



Sustainable Blue Growth under Climate Change Living Lab

Prof. Phoebe Koundouri (ATHENA RC)

27.04.2021

INTELCOMP Launch Meeting



Blue Growth Research-Innovation-Policy Interface for a Sustainable and Resilient Recovery

[Prof. Phoebe Koundouri – www.phoebekoundouri.org](http://www.phoebekoundouri.org) – pkoundouri@aueb.gr

Professor School of Economics, Athens University of Economics and Business
Fellow, World Academy of Art and Science

President-Elect, European Association of Environmental and Resource Economists

-
- Director, Cluster on Sustainability Transition
 - Director, Sustainable Development Unit and EIT Climate KIC Hub Greece, ATHENA RC
 - Co-Chair, UN Sustainable Development Solutions Network (SDSN) Greece and EUROPE
 - Chair Scientific Advisory Board, European Forest Institute
 - Chair Scientific Advisory Board, International Center for Research for the Economy and the Environment, ICRE8
 - President of Climate Change Task Force, Green Cross International (GCI)
 - Commissioner, Lancet Commission for COVID 19 Recovery
 - Greek National Committee on Climate Change, Greek National Committee on 10-Development Plan

The Policy Framework

2015



193 Countries

17 SDGs

169 Targets

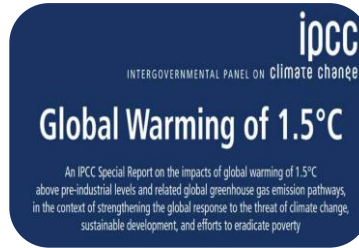
2015



197 Countries

Limiting global
temperature to
well below +2°C

2018



- Limiting global temperature to +1.5°C
- Global CO2 to fall 45% from 2010 levels by 2030, reaching 'net zero' around 2050."

2019

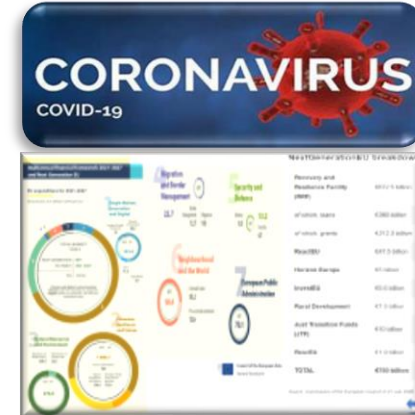


6 Major
Transformations to
achieve SDGs

Dec 2019



2020 ...



MS Leaders agree
55% emissions
reduction by 2030

UN SDSN Blue Growth Initiative: Call for Collaboration



A Competitive Intelligence Cloud/High Performance Computing Platform for AI-Based Science Technology & Innovation Policy Making

New and innovative AI services to public administrators and policy makers across Europe for a co-creation ecosystem that allows for data- and intelligent-driven policy design, implementation and making in the field of STI.

SDSN Networks

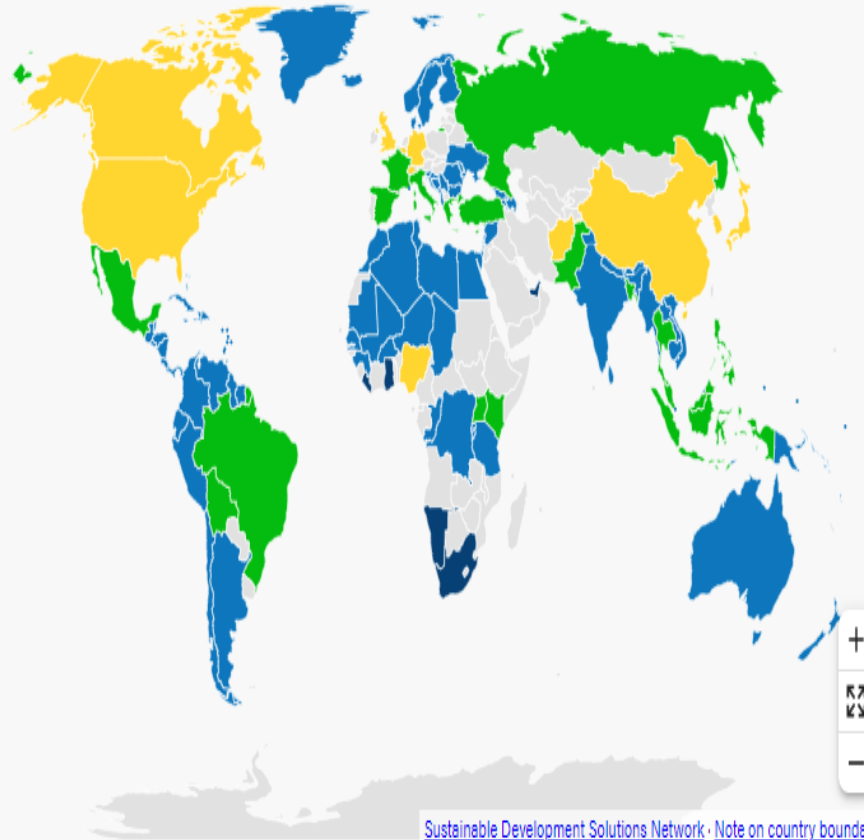
Click on a network to learn more.

Legend

- Regional SDSN network
- National SDSN network
- Regional & National SDSN network
- SDSN network in development

Regional Networks

- SDSN Amazon
- SDSN Andes
- SDSN Australia, New Zealand & Pacific
- SDSN Black Sea



We promote integrated approaches to implement the Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change, through education, research, policy analysis, and global cooperation.

SDSN NETWORKS

We are committed to supporting the implementation of the SDGs at local, national, and global scales.



SDG 14

Life below water

Displaying Ratings

Ratings provide a visual representation of a country's performance on the SDG.

Legend

Click on a country to see its performance.

- SDG achieved
- Challenges remain
- Significant challenges remain
- Major challenges remain
- Information unavailable

Description

Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Indicators

Click on an indicator to visualize it on the map.

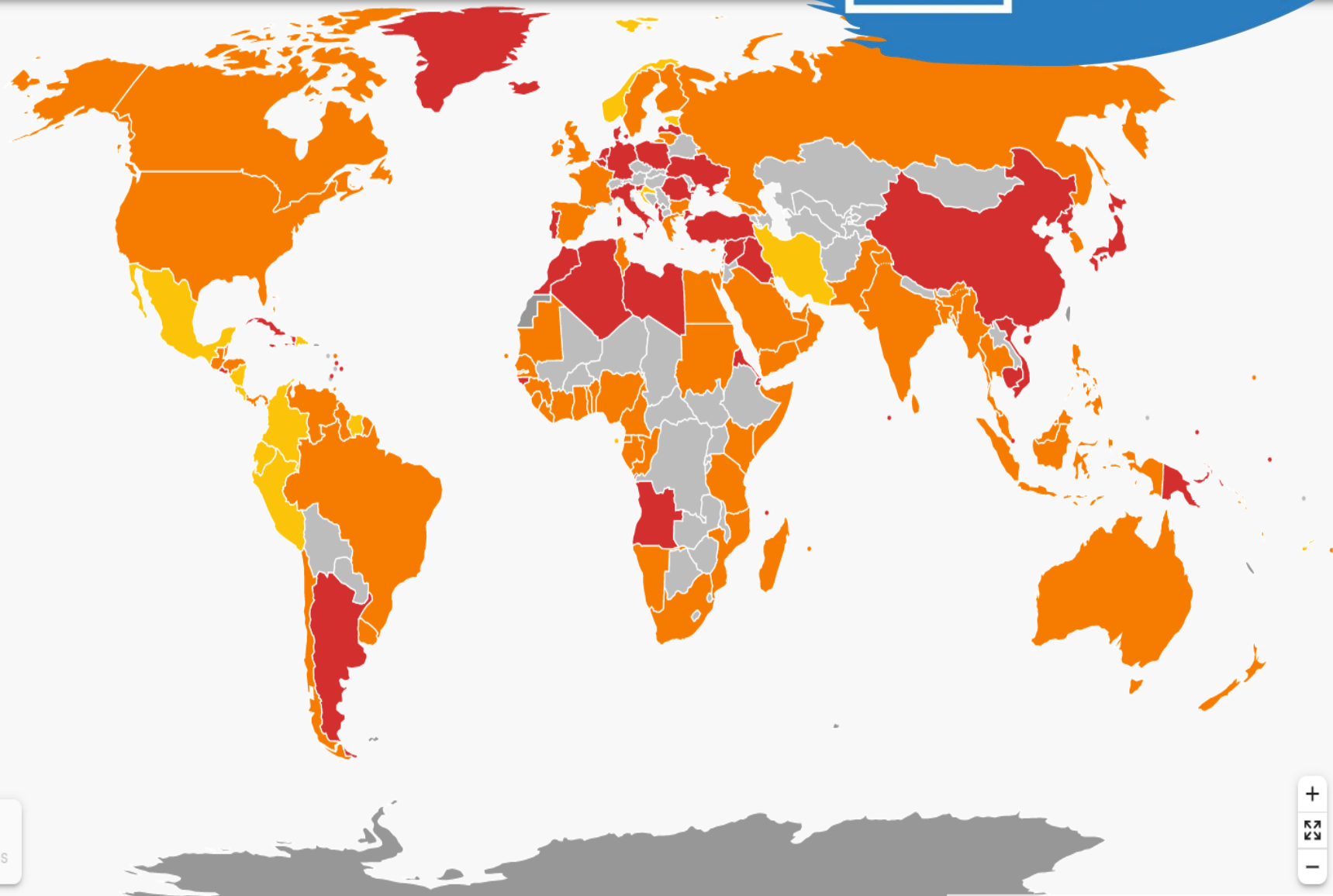
Mean area that is protected in marine sites important to biodiversity

Ocean Health Index: Clean Waters score

Fish caught from overexploited or collapsed stocks

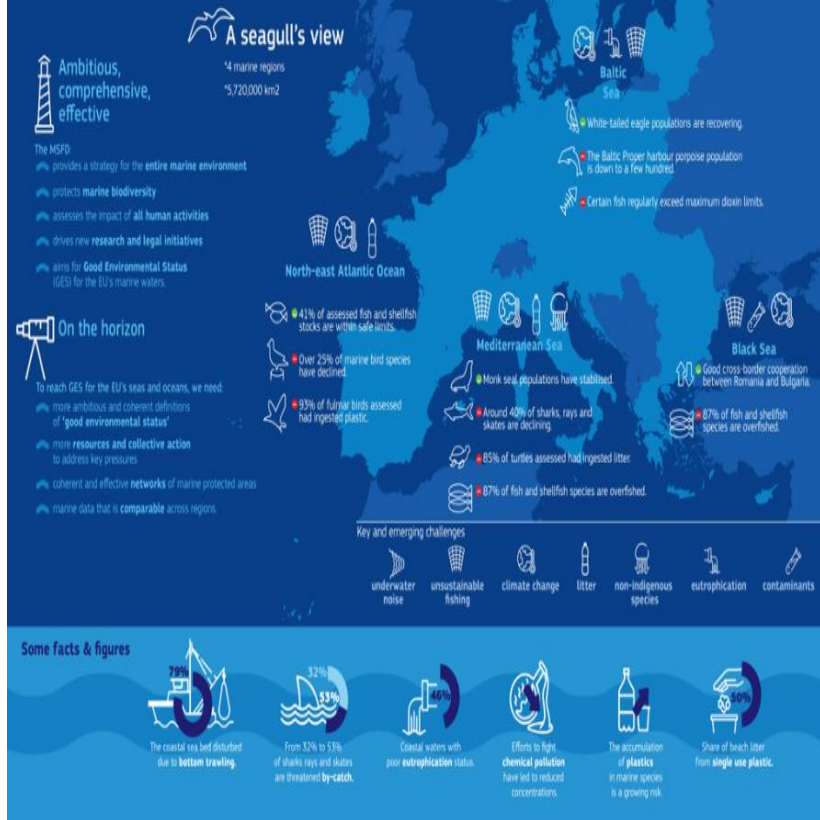
Fish caught by trawling

Marine biodiversity threats embodied in imports



Protecting Europe's Seas and Oceans

The Marine Strategy Framework Directive



European
MSP Platform



European Blue Economy
Indispensable to achieve EGD
ambitions. Many solutions
(renewable energy, plastic-free
packaging, low-impact food) will
come from the blue economy.

Blue sectors will have to reduce
their own environmental and
climate impact significantly to
contribute to the overall targets.

Several EU policies are already in
place or being created, and will
come together in the new
approach for a sustainable blue
economy in the EU, expected in
May 2021.

Methodology - Activities

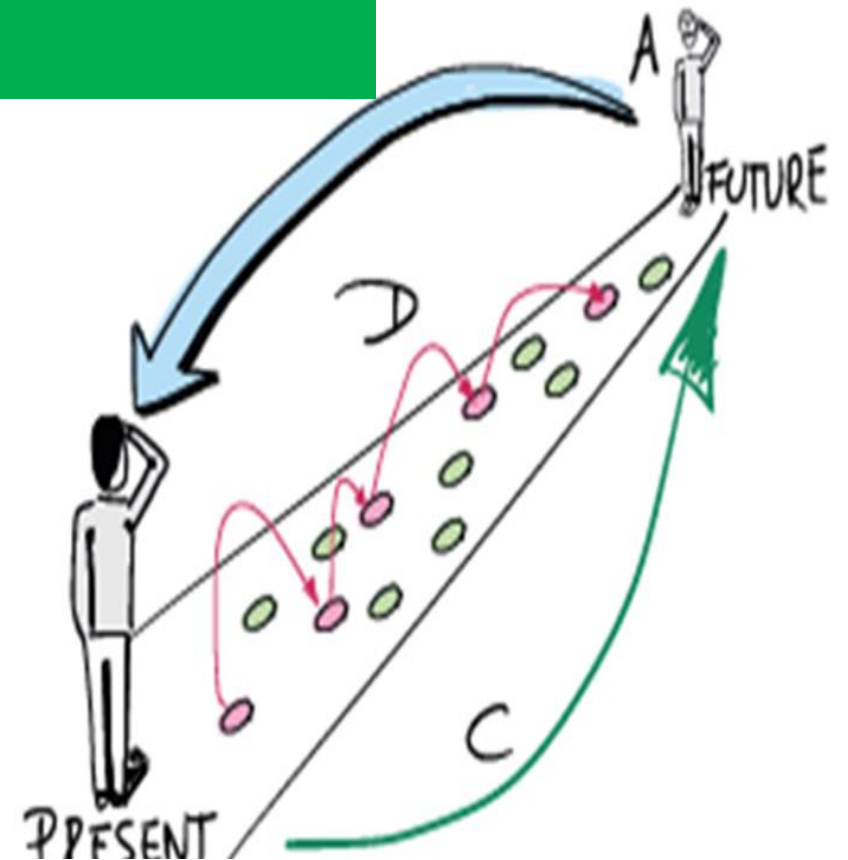
- Use IntelComp Viewer to **explore and understand** the scientific production and trends related to blue economy and climate: what are the trends in R&D and what are the national competence on specific subtopics, that are the most efficient teams and how do they collaborate on the EU and global level
- Develop and customize AI modules to **classify R&D** according to climate related SDGs.
- Develop, customize or adapt AI modules to **identify innovations** and **policy recommendations** from projects (reports and publications) and teams and transform them to indicators for specific needs.
- Develop, customize or adapt AI modules to **extract and interlink information** for the understanding and mapping of interrelated policies, laws and strategies implemented in Greece.
- Consider interfaces and analysis tools to gauge **collaboration / co-development** via social/traditional media.

Five vital elements

- **Climate change** and its **implications on Blue Growth**
- **Holistic mapping and understanding of the laws, policies and strategies at International, European and National level**
- **Innovations and new technologies** to enhance mitigation and adaptation to climate change
- **Natural Capital Accounting and Valuation of Ecosystem Services**
- Connections with different **innovation ecosystems and networks** in order to find synergies.

Sustainable Blue Growth and Climate Change Living Labs

Systems Innovation can be understood as a combination of systems thinking and the process of innovation so as to enable transformative change within complex systems



Living Labs

Stakeholder mobilization through **Systems Innovation approach**

Defining stakeholders at EU level, behaviours, relationships, interlinkages

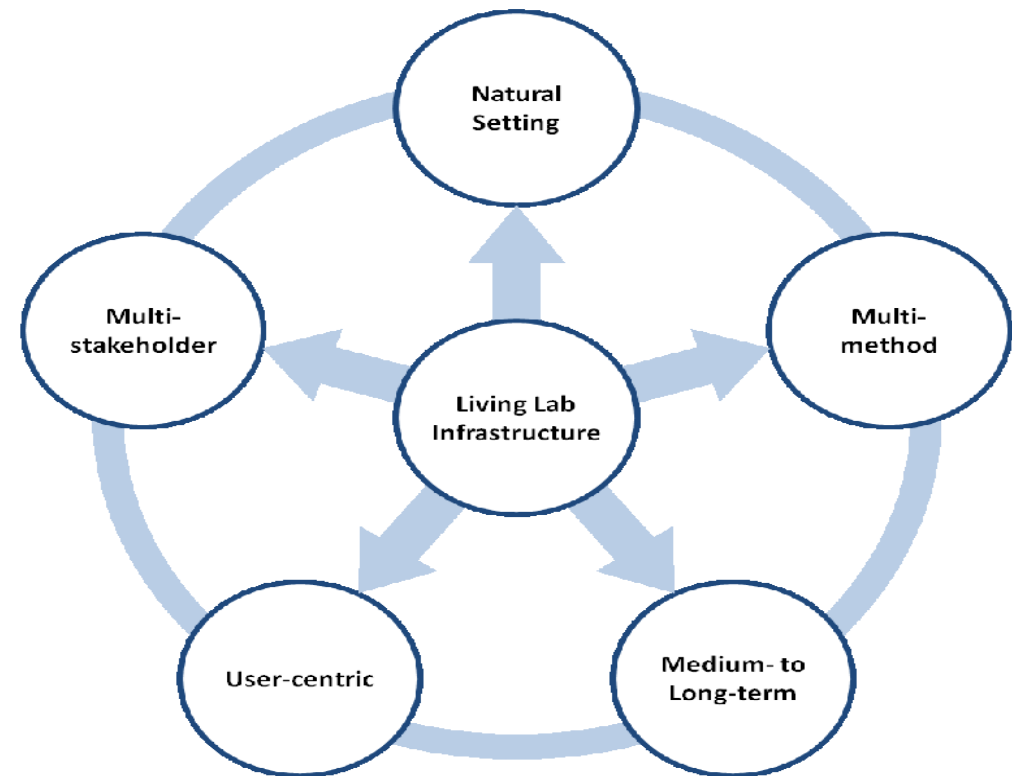


Four sets of Living Labs

- 1) Interactive Model Trainer set up and validation
 - The objective is to work with the engaged administrative units in a co-creation iterative process to obtain feedback
- 2) IntelComp Tools for Public Administrations
 - Define the context, needs, analysis, co-creation framework
 - Co-create a vision and specific goals
- 3) IntelComp Tools for Citizens
 - Define challenges and revise expected outcomes of the platform
- 4) IntelComp tools for Academia and Industry
 - Policy development

Data - Living Labs

user-centered, iterative, open-innovation ecosystems, often operating in a territorial context, integrating concurrent research and innovation processes within a public-private-people partnership.



Approach

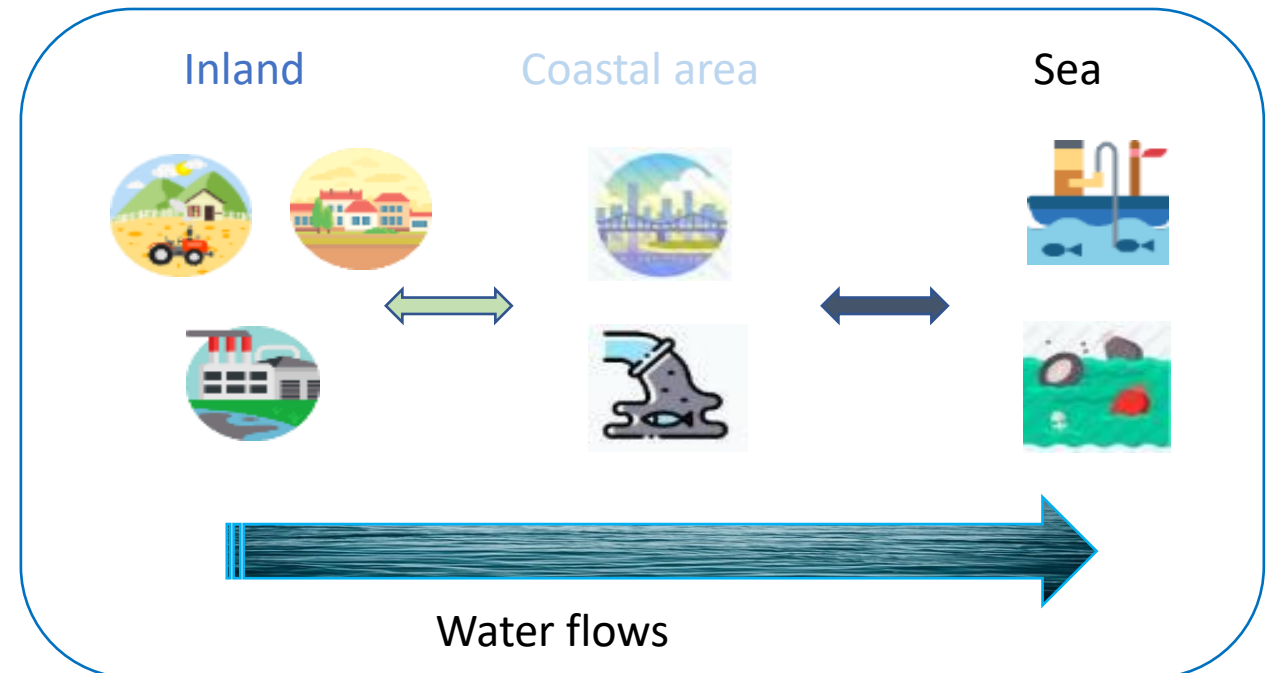
River Basin/Coast/Sea Ecosystem



COASTAL
Collaborative Land-Sea
Integration Platform



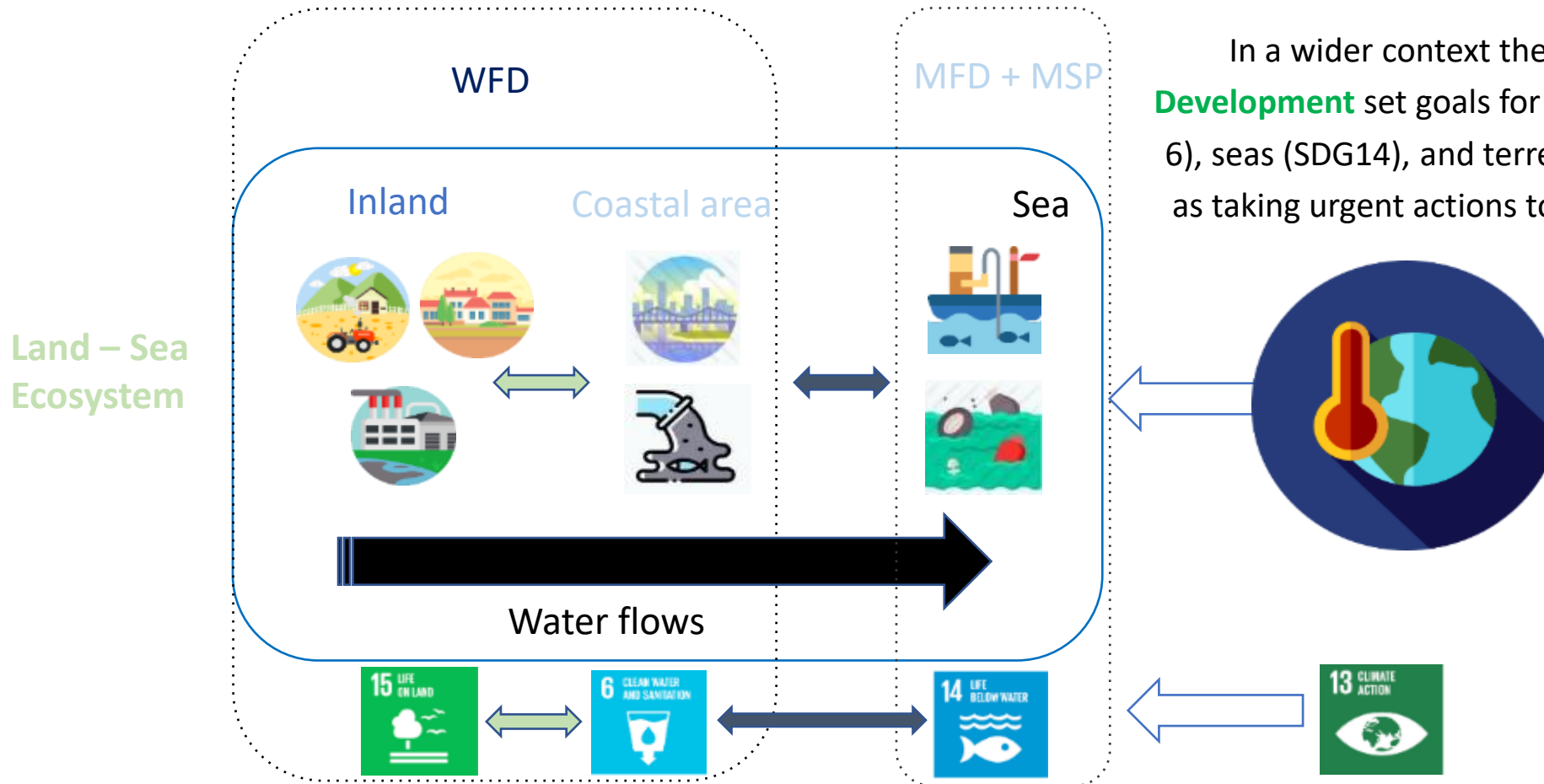
- At a river basin scale, land-based ecosystems and coastal & sea ecosystems are directly linked through water flows. In the same way, land-based activities (agriculture, forestry, industries & urbanization) are directly impacting land ecosystems and coastal & sea ecosystems.
- Coastal & seas regions concentrate populations and economic activities but also environmental stresses & pollutions.
- On the other hand, rural hinterlands face depopulation and economic recession, while still environmentally impacting coastal regions.



Approach

The **EU Water Framework Directive** seeks to reach the Good Environmental Status of rivers while the **EU Marine Strategy Framework Directive** targets the Good Environmental Status of EU marine waters but the two legislations lack interconnections.

In a wider context the **2030 Agenda for Sustainable Development** set goals for sustainable use of freshwater (SDG 6), seas (SDG14), and terrestrial ecosystems (SDG 15) as well as taking urgent actions to combat climate change (SDG13).



SBGI-OBJECTIVES



The BLUE GROWTH INITIATIVE will focus on 5 Objectives

- Research
- Education
- Data Management
- Innovation
- Policy Reform

Cluster for Sustainability Transition: Transforming Research and Innovation into Sustainability Action

Director: Professor Dr. Phoebe Koundouri
Fellow, World Academy of Art and Science

President-elect, European Association of Environmental and Resource Economists



CLUSTER ON SUSTAINABILITY TRANSITION

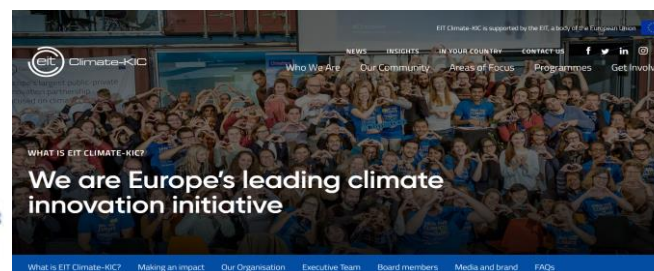
Research - Innovation Acceleration Deep Demonstration - Education & Training

Research and Innovation Projects Global Initiatives

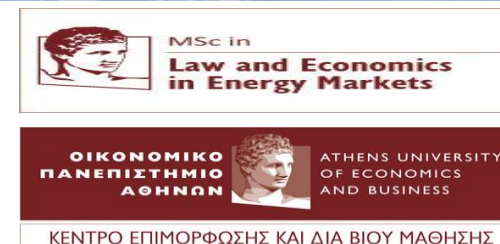


Smart Water Futures:

Innovation Acceleration Deep Demonstration



Education & Training Awareness





GLOBAL ROUNDTABLE FOR SUSTAINABLE SHIPPING AND PORTS



ClimAccelerator Maritime Accelerator



EIT Climate-KIC Maritime Themed Accelerator Expression of Interest



Our Vision: To Become a Global Initiative for the Decarbonization and Adaptation to Climate Change for the Marine Sector



4-Seas Initiative

An initiative led by the regional networks SDSN Black Sea and SDSN Mediterranean and the national networks SDSN Greece, SDSN Italy, SDSN Spain, SDSN France, SDSN Turkey and SDSN Russia

GLOBAL ROUNDTABLE FOR SUSTAINABLE SHIPPING AND PORTS

- Aims at bringing together **researchers and technology developers, shipbuilders, shipowners, ports, policy makers and politicians**, from across the globe, to work on technological and policy innovations, related to zero emissions shipping, to target net-zero emissions by 2050.

- Find more at: <http://www.unsdsn.gr/global-roundtable-for-sustainable-shipping-2>

Transformation

Radical changes happening simultaneously, holistically and faster than we have ever experienced change before

Projects

Blue Growth

Scientific Director:
Prof. Koundouri

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Conserve and sustainably use the oceans, seas and marine resources for sustainable development

4 New Horizon 2020 Projects

on
Blue Growth

- H2020 SEAWISE:** Shaping Ecosystem Based Fisheries Management



- H2020 DOORS:** Developing an Optimal and Open Research Support System to Unlock the Potential for Blue Growth in the Black Sea

- H2020 BRIDGE BS:** Advancing Black Sea Research and Innovation to Co-Develop Blue Growth within Resilient Ecosystems

- H2020 INTECOMP:** A Competitive Intelligence Cloud/HPC Platform for AI-Based STI Policy Making: a platform that will offer new and innovative AI services to public administrators and policy makers across Europe for a co-creation ecosystem that allows for data- and intelligent-driven policy design, implementation and making in the field of STI.

Projects, Scientific Director: Prof. Koundouri

Water-Food-Energy Nexus

Smart Agriculture & Smart Urban Water Systems



**Smart Water Futures: Water-Futures
Designing the Next Generation of
Urban Drinking Water Systems**

**ERC Funding: € 10 million
for six years**




European Research Council

**Supporting top researchers
from anywhere in the world**

To design the next generation of smart urban drinking water systems, this interdisciplinary research team will look at methodologies from water science, systems and control theory, economics, and decision science as well as machine learning.

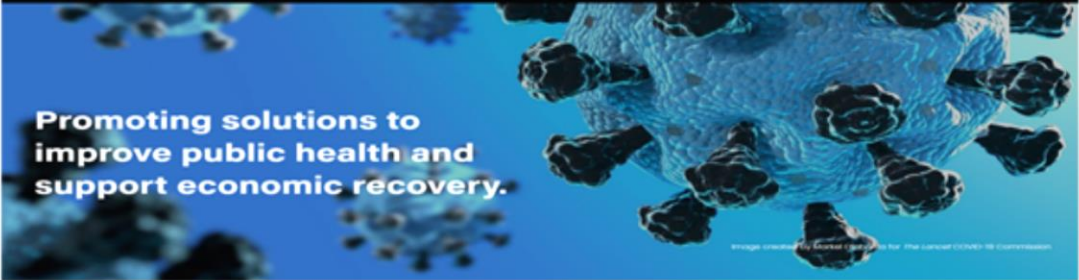
Projects, Scientific Director: Prof. Koundouri

Climate Change Mitigation and Adaptation
Green-Digital-Just Recovery Pathways
Circular Economy and Nature-Based Solutions
Systems Innovation Approach



The Lancet COVID-19 Commission

Members Resources Contact [Read the Statement](#)



Promoting solutions to improve public health and support economic recovery.

**TASK FORCE JOBS
BASED GREEN
RECOVERY**

Co-chairs:

- Prof. Phoebe Koundouri,
President Elect of
European Association of
Environmental and
Resource Economics
- Dr. Ismail Serageldin,
Founding Director
Bibliotheca Alexandria, ex
Vice President World
Bank
- Dr. Min Zhu, Deputy
Managing Director IMF

Task Force: Job-Based Green Recovery

Economic recovery plans should support the transition towards sustainable and inclusive societies based on the SDGs and the Paris Climate Agreement.

Public investment should be oriented towards sustainable industries and the digital economy and should spur complementary private investments.

A major goal of the recovery should be an unprecedented commitment to reskilling and upskilling people, including the skills to prepare workers for the digital economy.

The EU Green Deal, long-term budget (2021–27), and new recovery fund marks an exemplary framework for long-term recovery, including mid-century goals on climate safety, energy transition, and circular economy, with a comprehensive €1.8 trillion budget.

EGD can serve as an exemplar for other regions. In general, recoveries should be smart (based on digital technologies), inclusive (targeting lower-income households), and sustainable (featuring investments in clean energy and reduced pollution).

EIT Climate KIC HUB Greece, Director Prof. Koundouri Innovation Acceleration Training for Up-Skilling and Re-Skilling

With presence in 50+ countries across 6 continents,
Climathon is a global success story...



Climathon



climathon.climate-kic.org
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Europe Sustainable Development Report 2020

Meeting the Sustainable Development Goals in the face of the COVID-19 pandemic

[READ REPORT](#)

[EXPLORE DATA](#)

ESDR 2020

Overall score

Legend

Click on a country to see its performance.

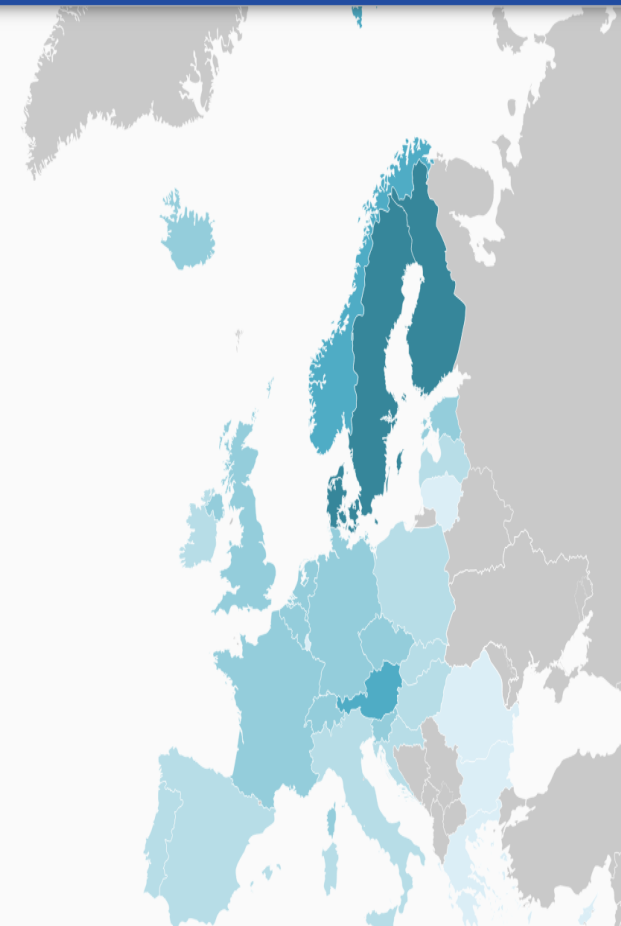
- > 80
- 75 - 80
- 70 - 75
- 65 - 70
- < 65
- Information unavailable

Description

The overall score measures a country's total progress towards achieving all 17 SDGs. The score can be interpreted as a the percentage of SDG achievement. A score of 100 indicates that all SDGs have been achieved.

Performance by Index

Click on an index to visualize it on the map.





#EUGreenDeal Senior Working Group

**Transformations for the Joint Implementation of Agenda 2030
for Sustainable Development and the European Green Deal:
A Green and Digital, Job-Based and Inclusive Recovery from
the COVID-19 Pandemic**

<https://www.unsdsn.org/the-future-europe-wants-a-green-and-digital-job-based-and-inclusive-recovery-from-covid-19-pandemic>



#EUGreenDeal Senior Working Group

Jeffrey Sachs President UN SDSN

**Phoebe Koundouri President-elect EAERE
co-Chair SDSN Europe**

**Paolo Carnevale Fondazione Eni Enrico
Mattei**

Carlo Papa Enel Foundation

Laura Cozzi International Energy Agency

Mariana Mazzucato UCL

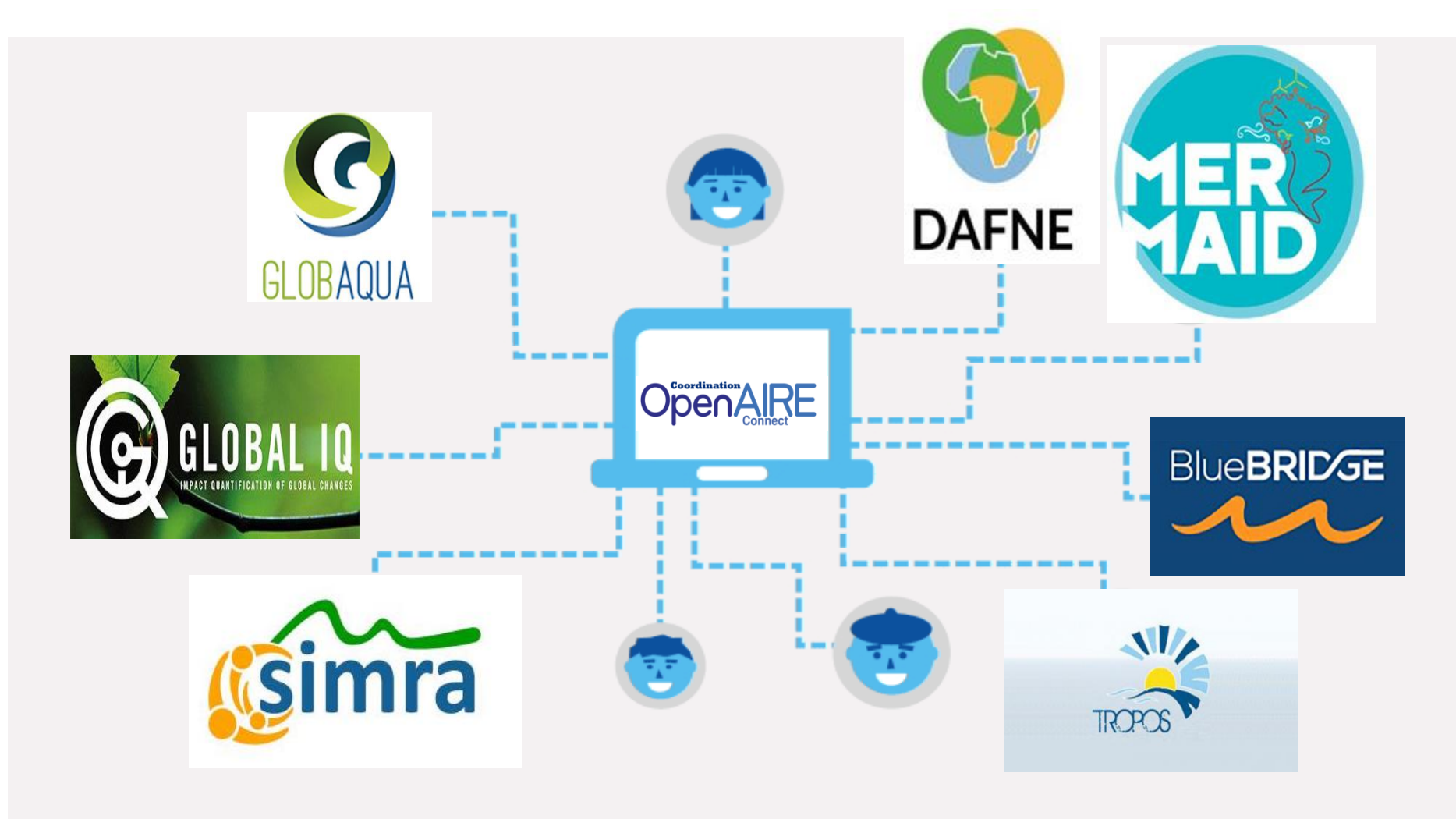
Leonardo Becchetti University of Roma

Data



- (i) Scientific publications from [OpenAIRE](#) (a pan European infrastructure for open knowledge, a pillar to the European Open Science Cloud (EOSC)), [RepEc](#) (repository of economic papers for models and policies, project descriptions and reports)
- (ii) Innovative solutions from the [Climate Innovation Window](#), a reference portal for innovations on climate change adaptation, and the [Nature-based Solutions Policy Platform](#) with information on climate change adaptation planning across the globe.
- (iii) European and national policies, laws and strategies related to the climate, the project aims to create optimum conditions
- (iv) experimental information of people's perception of climate change (social media, living labs, interaction with IntelComp)

Data – Scientific Publications



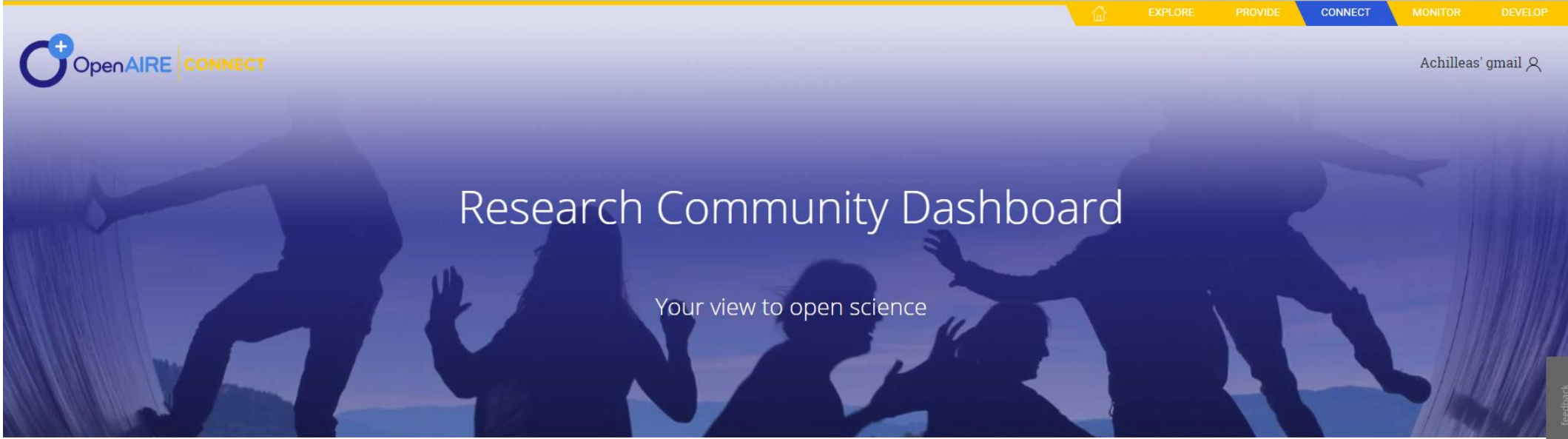
Data - How the Dashboard works

Research Life Cycle & Research Outputs



(i) Data - OpenAIRE

SDSN Greece Dashboard



The header banner features a blue gradient background with silhouettes of people in dynamic poses. It includes the OpenAIRE CONNECT logo on the left, a navigation bar with links like EXPLORE, PROVIDE, CONNECT, MONITOR, and DEVELOP, and a user profile 'Achilleas' gmail' on the right. The main text reads 'Research Community Dashboard' and 'Your view to open science'.



Environment and Economy

RESEARCH COMMUNITY

The Greek United Nations (UN) Sustainable Development Solutions Network (SDSN)

UNSUBSCRIBE



Research Data Alliance

RESEARCH INITIATIVE

Research Data Alliance

SUBSCRIBE



Fisheries and Aquaculture Management


RESEARCH COMMUNITY

Conservation of marine resources for sustainable development

SUBSCRIBE

(i) Data - OpenAIRE

Searching

 Environment and Economy

Search

Monitor

Share

water

Keywords: water

- FUNDER (14)
- ☐ European Commission (813)
 - ☐ Fundação para a Ciên... (38)
 - ☐ Research Council U... (19)
 - ☐ Ministry of Education, ... (18)
 - ☐ National Science Fou... (18)

- PROJECT (100+)
- ☐ HERMIONE (163)
 - ☐ HYPO... (54)
 - ☐ CLEAN WATER (45)
 - ☐ SIRRIMED (42)
 - ☐ CORALFISH (31)

RESULTS IN OPENAIRE →

832 PUBLICATIONS, PAGE 1 OF 84

CLEAN WATER: water detoxification using innovative photocatalysts

ARTICLE ENGLISH CLOSED

Likodimos, Vlassis; Dionysiou, Dionysios D.; Falaras, Polycarpos; (2010)
Project: EC | CLEAN WATER (227017)

Adaptive strategies of on-farm water management under water supply constraints in south-eastern Spain

ARTICLE ENGLISH CLOSED

Martínez-Alvarez, V.; García-Bastida, P.A.; Martín-Gorriz, B.; Soto-García, M.; (2014)
Project: EC | SIRRIMED (245159)

SIMRA

Social Innovation in Marginalised Rural Areas (677622)

PROJECT EC OPEN ACCESS MANDATE

Funding: H2020 | RIA
Start Date: 2016-04-01
End Date: 2020-03-31
Organization: Euromontana | EFI | FAO | SAB | ÖAR | ØF | Eurac Research | SEEDS-int | WUR | CETIP Network | ICREB | RDC | AWI | UBERN | FORECO | UNIPD | CTFC | CU | Perth College | ULANC | THE JAMES HUTTON INSTITUTE | BOKU | IFE SAS | UNIFG | OUY | IAMZ - CIHEAM

Detailed project information (CORDIS) →

Publications 7 +

Research Data 0 +

Software 0 +

Statistics +

Metrics +

Share - Bookmark

Application Box

PUBLICATIONS RESEARCH DATA

- < > Include in your site (HTML)
- ≡ Get EC report (HTML)
- ↓ Get EC report (CSV)
- ↑ Deposit

Metrics

0 views in OpenAIRE

0 views in local repository

0 downloads in local repository

LINK THIS PROJECT TO...

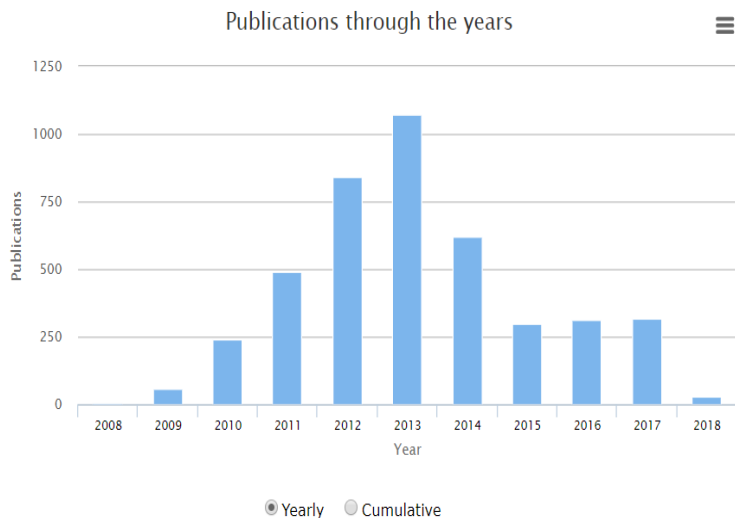
(i) Data - OpenAIRE

Monitoring

PUBLICATIONS
RESEARCH DATA

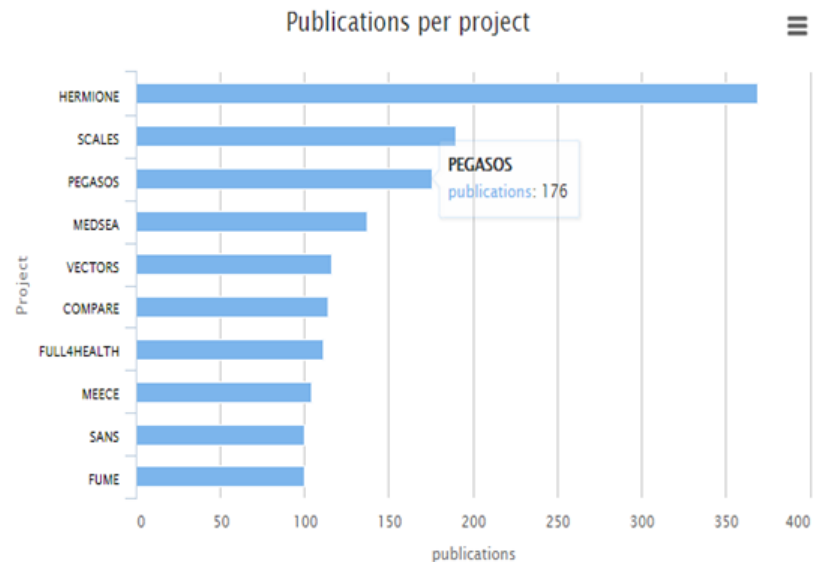
Publications statistics

4,716 PUBLICATIONS LINKED TO 1,072 PROJECTS.
2,529 ARE OA , 1,741 ARE CLOSED , 111 ARE RESTRICTED AND 5 ARE STILL IN EMBARGO.



PUBLICATIONS PER PROJECT

COLUMNS PIE TABLE



(i) Data - OpenAIRE

Monitoring



Environment and Economy

Search

Monitor

Share

Link

Deposit Publications

See if your institution has a repository

Organization name

LOCATE

Or locate repository on map

Datasource type

- ☒ Journal
- ☒ Publication Repository Aggregator
- ☒ Thematic Repository
- ☒ Institutional Repository
- ☒ Publication Repository
- ☒ Journal Aggregator/Publisher

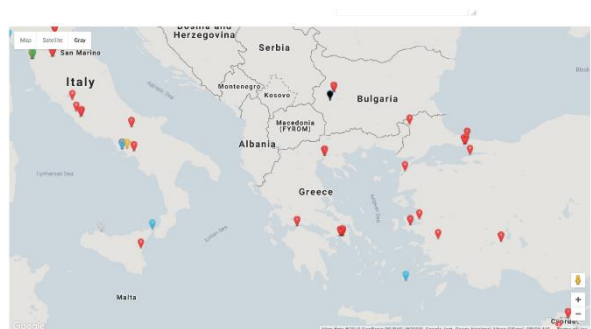
Compatibility

- ☒ OpenAIRE Basic (DRIVER OA)
- ☒ under validation
- ☒ OpenAIRE 3.0 (OA, funding)
- ☒ OpenAIRE 2.0+ (DRIVER OA, EC funding)
- ☒ OpenAIRE 2.0 (EC funding)

Country

[select [all](#)|[none](#)]
all countries selected

- ☒ TZ
- ☒ UA
- ☒ UK
- ☒ UNKNOWN
- ☒ US
- ☒ ZA



**FROM PROTOTYPE TO MARKET READY INNOVATION
ADAPTING TO: FLOODS, DROUGHTS & EXTREME WEATHER**

BRIGAID
Bridging the Gap for Innovations
in Disaster Resilience

**BRIGAID: BRIdging the GAp for
Innovations in Disaster resilience
DG RTD, Budget: 9,000,000 euro**



Figure 1.1: BRIGAID's conceptual approach with three types support for innovations



Show Innovations ▾ | ▾ All Hazards ▾ All Topics ▾ | View by Most Recent ▾



Disasters and ICT | Water Safety
MyFloodRisk (for business)

TRL 5



Disasters and ICT | Urban Areas
3C for Cities

TRL 6



Agriculture | Disasters and ICT
**ARIEL, soil moisture retrieval by
microwave remote sensing**

TRL 5



Prof. Phoebe Koundouri

www.phoebekoundouri.org

