERCURY

- IN THE PERSPECTIVE OF THE EUROPEAN UNION

FINAL REPORT



COWI

Current cost model

Table 0-4 Summary of cost effectiveness of quantified reduction options in terms of money spent per kg of reduced mercury emissions to the atmosphere, as well as the total reduction potential for each of these options.

Reduction option	World (excl EU+Na), CPL adjusted			Reduction potential
	Medium	Low	High	t Hg reduced air emissions/y
Batteries, substitution				
Dental amalgam, substitution*2				
Coal fired power plants, activated carbon injection (ACI)				
VCM production, Hg substitution*1				
Cement production, optimised fabric filters*4				
Non-ferrous metals production, Hg-specific gas cleaning and wet gas cleaning + disposal of ca Hg				
Chlor-alkali production, Hg substitution*1				
Measuring and control devices, substitution				
ASGM, education and low tech devices, costs assumed divided on 10 years				
Supply, value of Hg not supplied for allowed (distributional effect only)				
Non-ferrous metals production, env. sound Hg storage				
Permanent env. sound storage of Hg from other supply sources				

Sector EU	Sector AMAP	Sector	Emiss/tons	Cost	Weight	Weighted Cost
ASGM	ASGM	INTW1	727	710	0,962404	683,3068573
Chlor-alkali production	CSP	INTW2	28,4	1050	0,037596	39,47577442
		TOT INTW	755,4			723 Eur/kg

Sector EU	Sector AMAP	Sector	Emiss/tons	Cost	Weight	Weighted Cost
Coal Fired Power plant, (ACI)	SC-PP-coal	COMB1	316	25000	0,849462	21236,55914
Coal Fired Power plant, (ACI)	SC-DR-coal	COMB2	56	25000	0,150538	3763,44086
		TOT COMB	372			25000 Eur/kg

Sector EU	Sector AMAP	Sector	Emiss/tons	Cost	Weight	Weighted Cost
Coal Fired Power plant, (ACI)	SC-IND-coal	INDU1	102	25000	0,176471	4411,764706
Cement production	CEM	INDU2	173	6000	0,299308	1795,847751
NFMP	NFMP-AL-CU-PB-ZN-AU-HG	INDU3	303	2400	0,524221	1258,131488
		TOT INDU	578			7466 Eur/kg

SUMMARY			
	COSTS Eur/kg	Low	High
INTW	723	721	725
COMB	25000	1800	48000
INDU	7466	2511	12356

**Word
excluding
NA+UE**

We mapped the costs published by the European Commission to the AMAP emission sectors, based on their relative weight in the macro-sector.

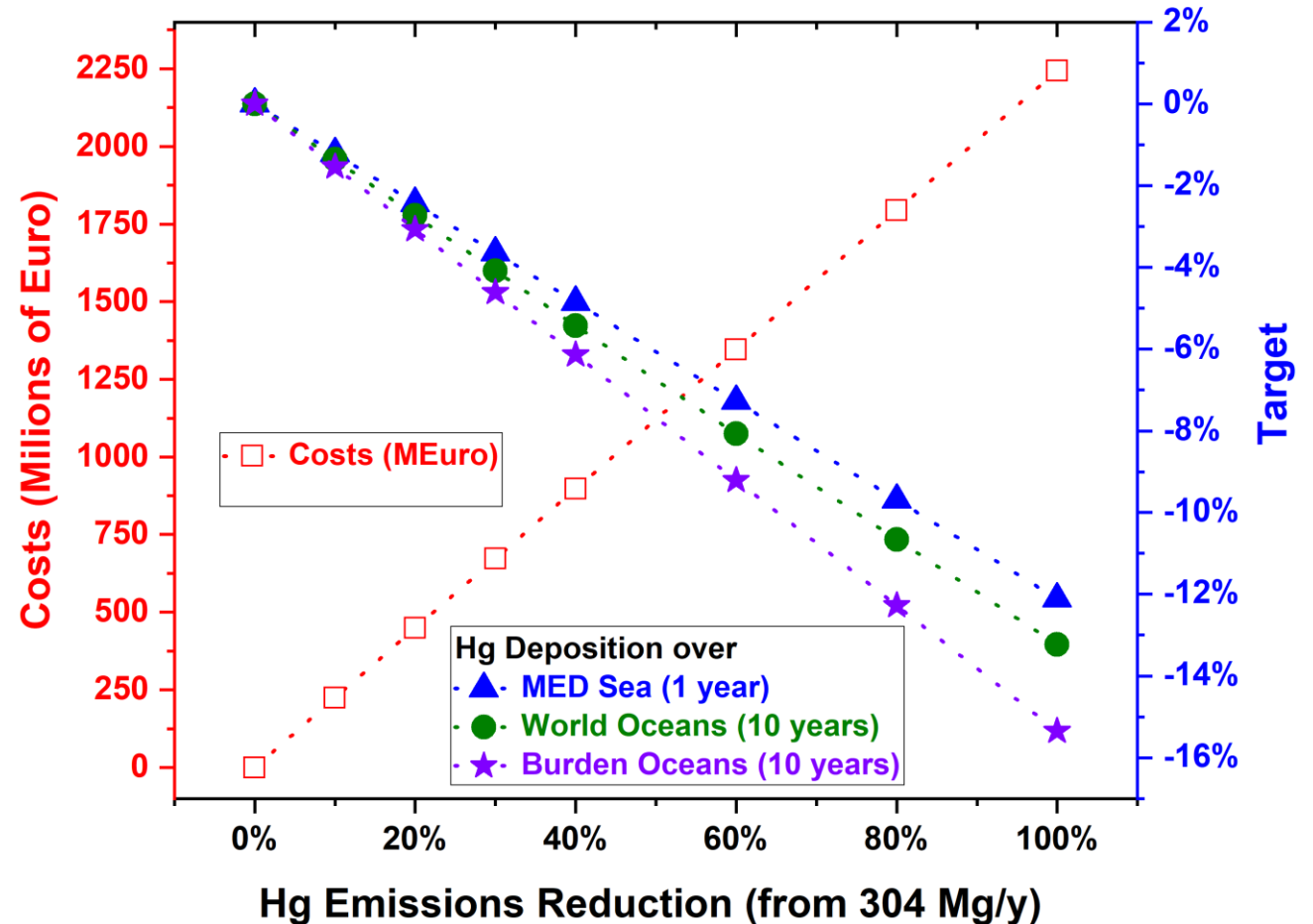
Final Goal: costs vs benefits

Our final objective is to provide a summary of the trade-off between the costs of a policy scenario and the beneficial effects on one or more variables of interest, world-wide.

Therefore, an approach based on updated and reasonable averaged costs for (groups of) regions and (macro-)sectors is enough.

The approach based on summarised costs for unit mass of Hg emission reduction, is also ideal for inclusion in a simple optimisation model on a global scale.

East Asia Region - INDU Sector



Next step:

Development of Human Exposure and Risk Assessment model

Thanks....

Modelling the water cycle

