



PANTERA project:
A Pan-European
Technology Energy
Research Approach

# Main objectives that constitute the PANTERA process





Type of Action: Coordination and Support Actions (CSA)

**Duration:** 48 months

Starting date: 1 January 2019

**Total Budget:** 3.9 Million Euro

**Coordinator:** 



#### **Consortium:**



















#### The PANTERA consortium on a map

#### **Vision for a Clean Planet by 2050**





- PANTERA CSA steps in to raise awareness, participation, effectiveness, full use of EU resources and as a result :
  - ✓ strengthen the involvement of the European industry and
  - ✓ sharing of benefits achieved.





## Why PANTERA?

Europe wants coordinated steps forward to achieve the Energy Transition in meeting climate change needs.

The smartening of the grid infrastructure has taken by storm the traditionally slow moving electrical industry in the last decade.

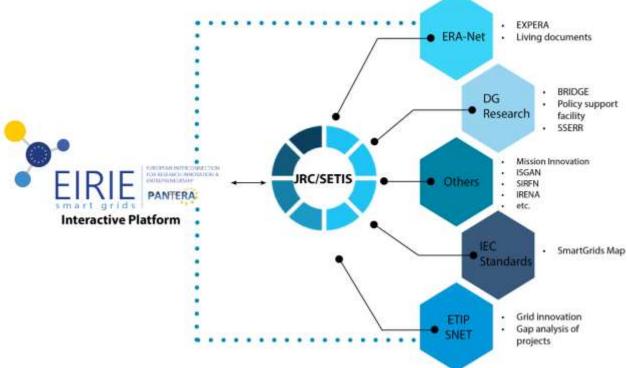
PANTERA steps in to raise awareness, participation, effectiveness, full use of EU resources and as a result:



Strengthen the involvement of the European industry and sharing of benefits achieved.

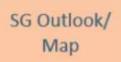
**PANTERA Process** 

#### Collaboration is key





EIRIE is hosted on the Smart Energy System servers of JRC and sustainability is guaranteed by DG Ener through a dedicated Service contract to take over from the PANTERA consortium on completion of the 4 years



DiNeMo

resLoadSIM

SG Interactive Tool

DSO Observatory SG Labs Inventory









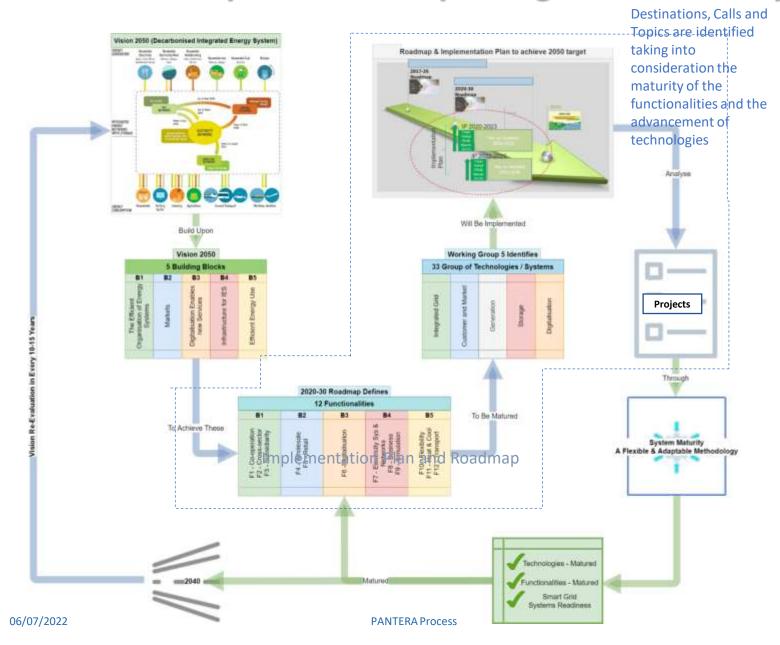


Community of stakeholders

Sustainability and collaboration

Collaborative multidimensional platform

#### PANTERA RICAP process for capturing evolution of system



8

#### Get in touch



https://pantera-platform.eu/

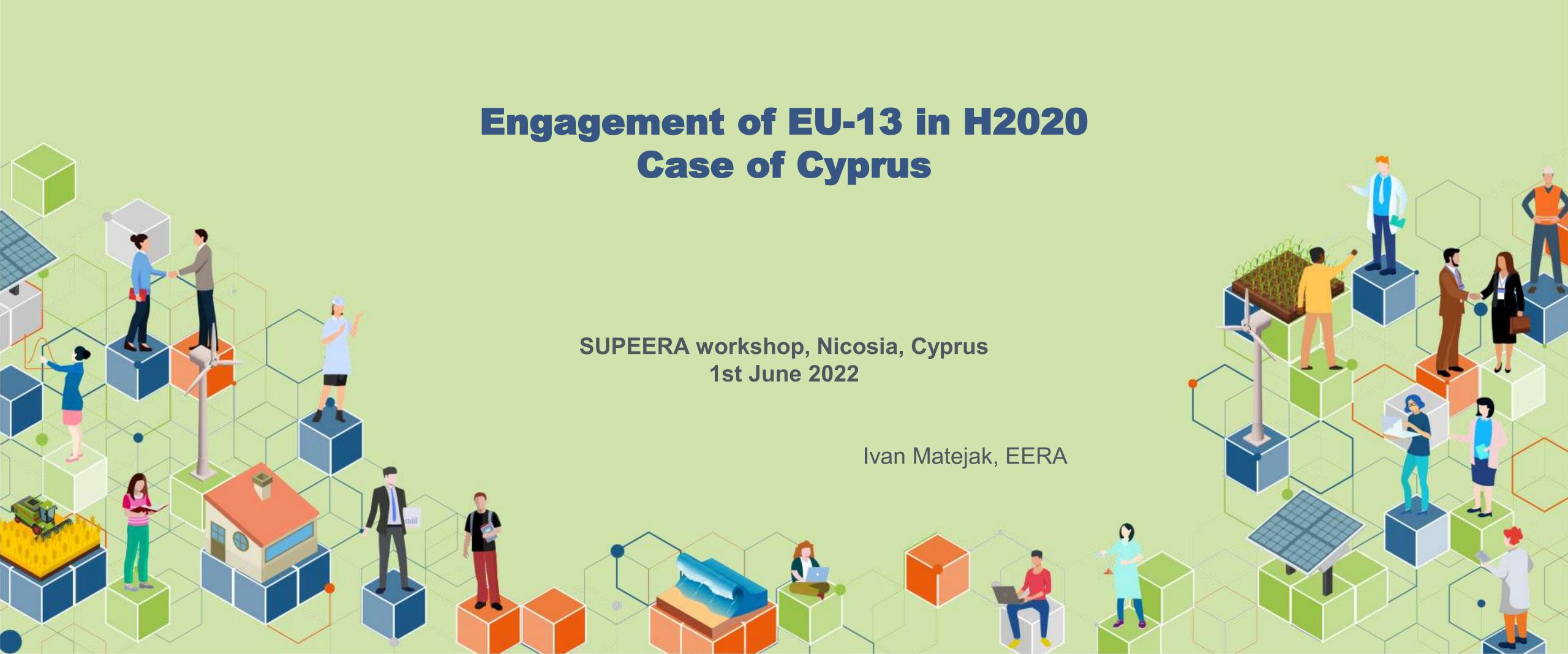


www.eirie.eu

or

https://ses.jrc.ec.europa.eu

<u>/eirie/en</u>





## Housekeeping Rules

- The webinar is recorded
- Do not turn on your microphone unless you are given the floor
- Please send your questions via chat to all organisers
- Questions sent will appear directly in presenters' chat boxes
- The recording of the webinar and the slide deck will be circulated to all participants











- A key player in the European Union's Strategic Energy Technology (SET) Plan.
- The largest low-carbon energy research community in Europe bringing together leading research institutes to expand and optimise EU energy research capabilities.
- Membership-based, non-profit association.

250
public research
centres and
universities

30 countries











We support the Clean Energy Transition by catalysing European energy research and providing world-leading scientific expertise on three thematic categories (18 Joint Programmes).

# LOW- CARBON TECHNOLOGIES

#### **MATERIALS**

# SYSTEMIC TOPICS













# SUPEERA supports the SET Plan and the Clean Energy Transition

#### We...

- → Facilitate the coordination of the research community (also by "widening")
- → Accelerate innovation and uptake by industry
- Provide recommendations on policy
- → Promote the SET Plan and the Clean Energy Transition

#### We connect the dots.













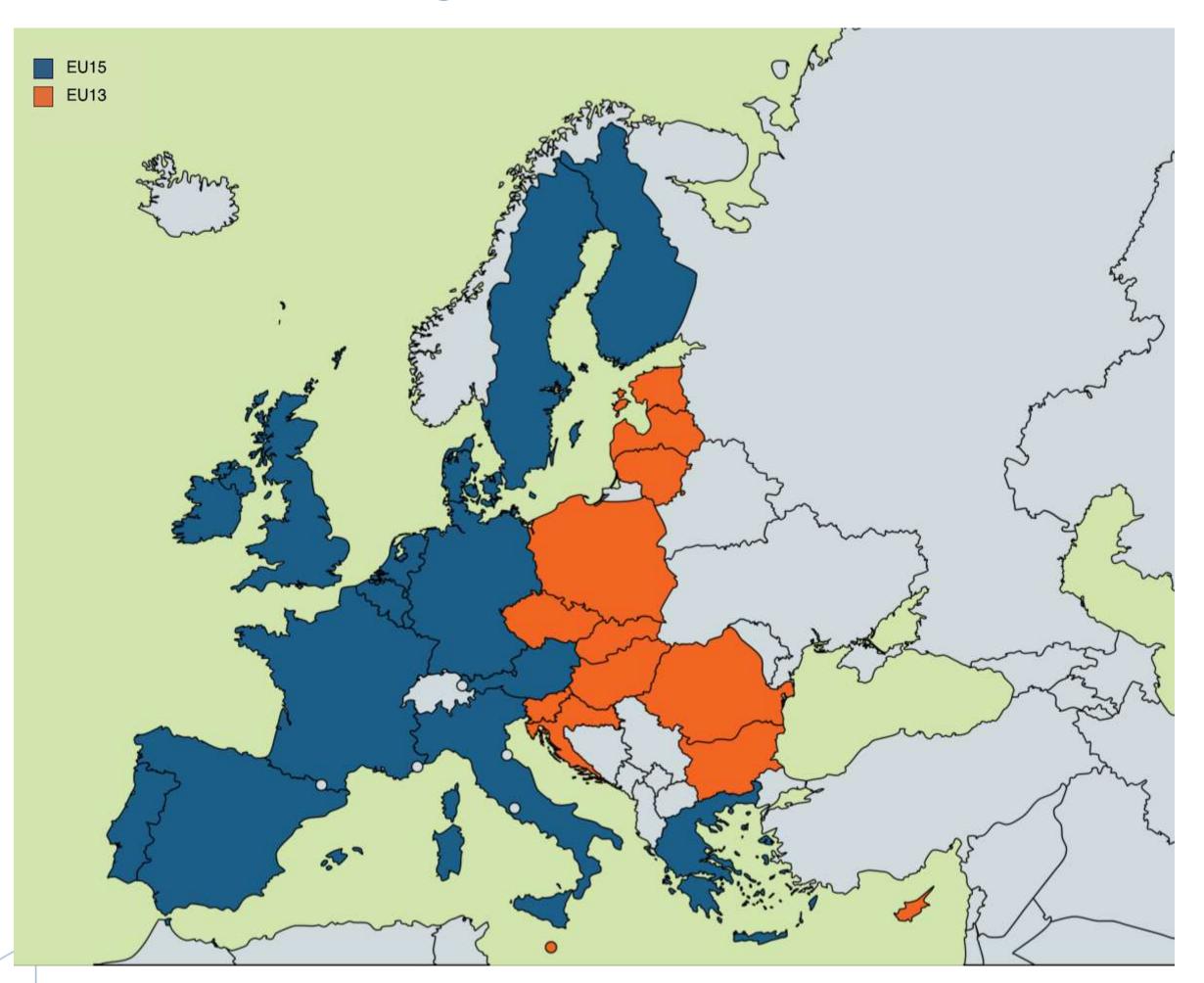








## The R&I gap between EU13 and EU15 Member States



The research and innovation (R&I) gap in the EU is a pressing challenge, especially in consideration of the 2030 and 2050 climate goals.

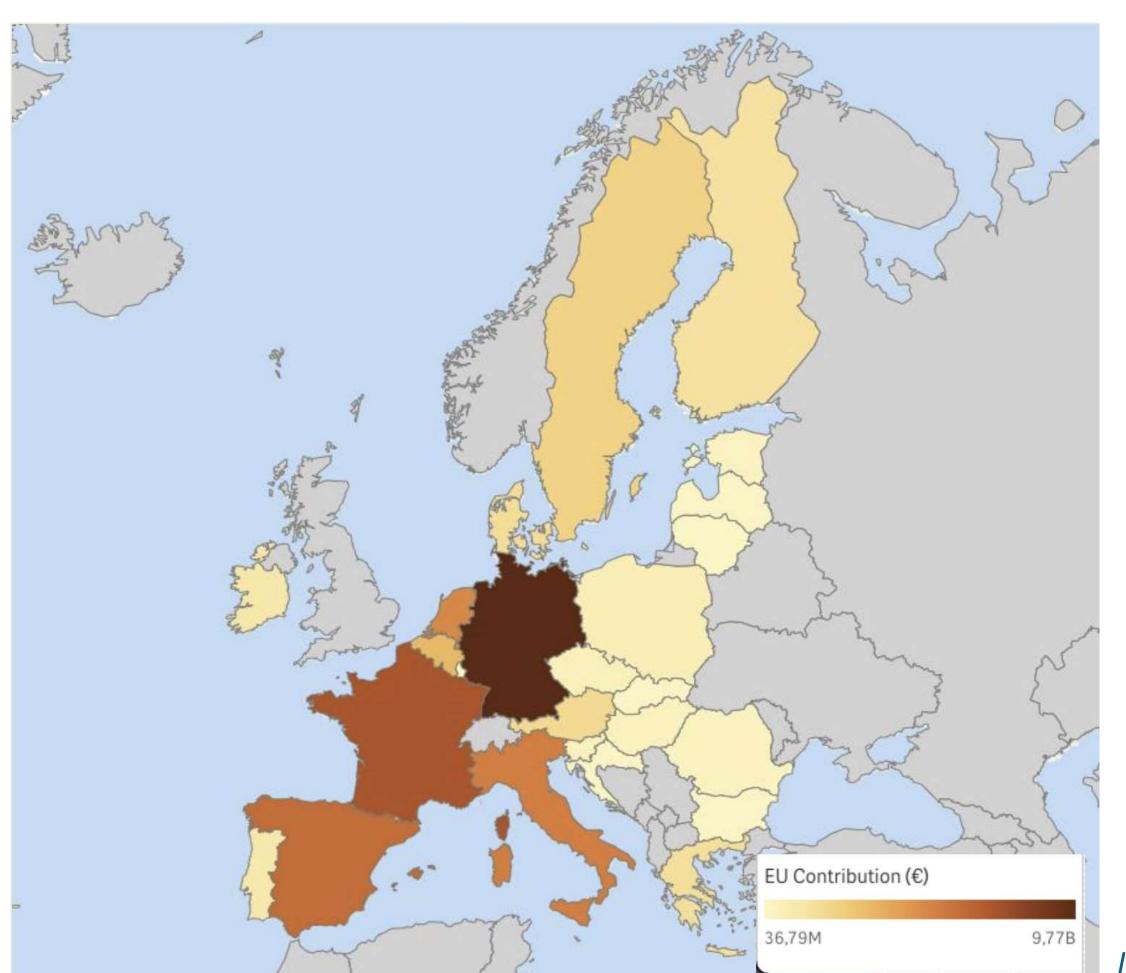
EU13 countries have **low participation rates** in the SET Plan, their national research organisations have **limited awareness** of the Clean Energy Transition (CET) priorities, funding schemes and initiatives and have received only a **marginal contribution** of Horizon 2020's budget.





## The gap in relation to Horizon 2020 contribution: geographical distribution

Geographical distribution of Horizon 2020 net contribution by country



The limited commitment to the SET Plan reflects in **low H2020 performance**.

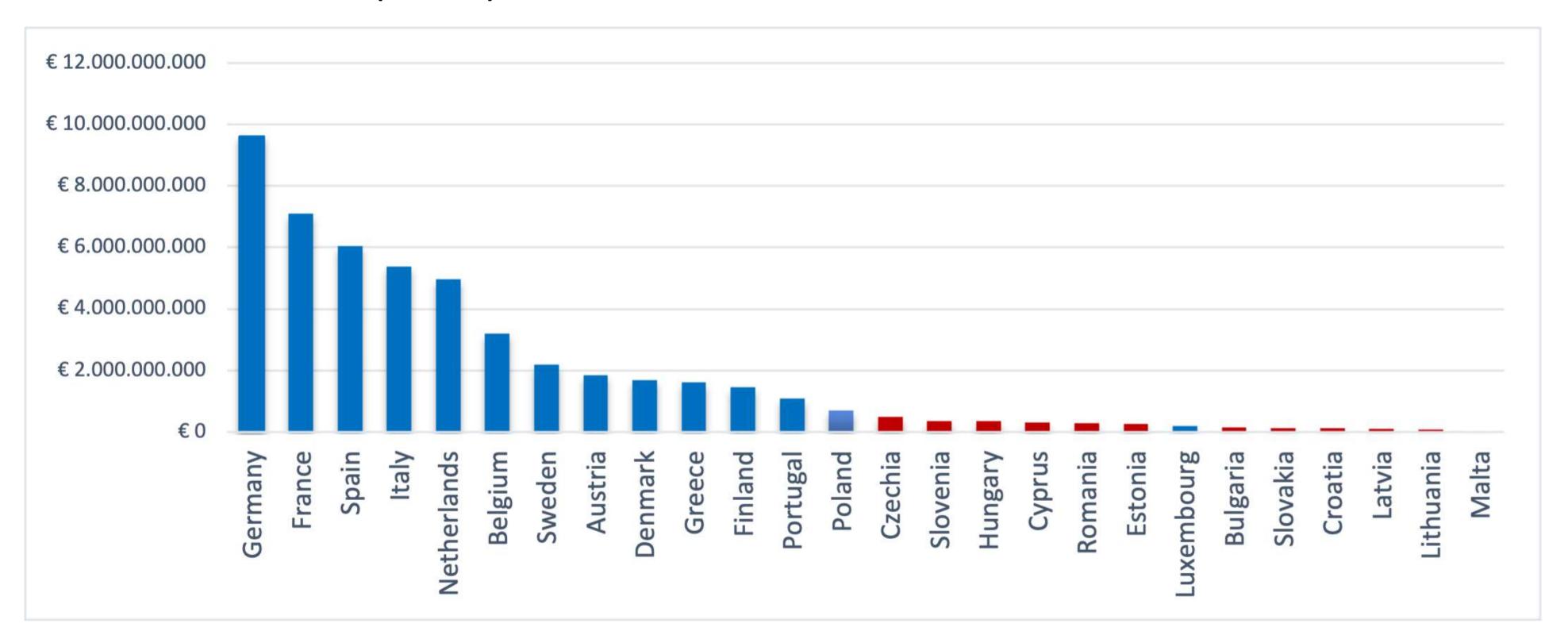
EU13 countries have received only a marginal contribution of Horizon 2020's budget compared to EU15.





## The gap in relation to Horizon 2020 contribution: EU13 vs EU15

#### **H2020** net EU contributions (mil. EUR)



Only 5% of the total Horizon 2020 budget has been allocated to research teams from the EU13 Member States.







## > H2020 performances

Sample	Organisations involved in H2020 projects	Organisations involved in H2020 projects (% of EU total)	H2020 net EU contribution (in Mil)	H2020 net EU contribution (% of EU total)		
EU total	151.718	100,00%	€ 59 580	100,00%		
EU13 total	14.640	9,65%	€ 3 470	5,82%		
EU15 total	137.078	90,35%	€ 56 120	94,18%		

→Among EU13, Malta receives the lowest net contribution (EUR 36,79 million), while Poland receives the highest contribution (EUR 713,12 million).

VS.







## Cyprus H2020 performances

Sample	H2020 signed grants	Organisations involved in H2020 projects	Organisations involved in H2020 projects (percentage of EU total)	H2020 net EU contribution (in Mil)	H2020 net EU contribution (percentage of EU total)
Cyprus	712	946	0,62%	€ 310	0,52%
EU total	32.064	151.718	100,00%	€ 59 580	100,00%
EU13 total	6.229	14.640	9,65%	€ 3 470	5,82%
EU15 total	30.881	137.078	90,35%	€ 56 120	94,18%

The percentage of eligible proposals is well above the EU13 average and almost twice as big as the EU average





## ► Horizon 2020 performance analysis

1st assumption: relative weakness of the R&I systems of EU13 vs EU15

Sample	Total R&D Private R&D Intensity Intensity		Knowledge- intensive employment	Innovation performance		
Cyprus	0,56%	0,20%	38,4%	Moderate Innovator		
EU average	2,10%	0,40%	36,10%	wioderate mnovator		

2nd assumption: relative lack of scientific excellence in institutions from EU13 vs EU15

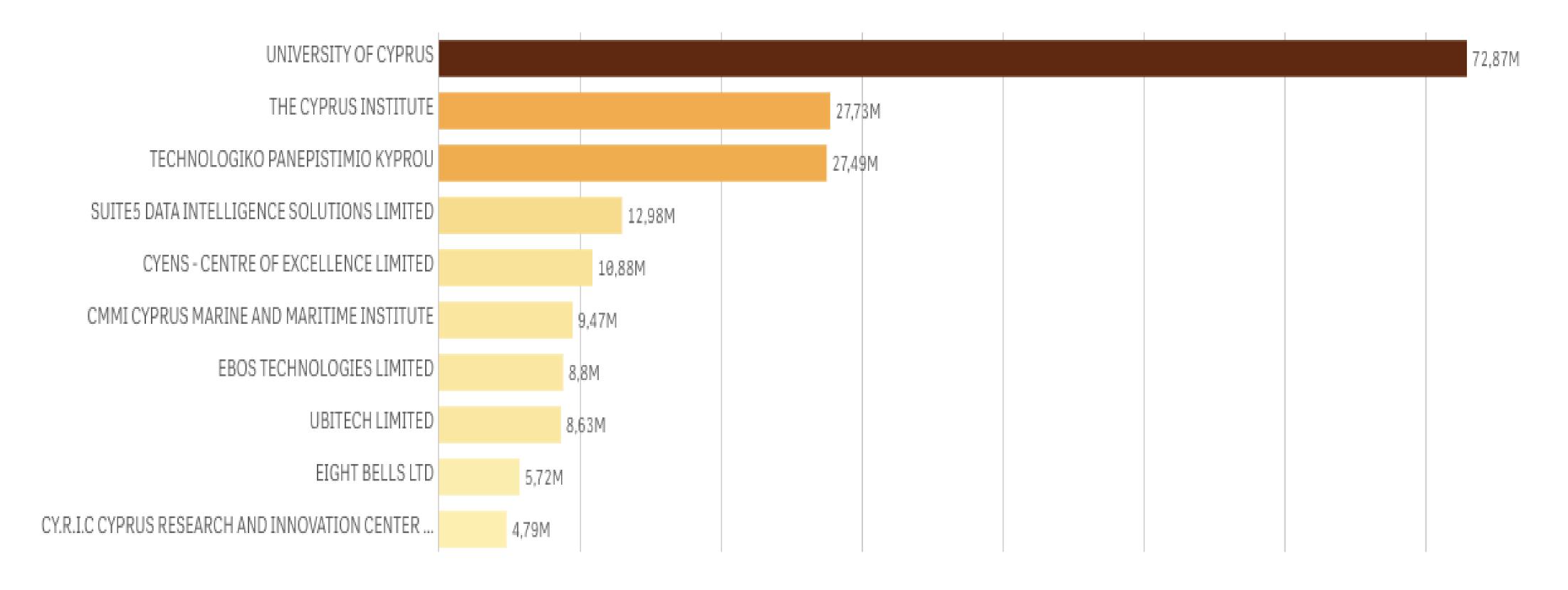
Sample	Top-cited publications rate	Researchers ratio ranking			
Cyprus	8,4%	27 out of 28 EU MSs			
EU average	11,11%	27 OUL 01 20 EU 1VISS			







## Ten highest-ranking organisations by net Horizon 2020 contributions (mil. EUR)



Of the EUR 310,8 million of net amount of fund received from the grants, which is above the EU13 average value (EUR 267 million), 44% goes to the education sector while research gets only 6%.





## Reasons for H2020 lower performance according to the NCPs

- "Low level of national investment in R&I", which is consistent with the first assumption;
- "Relatively young research community of the country", which if interpreted in terms of unexperienced, could be linked with the second assumption;
- "Limited capacity of Cyprus industry (service-oriented economy)" that is more related to the shape of the national economy;
- "Limited access of Cyprus research community to 'high-quality' international networks, which constitute the basis for the proposal consortia".









## Root causes and structural challenges

Among the reasons explaining EU13 performance gap are:

- National priorities not aligned with European ones;
- Weakness of the R&I systems;
- Administrative and regulatory burdens obstructing R&I;
- Socio-economic relevance of fossil fuels (especially coal) making the transition towards a low-carbon economy less appealing;
- Limited involvement in the SET Plan landscape;
- Lack of ties at European and international level;
- Absence of integration between business and academia.







## Reasons for the Horizon 2020 performance gap

Main causes for EU13 performance gap are:

- 1. Relative weakness of the R&I systems of EU13 vs EU15;
- 2. Relative lack of scientific excellence in institutions from EU13 vs EU15;
- 3. Relative lower quality of proposals involving EU13 participants compared to those that do not.

These three hypotheses have been assessed through a set of indicators and led to the identification of a correlation between low scores in these indicators and Horizon 2020 performance.

#### Other challenges related to Horizon 2020

- Lack of experience and complexity of Horizon 2020 dissuading from participating in the Framework Programme;
- Lack of international network and regional cooperation;
- Ease of accessing alternative sources of funding;
- Lack of adequate administrative support.























## The new European/World Context

Revamping SET Plan

**REPower EU** 

#### **EU Green Deal**

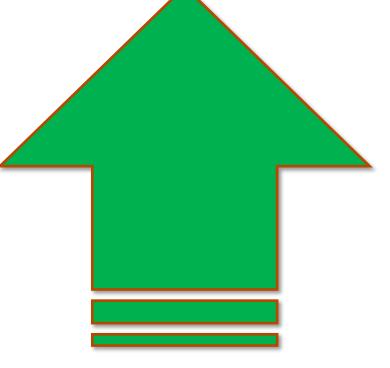
Energy crisis emergency

New Energy Paradigm

**EU Strategic Autonomy** 

New Geopolitical Order





200 – 700 M migrants 2050

2° in 2050, 3°-4° in 2100

Rebound Fossil invest.

Increasing emissions

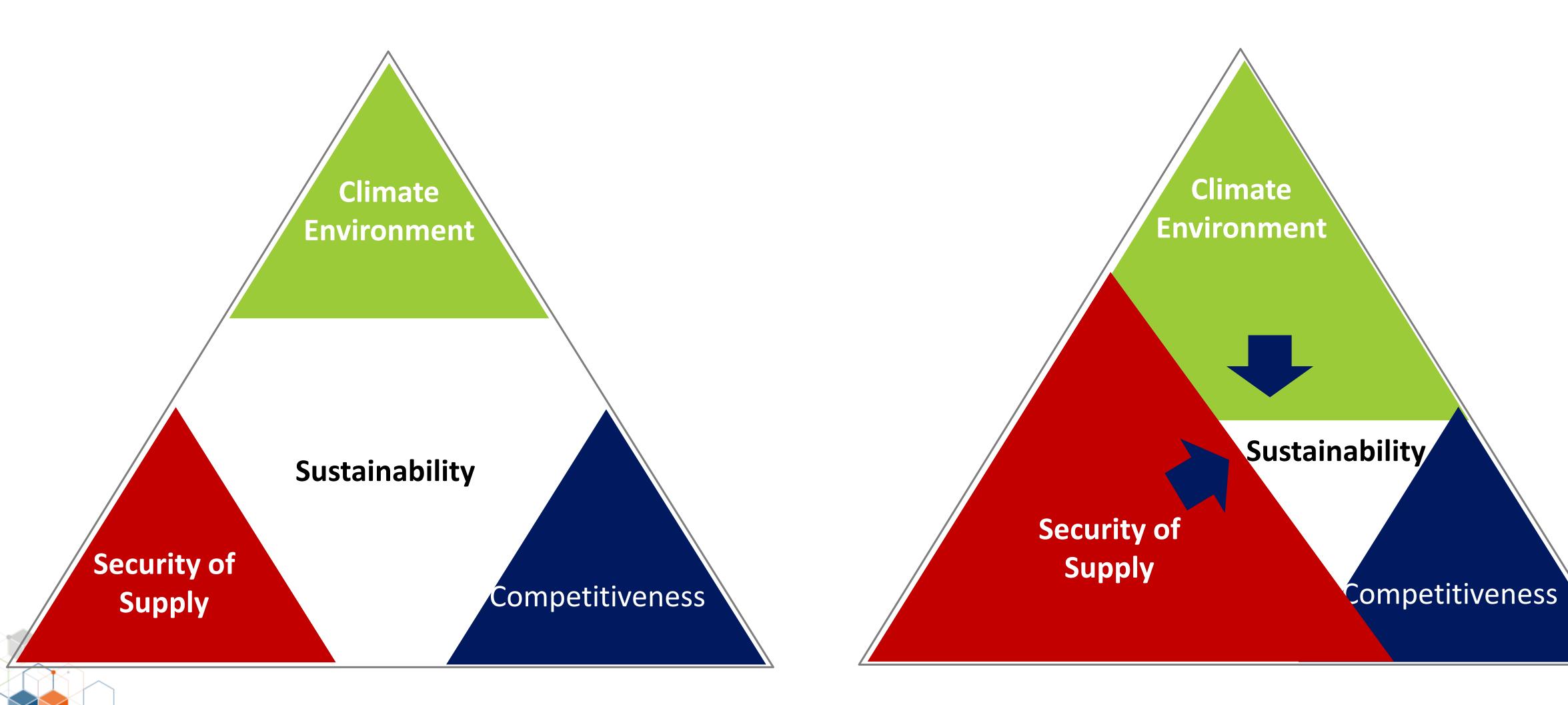








#### War in Europe + Climate emergency: Change in priorities





## Strategic Energy Technology (SET) Plan

Established in 2007 (<u>currently in revision process</u>), it plays a key role in serving the goals of the European Green Deal by facilitating the delivery of clean energy innovations necessary to achieve the European transition to climate neutrality by 2050.

Synergies with the EGD and FIT455

Alignment with EC strategies

Break down the silos

Track for 55% reduction

R&I alignment

NECPs measures

Improving competitiveness

Coordination between MS

Monitoring of R&I spending

Defining the shared methodology

Monitoring evolution of spending

Identifying trends

Mobilising public and private investment

Facilitate private investments

Scale/up of infrastructure

Avoid duplication

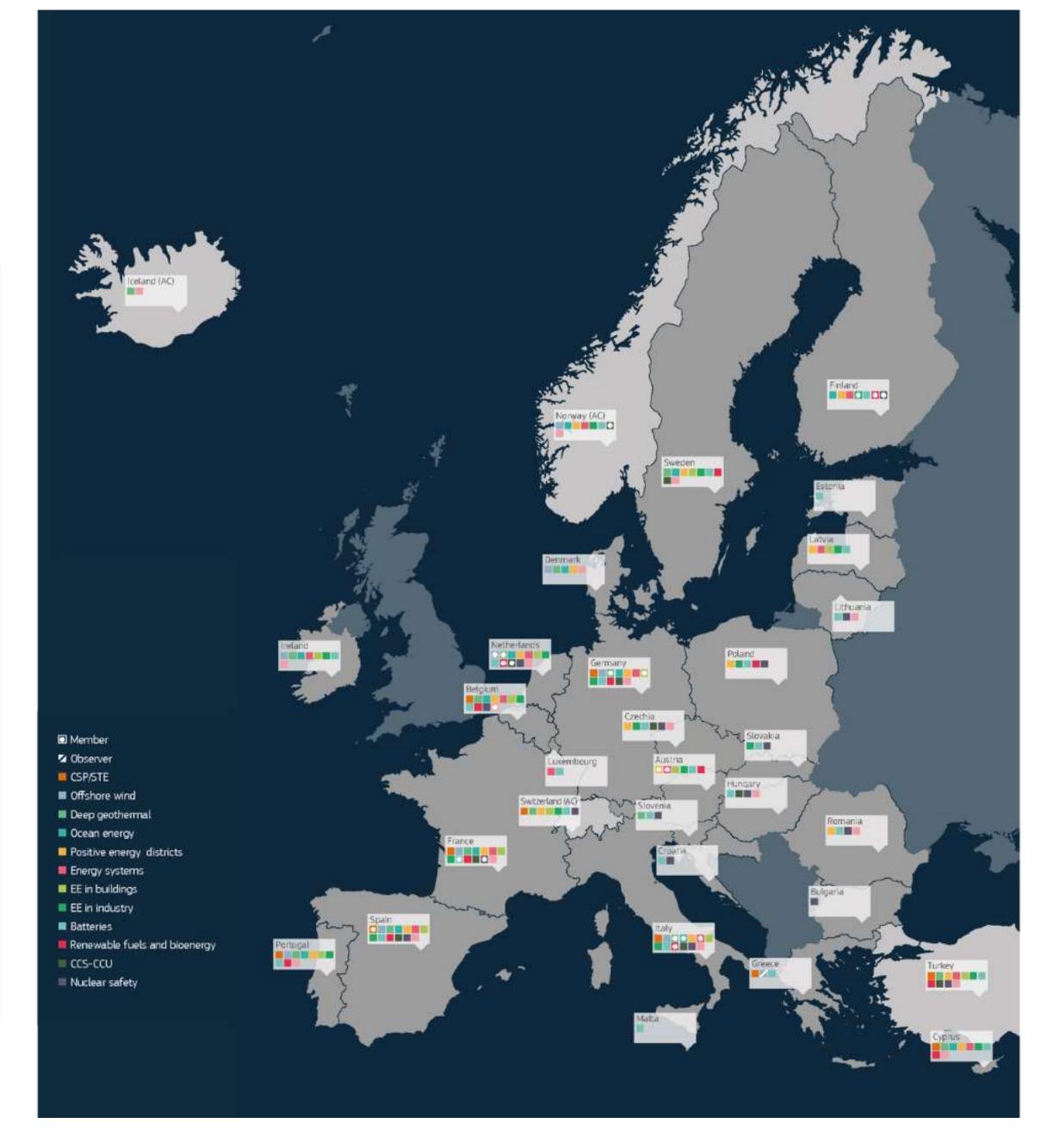




Support to the coordination of national research and innovation programmes in areas of activity of the European Energy Research Alliance

- Nuclear safety

#### The European Strategic Energy Technology Plan SET Plan key actions 13 implementation working groups Performant renewable technologies integrated in the system Offshore wind Ocean energy - Photovoltaics - Concentrated solar power / renewables Reduce costs of technologies Deep geothermal Solar thermal electricity (3) New technologies & services for consumers: Energy Einergy systems systems Resilience & security of energy system - Positive energy districts New materials & technologies for buildings Energy - Energy efficiency in buildings ... Energy efficiency in industry Energy efficiency for industry - Competitive in global battery sector and e-mobility Sustainable - Satteries - Renewable fuels and bicenergy (B) Renewable floors and bidening Carbon capture and storage Carbon capture storage / use cos - ccu Carbon capture and utilization (CCS - CCU) Muclear Wedear safety





safety





## ► The gap in relation to the SET Plan

## **EU13** participation to SET Plan Implementation Working Groups (IWGs)

_	TVVGS)					_	_		_				
Country	Batteries	CCU-CCS	CSP-STE	Deep Geothermal	Energy Efficiency in Buildings	Energy Efficiency in Industry	Energy system	Nuclear safety	Ocean energy	Offshore wind	Photovoltaics	Positive energy districts	Renewable fuels and bioenergy
Bulgaria								X					
Croatia	X							X					
Cyprus	X		X	X		X	Χ		X		X	Χ	X
Czechia	Х	X				X		Х			X	Χ	
Estonia	X												
Hungary	X	X						Х			X		
Latvia	X				X	X	Χ					Χ	
Lithuania	Х							Х			X		
Malta	X												
Poland	X					X		Х				Χ	X
Romania	Х							Х			X	Χ	
Slovakia	Х					X		X					
Slovenia	Х					Χ		Х					

All EU13 countries participate in the SET IWGs, with Cyprus being the most active country.

EU13 involvement is mostly circumscribed to nuclear safety, batteries, energy efficiency in industry and positive energy districts.





## Cyprus in the SET Plan and CET

#### **SET Plan**

- →CY participates in 9 Implementation Working Group: Batteries, CSP, EEI, Deep Geothermal, Energy System, Ocean, PV, PED, Renewable Fuels and Bioenergy
- →CY's NECP refers to the SET Plan in combination with the Cyprus smart specialisation strategy as a guide for stakeholders identifying priority areas of R&I that will respond to both market needs and national targets for decarbonisation
- →Nonetheless, NECP does not provide specific figures on how the SET Plan targets will be aligned with the national energy-and-climate targets for the period 2021-2030
- →According to SETIS's Technology Development Report on Solar Thermal Electricity (2020), Cyprus is amongst the EU countries with the most significant effort on CSP R&D







## Cyprus in the SET Plan and CET

#### **CET in the Recovery Plan**

- →€ 1 billion in grants; € 200 mil in loans; 41 % for reforms and investments supports climate objectives
  - Energy interconnector € 100 million
  - Energy efficiency and renewables € 89 million
  - Promoting sustainable and green mobility € 87 million
  - Green taxation

#### ... so far

- New Grant Schemes of € 49 million for energy upgrading of buildings with the main goal of achieving a reduction of primary energy consumption
- 50% increase in sponsorships for photovoltaics and thermal insulation of the roof in 2022; more than 20 million euros of budget
- Sponsorship Plan for installation or replacement of solar water heater in homes € 600.000 euros









#### Opportunities arising from bridging the performance gap

Bridging the gap between EU13 and EU15 countries would allow to:

- Ensure that the CET and underlying policies and strategies will unfold in an even way throughout the whole EU, narrowing disparities across MSs;
- Achieve an untapped opportunity for **growth and development** of EU13 national economies and the EU as a whole;
- Greater likelihood of meeting 2030 and 2050 targets.









#### Opportunities arising participating in the SET Plan

Deeper involvement in the SET Plan would lead EU13 to:

- Get involved in the EU discourse about research in energy technologies and influence underlying policies;
- Understand current priorities;
- Enhance international ties;
- Share research infrastructures;
- Higher awareness of and involvement in transnational funding schemes.







#### Recommendations

#### Some preliminary recommendations may include:

- 1. Link national R&I priorities to European ones;
- 2. Strengthen participation in EU R&I networks;
- 3. Increase R&I funding;
- Foster stronger academia-business cooperation;
- 5. Improve administrative procedures and reduce administrative barriers;
- 6. Enhance the activities of National Contact Points.







#### **Benefits of being EERA member**

In return for its expertise, our members gain unrivalled opportunities to:

1

Build a pan-European
expert network to share
knowledge and develop
leading-edge expertise in
the field of clean energy.

2

Participate in the structuring of the research field by creating critical mass, avoiding duplication, and leveraging the best R&I capabilities.

3

Gain visibility at EU and international level and influence the EU policymaking process.

4

Collaborate with international initiatives on both bilateral and multilateral levels.









As part of the process of becoming a trusted advisor to the EU on the Clean Energy Transition, we are strengthening our 18 Joint Programmes to develop them into **European Centres of Excellence** with the purpose of achieving:



Higher level of crossborder collaboration.



Higher integration with existing/planned national strategies & funding.



Higher focus on EU strategic technologies and CET priorities.



Higher integration with industry / European Industrial Alliances.





















### **R&I** best practices for Cyprus

Experience in international energy R&I collaborative projects and best practices

Nestor Fylaktos, SUPEERA Workshop, 01 June 2022



1

#### What have we learned?

General management of R&I projects

#### **Management of Projects**









#### **Proper budgeting**

- Esp. for projects involving infrastructures: Proper budgeting is key to avoid large co-financing obligations
- Watch-out for the coordination trap: A coordinator gets more money (naturally), but the admin burden and (usually) the workload in the proposal preparation stage make it a high-risk / low reward strategy



#### The right people



- Stay on top of projects by employing competent administrators and coordinators – this is very important, we need to play to people's strengths – scientists are usually pretty bad at it
- Equally, project managers are crucial (ideally the same person(s) as a coordinator/officer)

#### **Management tools**

- Keep a centralised, online project workspace that ideally involves the whole consortium
- Consolidate platforms (communication, file repository, project management etc.), even if this means that some partners may protest because of unfamiliarity
- Define a clear communication hierarchy and a detailed plan on document storage and structure
- Invest time to learn it will pay off





#### **Efficient meetings**



- Online meetings are essential (and have improved a lot - pandemic!) for progress reporting and touchbase, but face-to-face meetings are essential at a minimum once a year for large projects
- Don't overdo it downtime from the stress of videoconferencing is vital. Email still has a place (but send only a few a day) – within the confines of the communication hierarchy

#### Ex #1: The INSHIP project













- Solar Heat for Industrial Processes
- Proper budgeting meant that all experiments done at PROTEAS were properly costed
- The coordination team established an efficient line of communication from project coordinator -> scientists through the right people
- Last half of project took place during lockdowns – efficient choice of online events meant that it was concluded smoothly, even hosting workshops online

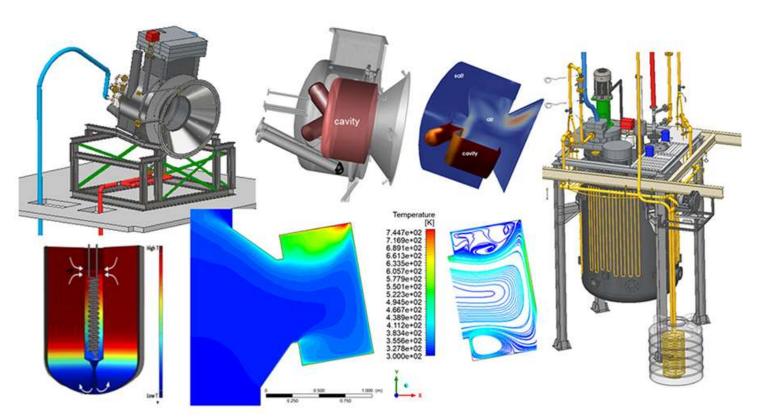


#### Ex #2: The CySTEM project









- An ERA-Chair project (available to Widening countries) aiming at institution change and increased research capacity
- Proper management of funds led to the establishment of a permanent team in new research directions
- Infused a culture of adopting new IT tools that helped increase the efficiency of the work considerably



# 2

#### What have we learned?

Energy R&I projects

#### Energy









#### Join alliances

- The Energy Transition is a global socio-technical disruption of production and consumption patterns, unlike anything we have seen in the last 70 years
- No country or institution can navigate it alone we need all the help we can get
- Alliances are critical. Keeps us relevant, spurs us to strive for excellence, and puts things in perspective.





#### **Embrace multidisciplinarity**



- Embrace multidisciplinarity: Energy is by definition a multidisciplinary scientific area that combines several engineering disciplines (electrical, mechanical, chemical, civil), economics (both micro and macro), mathematics & modelling, and social sciences & humanities.
- Working with it is challenging and rewarding, and can rarely be successful if done in vitro

#### Work with stakeholders

- Because of energy's interdisciplinarity, it touches a wide range of stakeholders (politics, cutting-edge science, industry, the general public) in almost equal measure
- Communicate and listen it's a rare scientific area where the advances in a lab or in a study can actually make a tangible and immediate difference to the world around us





#### Support collaborations



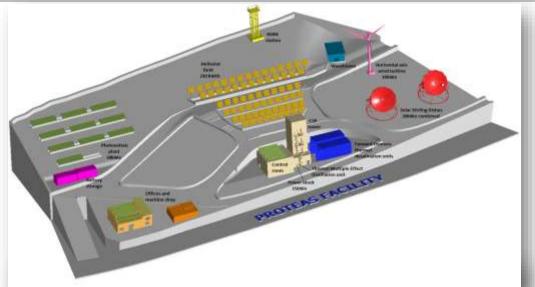
Support collaborations

- Support collaborations among local, regional and international research and scientific institutions to maximise excellence. Cyprus is a small place, we should rely on more than our geographical location and our status as a widening country for success.
- Our networks are important not only for securing the next externally funded project, but for our identity as scientists and researchers

#### Ex #3: The SFERA III project













 Focuses on mobility of researchers and shared use of Research Infrastructures



#### Ex. #4: The GreenDeal project





GreenDeal

- Provides continuous scientific support for the implementation of the European Green Deal in Cyprus
- Work that extends to the Ministry of Finance (MoF), Ministry of Energy, Commerce & Industry (MECI), Ministry of Agriculture (MoA) and the Ministry of Transport (MoT)
- Wide-ranging analysis topics including mathematical modelling of energy systems, technoeconomic and impact assessments (among others), to select the most appropriate measures for climate change mitigation







#### **Thank You**

#### Nestor Fylaktos

The Energy Division, EEWRC n.fylaktos@cyi.ac.cy



# International research collaboration opportunities fostering EU Clean Energy transition in Cyprus

#### Regulatory point of view



Cyprus Energy Regulatory Authority
Dr. Venizelos Venizelou
Energy Engineer

1 June 2022



## Core areas of an NRA activities

**Current Situation** 

Missing Gaps

**R&I** activities

#### Content

#### Core Areas of an NRA activities

- Let's ASPIRE principles
- Consumer rights and protection
- Energy efficiency
- Consumer types
- Energy poverty and vulnerability

Consumercentric design



- Technology neutrality
- Innovative and advanced solutions
- Sustainable finance
- Efficient grid management
- Integrated planning
- Investment certainty

Sustainable and efficient infrastructure



- Internal energy market
- Cross-border interconnections
- Resilience
- Reliable and secure supply
- New business models

Wellfunctioning markets



- Future energy mix
- Hydrogen networks
- New gases
- Resource adequacy
- Core market principles
- Whole system approach

Energy system integration

- Demand response
- Storage
- Innovation
- Digitalisation
- Aggregation
- RES integration

**Flexibility** 



- Energy communities
- Self-consumption
- Demand-side response
- Peer-to-peer trading
- Distributed energy resources
- New business models

Decentralised and local energy





## Current Situation



- CERA has completed the regulatory regime for storage units, demand response and flexibility. The relevant amendments on Market Rules as well as on TDR have been completed and will be in force in Sept. 2024.
- CERA has decided to proceed with a full roll out plan for smart meters.
- CERA has proceeded with consultancy services for the establishment of guidelines on the development of hydrogen value chain in Republic of Cyprus.





Regulatory Regime to be finalized for:

**Energy Communities** 

E-mobility for the distribution network

Incentives for flexibility in distribution network

Consumer empowerment

Demand response through aggregation

Dynamic price contracts

Data management

# R&I Activities (1)



#### **SMART PV**

#### **FLEXITRASTORE**

#### **EMPOWER**

#### **ELECTRA**

#### LIGHTSENSE

#### **BUSFUEL**

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On 25 May, CEER published its paper on Regulatory Sandboxes in Incentive Regulation. This paper seeks to provide clarity and a framework for the different tools that energy national regulatory authorities NRAs can use to facilitate innovation in the context of incentive regulation for grid operators.

The paper provides the following recommendations:

NRAs should engage at least in removing barriers to innovation, as a first preliminary step;

NRAs could use the toolkit (pilot project, regulatory sandbox, regulatory experiments and pilot regulations), selecting the best-suited tool, or combination of tools, according to specific cases;

When approaching the toolkit, NRAs should take into account the different regulatory treatment between regulated grid activities and competitive market activities, including funding;

When supporting innovation, NRAs must avoid the foreclosure of competition in wholesale,

retail, and adjacent markets; and

Impróving the learning process among all involved parties, regulators included, and dissemination of knowledge are ultimately the goals of each regulatory tool for supporting innovation.

#### R&I activities (3)







Guidance on the implementation of Regulatory Sandboxes, regulatory experiments and pilot regulations



Development ideas for Energy Communities

Possible R&I activities:



Data management



Further study for emobility, demand response and flexibility



#### Thank you for your attention

vvenizelou@cera.org.cy
www.cera.org.cy



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# R&I Activities (1)



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Development ideas for Energy Communities

Possible R&I activities:



Data management



Further study for emobility, demand response and flexibility



### Thank you for your attention

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www.cera.org.cy



# DRIVING GROWTH

**European and National Funding Opportunities** 

Anna Maria Christoforou Scientific Officer A Research and Innovation Foundation



### **Research and Innovation Foundation**

ESTABLISHED IN 1996

...as the national authority in charge of supporting and promoting research, technological development and innovation (RTDI) in Cyprus.



To provide National Funding for RTDI through Competive Programmes and Calls for Proposals



To support CY participation in the EU's Framework Programmes and Organisations promoting R&I



To enhance the R&I ecosystem through a range of valuable innovation services



# **National Funding Programme**Restart Work Programme

- **3** Pillars
- SMART GROWTH
- SUSTAINABLE RTDI SYSTEM
- TRANSFORMATION OF RTDI SYSTEM
- **25** Programmes
- **130 ml Euro** Funding
- 4.194 Proposals
- **749** Funded Projects



### **«CO-DEVELOP – Green Transition» Programme**

The "CO-DEVELOP" Programme aims to enhance the effective collaboration between enterprises and the research community, with the aim of jointly identifying challenges and jointly designing and implementing research and development projects to develop new cost-effective solutions to address these challenges. In the context of effective collaboration, the sharing of resources and infrastructure and the mobility of staff are expected, among other things, in order to enable the technology transfer and the exchange of knowledge.

The ultimate objective is bridging the gap between academia and industry and the utilization of the existing know-how to meet specific needs and challenges, thus contributing to the strengthening of the competitiveness of the economy and the improvement of the quality of life in Cyprus.



### Available Funding

- Funded through the Recovery and Resilience Facility «Cyprus Tomorrow»
- Available Funding: €6,00,000

"Green Transition" Thematic Priority and specifically in the following sectors: Renewable Energy, Energy Efficiency and Sustainable Transport.

• Maximum funding per project: €600,000

Funding will be granted for at least one (1) Project aligned with the principles of **Circular Economy** (e.g. design of sustainable products, circularity in production methods, value chains of basic products, less waste, etc).

The supported projects are expected to be implemented by consortia consisting of at least **one enterprise and one research organization**.

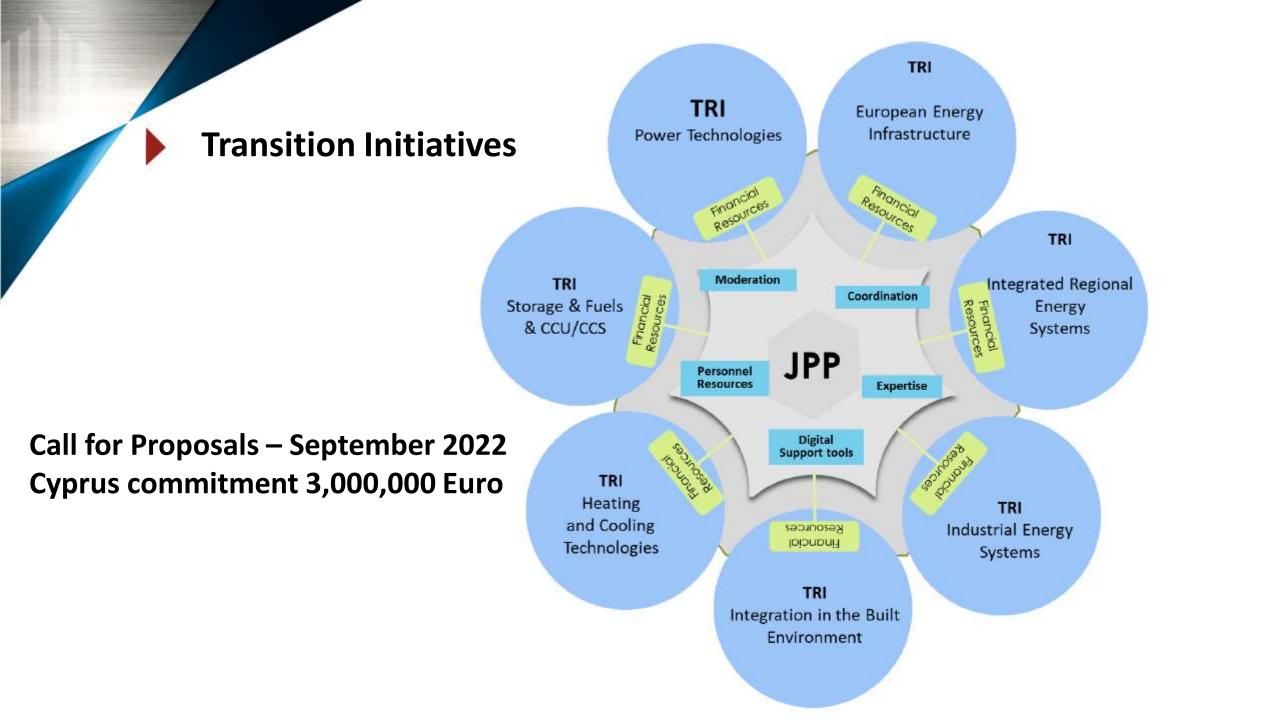
## **Clean Energy Transition Partnership**

### **Vision**

Clean Energy Transition Partnership is a transformative research, development and innovation programme across Europe boosting and accelerating a just energy transition in all its dimensions for Europe to become the first climate-neutral continent.



It enables the energy transition rooted in security of supply from regional to national and global level, co-transformed by industry, public organisations, research and citizens organisations to make Europe frontrunner in energy innovation and implementation.



# A Climate Neutral, Sustainable and Productive Blue Economy

### Vision:

the current, widely non-sustainable ocean economy to a regenerative and circular blue economy that contributes to restoring the ocean's health, resilience and the services it provides to people, by being climate-neutral, sustainable and productive.

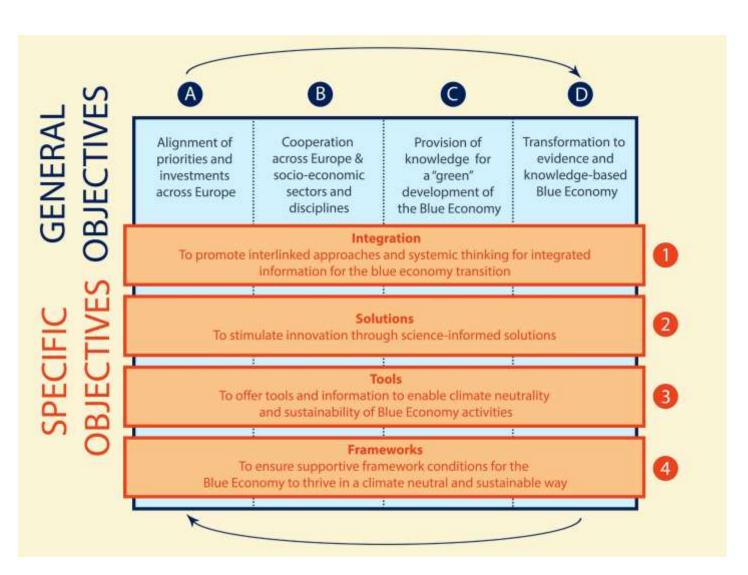
### In a nutshell:

The **blue** arm of the **Green** Deal



### A Climate Neutral, Sustainable and Productive Blue Economy

Call for Proposals – January 2023
Cyprus commitment 2,000,000 Euro



# **Horizon Europe Structure**

### SPECIFIC PROGRAMME IMPLEMENTING HORIZON EUROPE & EIT\*

Exclusive focus on civil applications



European Research Council

Marie Skłodowska-Curie

Research Infrastructures

€25 bn





European Innovation Council

European Innovation Ecosystems

European Institute of Innovation & Technology\*

€13.6 bn

€53.5 bn

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

Widening participation & spreading excellence

Reforming & Enhancing the European R&I system

€3.4 bn

### Pillar II: Global Challenges & European Industrial Competitiveness

Cluster 1	Health	€8.246 billion (including €1.35 billion from NGEU)
Cluster 2	Culture, Creativity & Inclusive Society	€2.280 billion
Cluster 3	Civil Security for Society	€1.596 billion
Cluster 4	Digital, Industry & Space	€15.349 billion (including €1.35 billion from NGEU)
Cluster 5	Climate, Energy & Mobility	€15.123 billion
Cluster 6	Food, Bioeconomy, Natural Resources, Agriculture & Environment	€8.952 billion
	JRC (non-nuclear direct actions)	€1.970 billion

Clusters are including a budget for Partnerships and Missions





### **Cluster Aim**

 Accelerate the green and digital transitions and associated transformation of EU economy, industry and society

Main Objective

Climate neutrality in Europe by 2050





### **Climate**

### **Destination 1**

Climate sciences and responses for the transformation towards climate neutrality

### **Cross-cutting**

### **Destination 2**

Cross-sectoral solutions for the climate transition

### **Energy**

### **Destination 3**

Sustainable, secure and competitive energy supply

### · 3

Efficient, sustainable and inclusive energy use

**Destination 4** 

### **Transport**

### **Destination 5**

Clean and competitive solutions for all transport modes

### **Destination 6**

Safe, Resilient
Transport and
Smart Mobility
services for
passengers &
goods

- Basic climate science
- Modelling of the climate-earth system
- Batteries
- Citizens engagement
- Breakthrough innovation

- Renewable energy
- Energy systems and grids
- Carbon capture & utilisation
- Energy efficiency in buildings
- Energy efficiency in industry
- Clean transport (road, rail, airborne, waterborne)
- Resilient transport infrastructure (CCAM, Multimodal transport, infrastructure, logistics, safety)





### 1-2027 Budget: €15 billion

2021-2022 Budget: €3.02 billion

### **Cross-cutting Climate** Energy **Destination 1 Destination 2 Destination 3 Destination 4 Destination 5** Climate sciences Cross-sectoral Sustainable, Clean and Efficient, competitive and responses solutions for the sustainable and secure and competitive climate transition inclusive energy solutions for all energy supply transport modes use

# **Transport Destination 6** Safe, Resilient Transport and **Smart Mobility** services for passengers and goods

€274 M

€387.5 M

€1,226.3 M

€244 M

€511 M

€380 M

**Total Topics: 188** 

**Total Number of Calls: 20** 





### **Calls for Proposals 2022**

Call #	Destination No.	Call	No of Topics	Call Budget	Opening	Deadline
1	1	HORIZON-CL5-2022-D1-01-two-stage	3	51,000,000	12/10/2021	27/09/2022
2	1	HORIZON-CL5-2022-D1-02	5	87,000,000	12/10/2021	10/02/2022
3	2	HORIZON-CL5-2022-D2-01	11	138,000,000	28/04/2022	06/09/2022
4	3	HORIZON-CL5-2022-D3-01	15	381,000,000	14/10/2021	26/04/2022
5	3	HORIZON-CL5-2022-D3-02	8	99,000,000	26/05/2022	27/10/2022
6	3	HORIZON-CL5-2022-D3-03	9	127,500,000	06/09/2022	10/01/2023
7	4	HORIZON-CL5-2022-D4-01	5	54,000,000	28/04/2022	06/09/2022
8	4	HORIZON-CL5-2022-D4-02	5	86,000,000	06/09/2022	24/01/2023
9	5	HORIZON-CL5-2022-D5-01	14	253,000,000	02/12/2021	26/04/2022
10	6	HORIZON-CL5-2022-D6-01	8	122,000,000	14/10/2021	12/01/2022
11	6	HORIZON-CL5-2022-D6-02	7	91,000,000	28/04/2022	06/09/2022

Total: 90 1,489,500,000

### Cluster 6 - Food, Bioeconomy, Natural Resources, Agriculture and Environment

### **Cluster Aim**

- Enhance and balance environmental, social and economic goals and to set human economic activities on a path towards sustainability.
- Transformative change of the EU economy and society aimed at reducing environmental degradation, halting and reversing the decline of biodiversity and to better manage natural resources while serving the EU's climate objectives and ensuring food and water security.

**Main Points/Areas** 

- Accelerating the ecological transition required by the European Green Deal in order to achieve climate neutrality by 2050.
- Support the objectives the EU Biodiversity Strategy for 2030 and the Farm to Fork Strategy.



### **Budget 2021-2022: €1.86 billion**

**Total Topics: 181** (+12 OA)

### **Biodiversity**

### **Destination 1**

Biodiversity and Ecosystem Services

### Food

### **Destination 2**

Fair, healthy and environmentally friendly food systems from primary production to

consumption

### **Bioeconomy**

### **Destination 3**

Circular economy and bioeconomy sectors

### **Destination 4**

Clean
Environment
and Zero
Pollution

### **Environment and Climate**

### **Destination 5**

Land, ocean and water for climate action

### **Destination 6**

Resilient,
inclusive,
healthy and
green rural,
coastal &
urban
communities

### **Destination 7**

Innovative governance, environmental observations and digital solutions in support of the Green Deal

### €375.5 M

€416.5 M

€268,5 M

€116 M

€193 M

€128 M

€370 M



# Horizon Europe - Widening participation and strengthening the European Research Area

### **▶ DESTINATION 1: IMPROVED ACCESS TO EXCELLENCE**

▶ Aims at underpinning geographical diversity, building the necessary capacity to allow successful participation in the R&I process and promoting networking and access to excellence

### ▶ DESTINATION 2: ATTRACTING AND MOBILISING THE BEST TALENTS

▶ Aims at reverting the brain drain from widening countries, emphasis on intersectoral mobility, better exploitation of existing research infrastructures

### ▶ DESTINATION 3: REFORMING AND ENHANCING THE EU RESEARCH AND INNOVATION SYSTEM

► Four objectives: Prioritise investments and reforms, improve access to excellence, translate R&I results into the economy and deepen the ERA

# Thank you!

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support@research.org.cy

### Find us:











# The EEA and Norway Grants 2014-2021

Working together for a green, competitive and inclusive Europe

Berta Matas Güell, Senior Researcher, SINTEF



### EEA Agreement – Art 115-117

... the Contracting Parties... agree on the need to reduce the economic and social disparities between their regions...

### Protocol 38c

The EEA/EFTA States "shall contribute to the reduction of economic and social disparities in the European Economic

Area and to the strengthening of their relations with the

Beneficiary States"



# We work through funding periods

2004-2009 = €1.3 billion

2009-2014 = €1.8 billion

2014-2021 = €2.8 billion

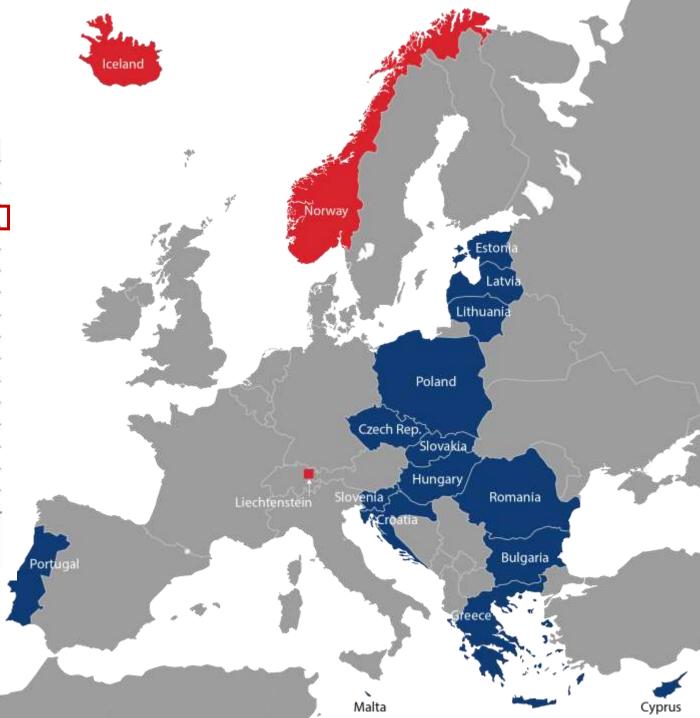
2022-2024 → last funded projects to be implemented



### Beneficiary countries (€ million) 2014-2021

Country	EEA Grants	Norway Grants	Total
Bulgaria	€115.0	€95.1	€210.1
Croatia	€56.8	€46.6	€103.4
Cyprus	€6.4	€5.1	€11.5
Czech Republic	€95.5	€89.0	€184.5
Estonia	€32.3	€35.7	€68.0
Greece	€116.7		€116.7
Hungary	€108.9	€105.7	€214.6
Latvia	€50.2	€51.9	€102.1
Lithuania	€56.2	€61.4	€117.6
Malta	€4.4	€3.6	€8.0
Poland	€397.8	€411.5	€809.3
Portugal	€102.7		€102.7
Romania	€275.2	€227.3	€502.5
Slovakia	€54.9	€58.2	€113.1
Slovenia	€19.9	€17.8	€37.7
Regional Funds	€55.2	€44.8	€100.0
Total	€1 548.1*	€1 253.7	€2 801.8

<sup>\*</sup>The EEA Grants are jointly financed by all three donors, where contributions are based on their GDP. The estimated share of contributions equates to: Norway (96%), Iceland (3%) and Liechtenstein (1%).

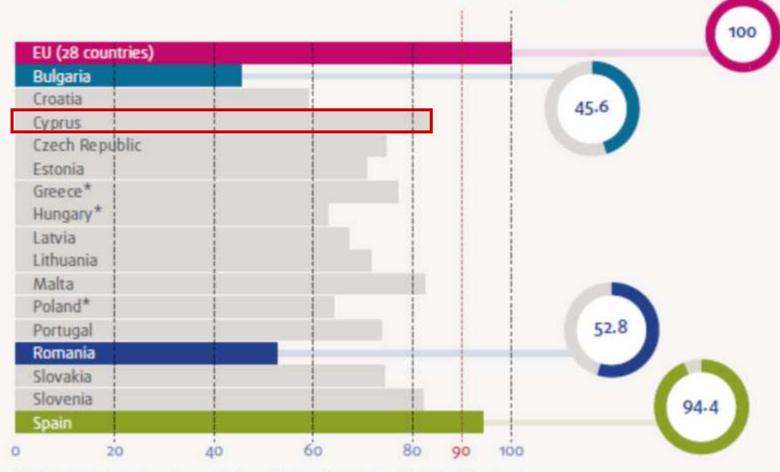


# Mirror EU Cohesion Funds

GNI less than 90% of EU average

# Eligibility criteria

Gross National Income (GNI) per capita in PPS (purchasing power standards)



Eligibility for the Grants mirrors criteria set for the EU Cohesion Fund which is aimed at EU member countries where the GNI per capita is less than 90% of the EU average. Spain is only eligible for transitional funding in this current period.

Source: Eurostat (2013 except where \* indicates 2012)

# Programme design process

Negotiations on political priorities between donor and beneficiary states

- Legally binding
- Sets results frameworks and provisions for modalities, selection, reporting, payments etc.



MoU

Concept note

Programme Agreement

Implementation



- Stakeholder consultations
- Alignment with EU and national policies and regulations
- Results-based
- 'Participatory'
- Use available analysis



Implementation of projects identified through competition (main rule) or predefinition (exception)

### The EEA and Norway Grants' programme targets contributing to the Green Deal

• Priority Sector 'Environment, energy, climate change and low carbon economy' consists of:

Programme Area 11

Ecosystems, air quality, circular economy, water management

**Programme Area 12** 

Energy efficiency in buildings and industry and renewable energy in connection with energy measures

Programme Area 13

Climate change mitigation and adaptation activities, awareness raising

### Ongoing Environment, Energy and Climate programmes are expected to lead to:

Emissions reductions: More than 1 million ton of CO2 eq. per year

Energy savings: 897 000 MWh/year

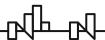
Renewable energy production: 118 000 MWh/year

Restoration of ecosystems: 600 000 m2 of wetland etc.

Promotion of a circular economy: 17 pilot projects etc.

Environmental awareness-raising

New infrastructure for alternative fuels



### Overview PA 12: Renewable Energy, Energy Efficiency, Energy Security

Grants allocation, supported areas and objective

Allocation (EEA Grants): 184 503 300 EUR

Allocation (Norway Grants): 33 778 986 EUR

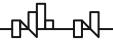
Total: **218 282 385 EUR** 

### **Areas of support:**

- Energy efficiency in production
- Renewable energy production and/or distribution
- Recovery of energy from waste and hazardous waste
- Energy security
- Renewable energy policies in all relevant sectors
- Energy markets

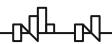
### **Objective:**

Less carbon intensive energy and increased security of supply



### Countries currently receiving funding under PA 12 – updated Dec 2021

Country	Total Sum of Allocation	Total Sum of Disbursed	Total Sum of Incurred	Total Sum of Eligible expenditure
PA12	218,282,385.00	34,711,590.09	5,615,242.23	247,284,403.92
Bulgaria	28,000,000.00	6,591,028.96	1,653,821.33	32,941,176.47
Croatia	17,000,000.00	3,504,678.61	25,523.31	20,000,000.00
Greece	10,000,000.00	3,966,714.00	343,952.00	13,333,333.33
Lithuania	845,486.00	535,261.65	301,205.59	994,689.41
Poland	95,360,399.00	6,053,079.87	0.00	112,188,704.71
Romania	62,826,500.00	12,977,077.00	3,290,740.00	62,826,500.00
Slovenia	4,250,000.00	1,083,750.00	0.00	5,000,000.00



### EEA/Norway Grants 2014-2021 in Cyprus

- New cooperation agreements with Cyprus on a number of new programs on March 2019
- Areas of support
  - Strengthening civil society.
  - Facilitating bi-communal cooperation.
  - Improving social services for vulnerable groups (e.g. children in need, people with disabilities).
  - Improving health diagnostics and capacity.
  - Reducing vulnerability to climate change and improving environmental status.
- Programmes
  - Active Citizens Fund
  - Local development and Poverty Reduction
  - Social Dialogue Decent Work
  - Bilateral Fund

Improving the waste management system, mitigating climate change effects, enhancing social inclusion, developing new practices for disease prevention, improving public health and reducing health inequalities.

https://eeagrants.org/countries/cyprus
http://www.eeagrants.gov.cy/dgepcd/eeagrantscy.nsf/home\_en/home\_en?openform





# Thank you for your attention







PANTERA project:
A Pan-European
Technology Energy
Research Approach

Venizelos Efthymiou – FOSS Kyriaki Psara - FOSS

# EIRIE platform: R&I is fundamental in achieving the energy transition in time!

EIRIE Platform Conceptual Representation

EU platforms and

DERIGI

**ETIP SNET** 

EERA

JRC

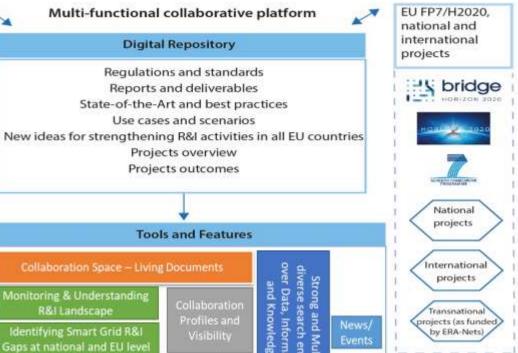
User-friendly

Reports

Opportuniti

initiatives







Vision for a multifunctional collaborative platform to serve R&I in EU in support of the energy transition and more specifically energy systems



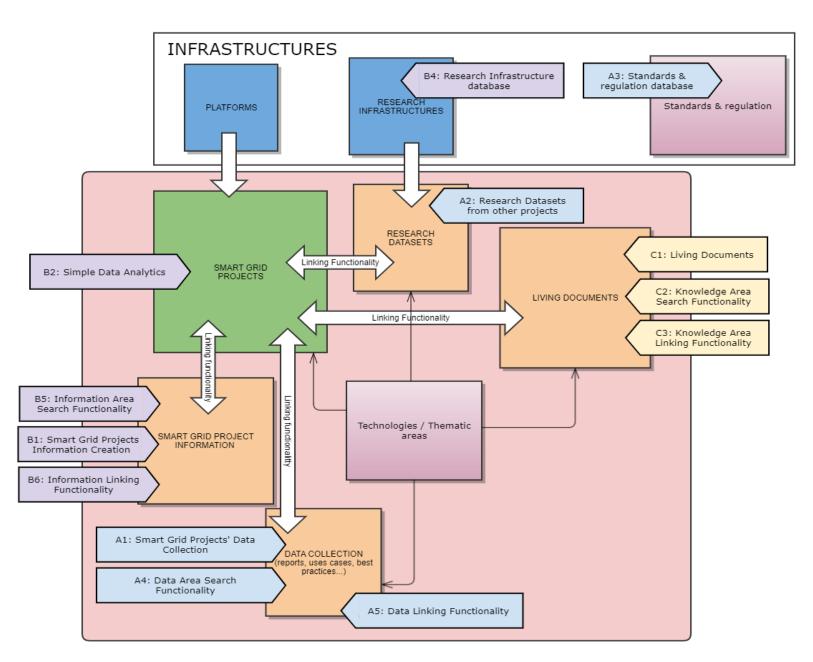
### What is EIRIE?



EIRIE will help bridge the gaps that currently exist in the energy field in Europe between Member States, by bringing together the attractiveness of successful partnerships being national, regional or European.



EIRIE will act as THE meeting point of all actors active in the fields of smart grids, storage and local energy systems in Research & Innovation from all Europe and will contribute to the achievement of the envisioned carbon-free system of 2050.





# EIRIE Platform Vision

### Main structure and functionalities



#### • EIRIE Main Structure

- Platform created in Drupal 9.
- CMS to manage users/Content.
- API to Data injection from external platforms.
- Login through EU-Login.

#### **EIRIE Main Functionalities**

- Search tool for Projects, Organizations, Data Collections, Regulations.
- News , Events and Newsletter.
- Data Analytics.
- Use Case repository.





# Benefits of using the platform



An easy access to information on potential funding and consortium building,



A central point for collaborating on the issues relevant for the energy sector



An active role in the community and a support in providing input to European policies,





# **Key functionalities**

### Data Area, with search and linking functions:

- Projects data collection (results and outcomes, best practices, reports and deliverables, etc.)
- Standards and regulations

### Information area, with search and linking functions:

 Project-related information through integration with JRC, CORDIS, Mission Innovation, ETIP SNET, BRIDGE, EXPERA, etc.

### Knowledge area, with search and linking functions:

Living documents



### Access to the platform

**ECAS Services** 

Registration to EIRIE – Need for an

already validated ECAS account





- Non-registered users/ visitors have access only to high-level information about EIRIE and the PANTERA project
- Registration A prerequisite to access the wealth of services in **EIRIE**
- Moderated registration pending verification and acceptance by the **EIRIE** administrator

tannathaute5.eu

Sign of arthur officers in their authors.)

Link your names of

### **User Roles**



Assigned following registration and verification by the EIRIE Administrator:

#### Simple users

 access only to the information area and the EIRIE platform functionalities as viewers

#### Collaborators

- Access to all services
- Contribute with new information (projects, education material, regulation, etc)
- Access in the collaboration area for knowledge creation

#### Regional Actors

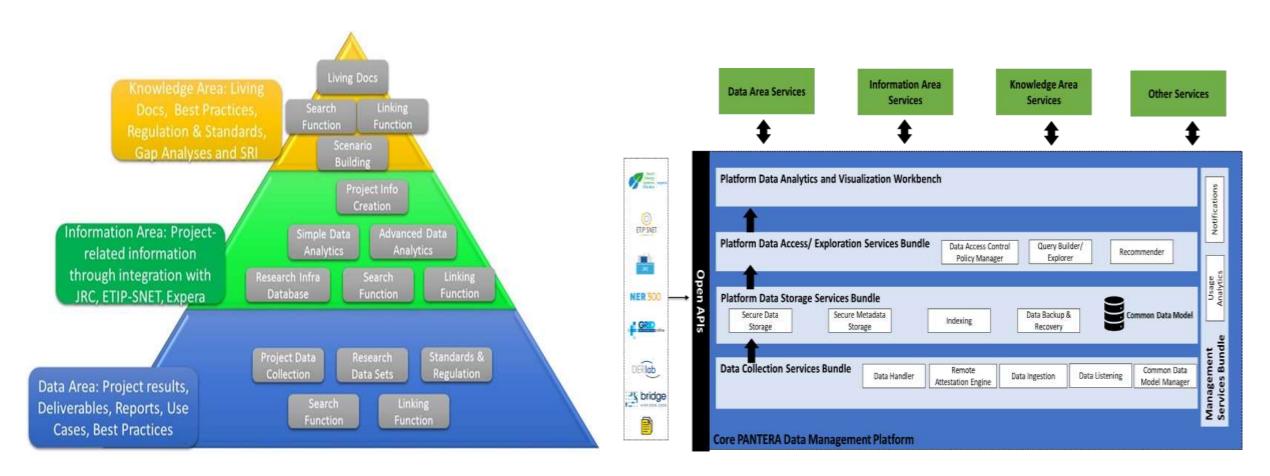
- Access to all services
- Contribute with new information (projects, education material, regulation, etc)

**EIRIE platform and CONFLUENCE** 

- Access in the collaboration area for knowledge creation
- Posting profiles in the matchmaking area

### **EIRIE** in a snapshot





### **EIRIE Value Propositions**



#### \* Researchers

- Access to a pan-European data base with analytical and exploitable information on smart grid projects
- \* Information about best practices in R&D sector
- \* First-hand insights into interesting smart grid projects, results, ideas, initiatives
- \* Exchange of know-how with other R&I actors
- \* Access to SotA Training Material and Education Programmes

#### \* R&I Organizations

- Cross-promotion opportunities, encouraging synergies with projects and initiatives through information sharing and promotion opportunities through highlighting key achievements as best practices
- Making feasible for the low spending, in R&I, countries to be engaged in a more active manner in EU R&I activities

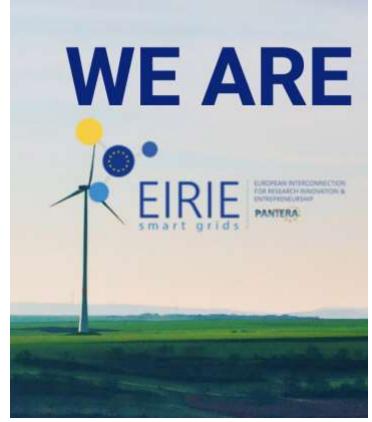
#### \* Policy Makers

- \* Define inefficiencies of R&I activities at national, regional and EU level and prioritization of policy actions towards advancing R&I in low-performing thematics
- \* Pooling together different available instruments into one platform, in such a way that it will effectively contribute to the increase of knowledge, coordination of R&I activities and networking

## **EIRIE**

• It is EIRIE's vision to create, through the planned multifunctional collaborative platform, this reference operational point to:

- Unify European activity
- Incentivize further investments in smart grids
- Support access to exploitable results
- Spark further work and cooperation capable of bridging the existing gaps.



### **EIRIE: REGIONAL CORNER**



- Connecting the Research & Innovation EU community.
- Building up the future of Smart Grids.
- Creating a strong and expandable network.
- •Enhancing collaboration and knowledge sharing.



### PANTERA 6+1 approach for giving the platform to act to all



- PANTERA 6+1 approach is an inherent part of PANTERA process which aims at strengthening national participation rate in smart grid investments by making national stakeholders' needs and expectations more visible on the European arena.
- It is a place for raising discussions with national decision-makers, sharing experience and challenges in research and innovation, inviting local stakeholders to interact more actively with PANTERA and other EU-level initiatives.

DESK 1  LATVIA  LITHUANIA  ESTONIA	DESK 2  GREECE  ROMANIA  BULGARIA	DESK 3  MALTA  CYPRUS	9
DESK 4	DESK 5	DESK 6	
CZECH REPUBLIC	ITALY	PORTUGAL	BEST PRACTICE DESK
SLOVAKIA	CROATIA	IRELAND	
POLAND	HUNGARY		

EIRIE platform and CONFLUENCE

# EIRIE: Collaborating through the use of Confluence

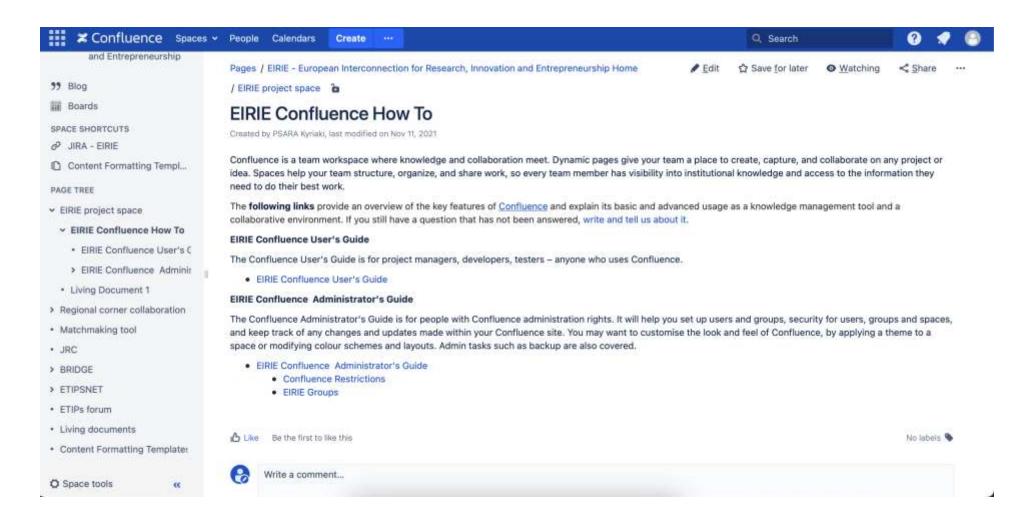
- Confluence is a collaboration wiki tool used to help teams to collaborate and share knowledge efficiently.
- Confluence is a team workspace where knowledge and collaboration meet by creating, collaborating, and organising all the work done within EIRIE in one place.
- Confluence is for teams of **any size and type**, from those with mission-critical, high-stakes projects that need rigor behind their practices, to those that are looking for a space to build team culture and engage with one another in a more open and authentic way.





06/07/2022 Confluence

## **Confluence Guides**

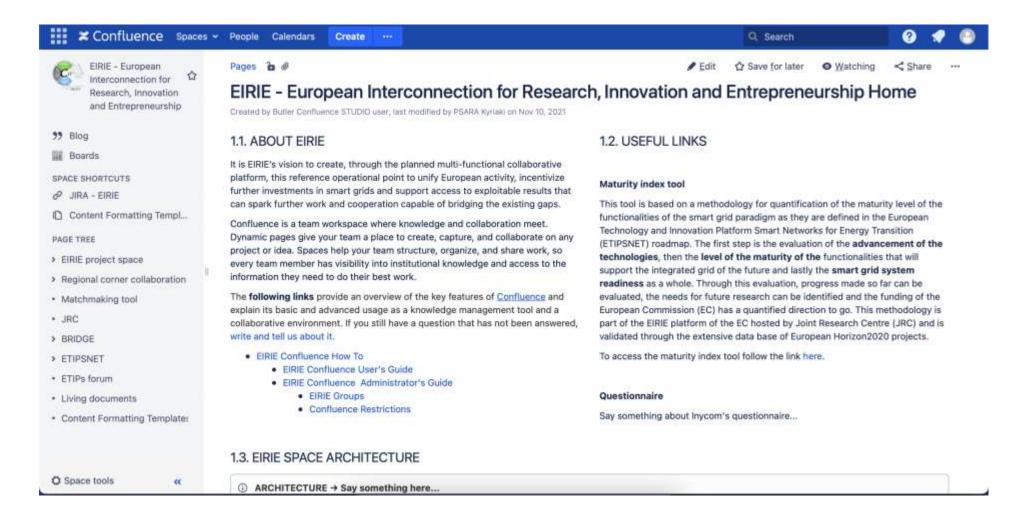


# Confluence - Space

- **Spaces** help your team structure, organize, and share work, so every team member has visibility into institutional knowledge and access to the information they need to do their best work.
- All EIRIE content is grouped together in the same space.
- Each space comes with an overview (or homepage) and a blog, so it's easy to share updates and announcements with your whole team.



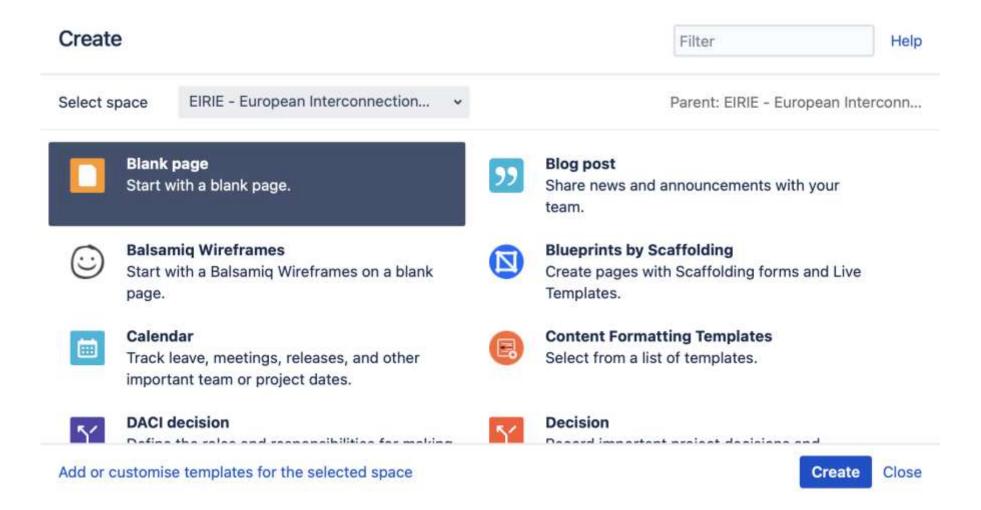
# **EIRIE Space**



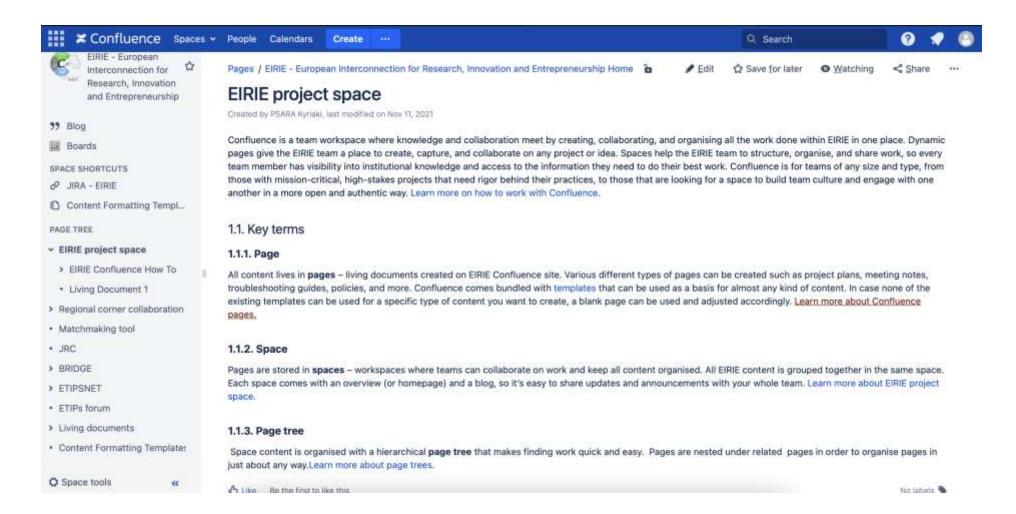
# **Confluence - Pages**

- All content lives in **pages** living documents created on EIRIE Confluence site.
- Various different types of pages can be created such as project plans, meeting notes, troubleshooting guides, policies, and more.
- Confluence comes bundled with templates that can be used as a basis for almost any kind of content.
- In case none of the existing templates can be used for a specific type of content you want to create, a blank page can be used and adjusted accordingly.

# Page Example



# Page Example



# Confluence – Page Trees



- 99 Blog
- **Boards**

SPACE SHORTCUTS

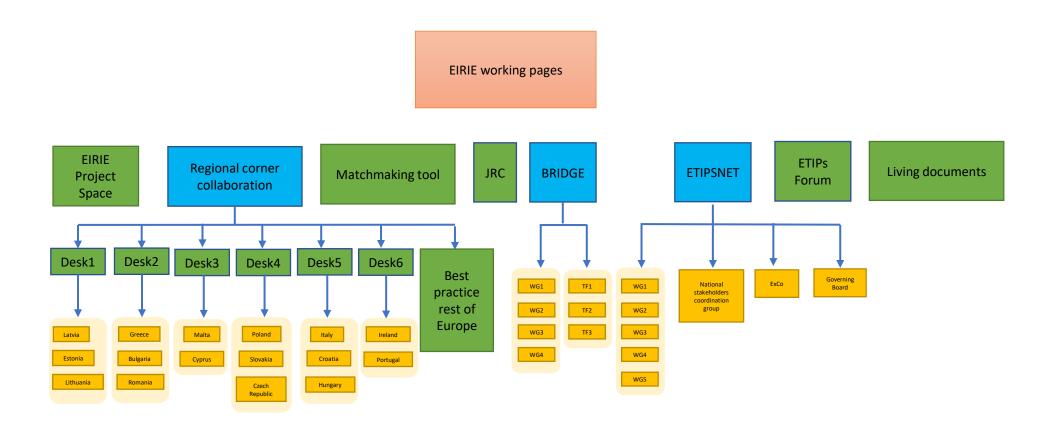
- @ JIRA EIRIE
- Content Formatting Templ...

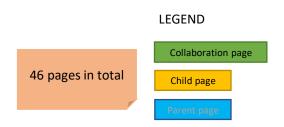
PAGE TREE

- EIRIE project space
  - > EIRIE Confluence How To
  - · Living Document 1
- > Regional corner collaboration
- · Matchmaking tool
- JRC
- > BRIDGE
- > ETIPSNET
- · ETIPs forum
- > Living documents
- · Content Formatting Templates

- Space content is organised with a hierarchical page tree that makes finding work quick and easy.
- Pages are **nested** under related pages in order to organise pages in just about any way.

### Confluence - Architecture



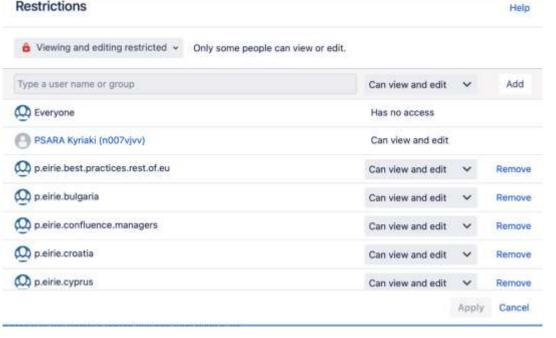


# **Confluence - Page Restrictions**

 Page restrictions allow confluence users to control who can view and/or edit individual pages in a space.

Project managers can add restrictions for individuals or for confluence

groups.



### Get in touch



**EIRIE platform and CONFLUENCE**