

# Mobilization of EU13 national public research resources in the Clean Energy Transition: challenges and opportunities

PANTERA/SUPEERA workshop, Bol, Croatia  
10th September 2021

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## ▶ EUROPEAN ENERGY RESEARCH ALLIANCE



- A key player in the European Union's **Strategic Energy Technology (SET) Plan**.
- The **largest-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

**50K**

energy experts



## 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.**

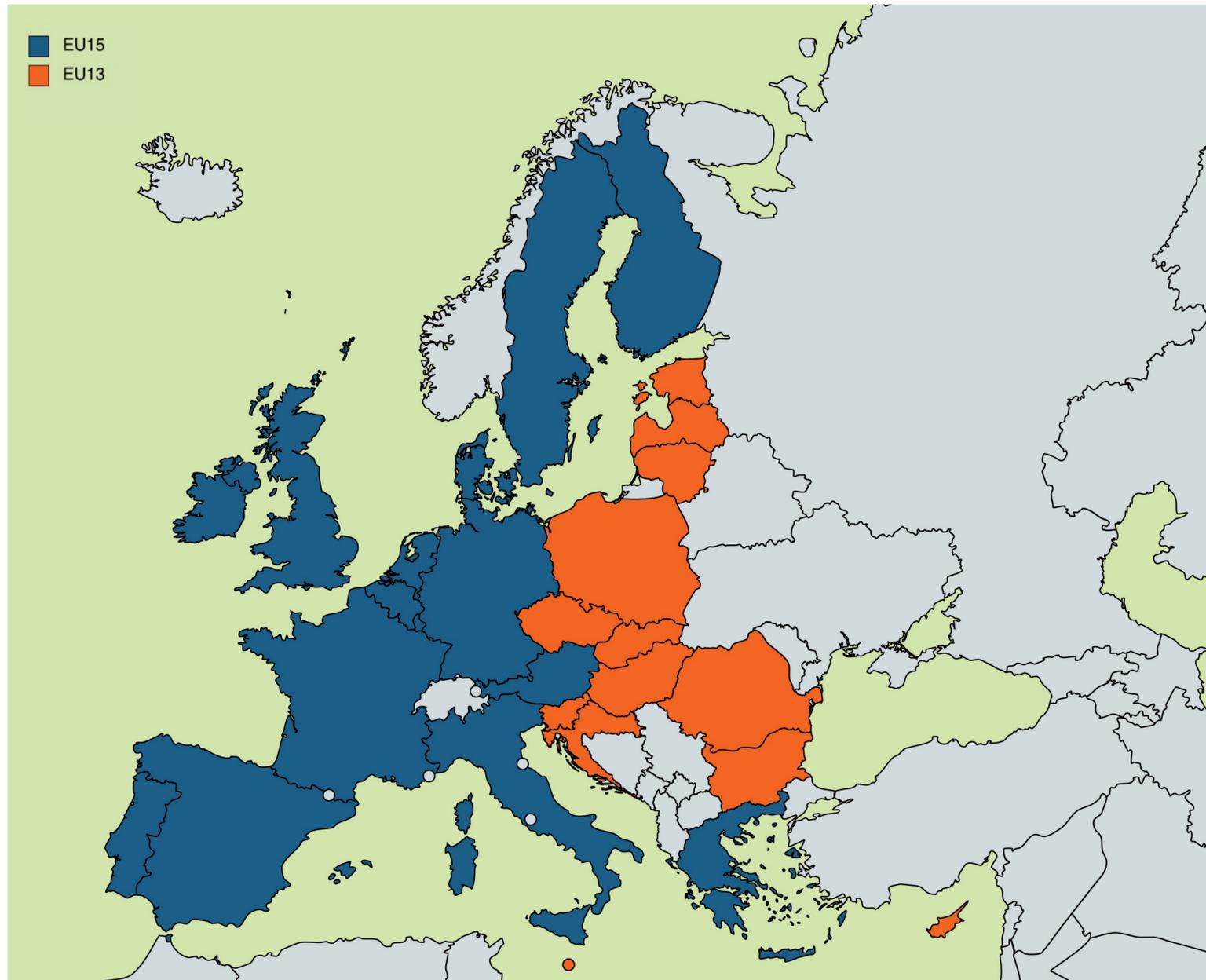




## ► Introductory note

The research and innovation gap between EU13 and EU15 Member States

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



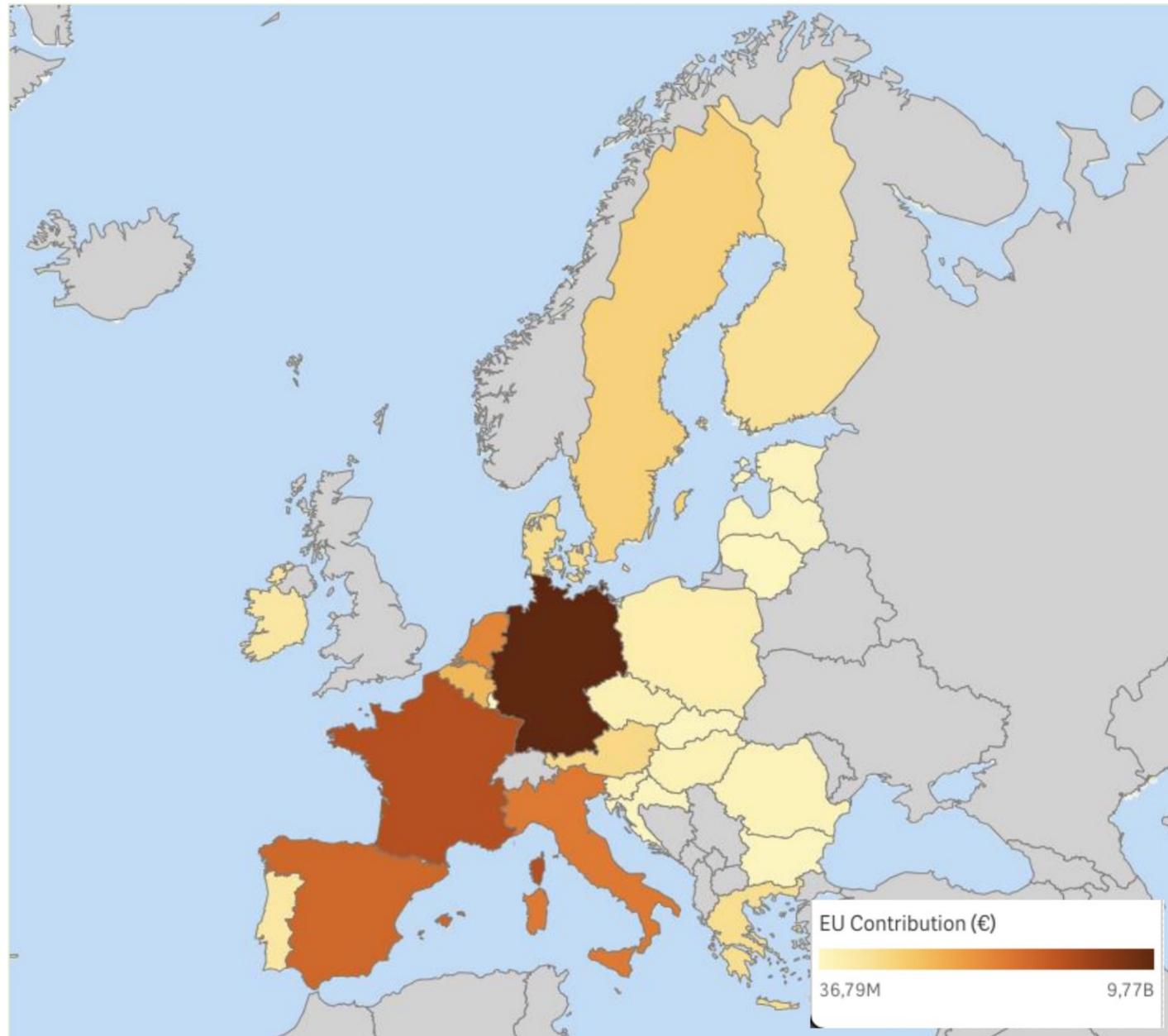
The **research and innovation (R&I) gap** in the EU is a pressing **challenge**, especially in consideration of the **2030** and **2050** climate goals.

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



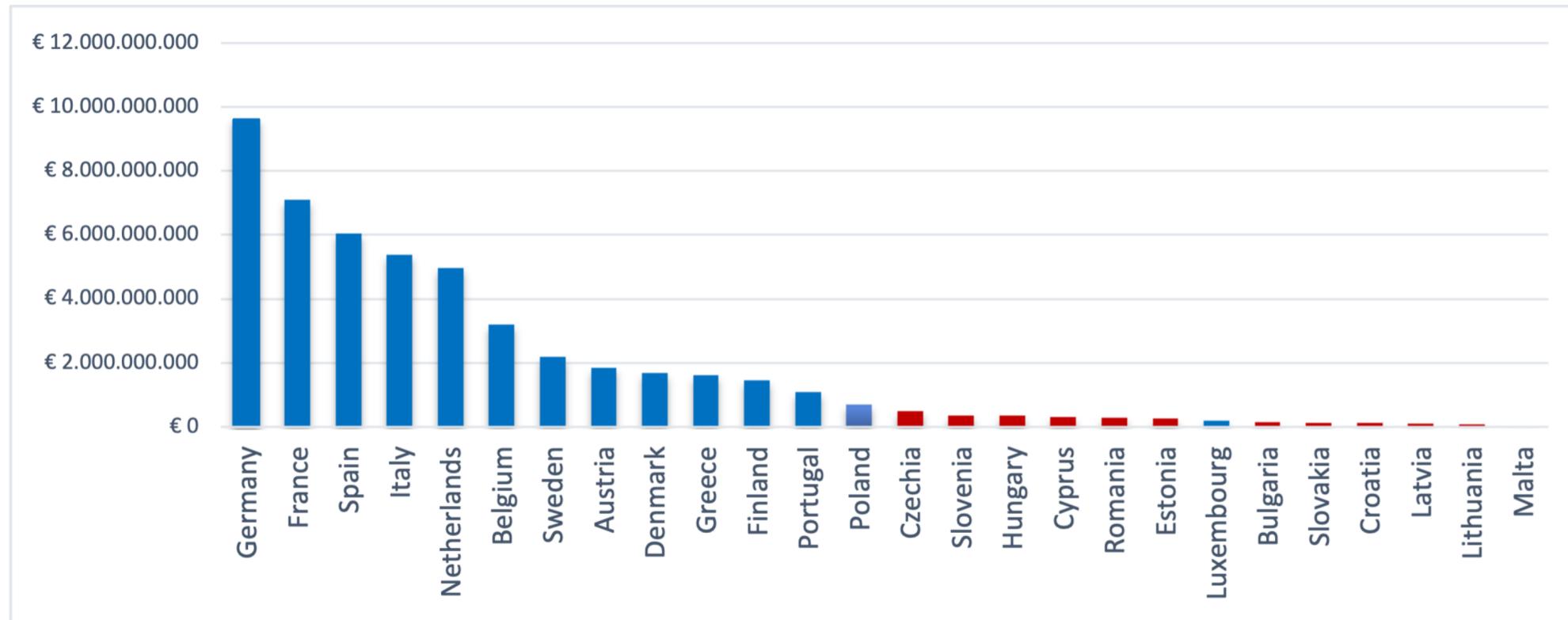
The limited commitment to the SET Plan reflects in **low H2020 performance**.

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

Image source: Horizon 2020 dashboard (European Commission, 2021).

## ► 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	<b>9,65%</b>	€ 3 470	<b>5,82%</b>
EU15 total	137.078	<b>90,35%</b>	€ 56 120	<b>94,18%</b>

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

Vs.

→ Among the EU15 countries, Luxembourg is the country receiving the lowest share from Horizon 2020 (EUR 189 million), while Germany receives the highest contribution of EUR 9 600 million



## ► The gap in relation to the SET Plan

### EU13 participation to SET Plan Implementation Working Groups

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													
Croatia	X							X					
Cyprus			X	X		X	X				X	X	
Czechia	X	X				X		X				X	
Estonia	X												
Hungary	X	X						X					
Latvia	X				X	X	X					X	
Lithuania	X							X					
Malta	X												
Poland	X					X		X				X	
Romania	X							X				X	
Slovakia	X					X							
Slovenia	X					X		X					

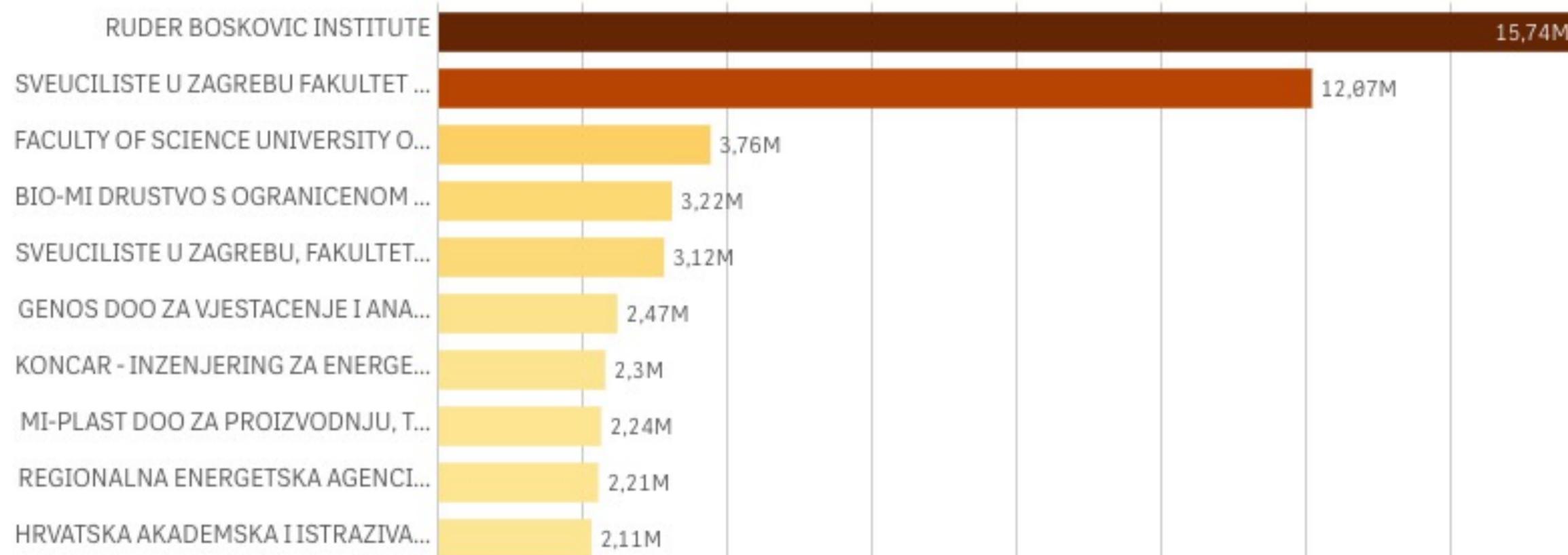
Except for Bulgaria, all EU13 countries participate in the SET IWGs, with Cyprus being the most active country.

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



## ► Info on Croatian major beneficiaries

### H2020 in general



► **RTOs and the n. of Societal Challenges 3 - Secure, Clean and efficient energy projects**

RTO	Number of SC3 projects
Energetski Institut Hrvoje Pozar (EIHP) <a href="http://www.eihp.hr/">http://www.eihp.hr/</a>	16
Ruđer Bošković Institute <a href="https://www.irb.hr/eng">https://www.irb.hr/eng</a>	15
Regionalna Energetska Agencija Sjeverozapadne Hrvatske (REGEA) <a href="https://regea.org">https://regea.org</a>	12
Medunarodni Centar Za Odrzivi Razvoj Energetike Voda I Okolisa <a href="https://www.sdewes.org/">https://www.sdewes.org/</a>	4





## ► 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.**



# ► Opportunities and recommendations



## ► 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**;
4. Foster stronger **academia-business cooperation**;
5. **Improve** administrative **procedures** and **reduce** administrative **barriers**;
6. **Enhance** the activities of **National Contact Points**.



