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EXECUTIVE SUMMARY

The overall objective of Work Package 1 is to facilitate the execution of the SET Plan in its current configuration, which implies active and balanced participation of all EU Member States and Associated Countries. Yet, after 15 years of its inception, a timely and effective execution of its Implementation Plans by 30 national stakeholders appears to be uneven to such an extent that two parallel binaries have emerged: on one side, the fast-paced one guided by the EU14 Member States (EU prior to 2004 enlargement process) - complemented by Associated Countries such as Norway - and, on the other side, the slow-paced one, encompassing the EU13 Member States (those joined after 2004). Although today the SET Plan, in opinion of its main (biggest) stakeholders, continues to facilitate the accomplishment of its originally highly level objectives, the unbalanced contribution of all parties to its IPs not only jeopardizes the systemic deployment of low carbon technologies but also challenges the full achievement of 2030 and 2050 climate and energy goals across the continent.

Against this background, one of the strategic SUPEERA activities is to map, mobilise and ideally engage EU13 most prominent national research organisations with a concrete potential to contribute to the realisation of the SET Plan IPs.

This progress report complements the D1.8 (*Widening. Preliminary recommendations for mobilising National Public Research resources in EU13 countries*), that provided a general overview on the participation of all EU13 Member States in the execution of the identified SET Plan Implementation Plans (IPs) needs, by analysing in detail the context of four out of thirteen countries. This course of action follows the methodology described in the GA, where the desk research is properly followed by physical workshops in EU13 countries in order to raise awareness on the SET Plan and CET; on the state of play of the former and on the funding opportunities dedicated to the analysed countries.

For sake of clarity, it is important to underline that the relatively low number of considered countries is due to unexpected circumstances (i.e., to the pandemic situation and the respective travel restrictions), where the organisation of physical meetings, with stakeholders generally unfamiliar with EERA and SET Plan ecosystem, was in practice unfeasible until spring 2022.

The present report will be realised in its final version upon the completion of the project (M42), by including findings from the nine remaining EU13 countries, provided that future circumstances related to the COVID-19 will not obstacle the organisation of the foreseen workshops.

LIST OF ACRONYMS

AC(s)	Associated Country(ies)
CCS	Carbon Capture and Storage
CCU	Carbon Capture Utilisation
CET	Clean Energy Transition
CETP	Clean Energy Transition Partnership
CERA	Cyprus Energy Regulatory Authority
CSA	Coordination and Support Actions
CYI	Cyprus Institute
DMIRD	Ministry of Research, Innovation and Digital policy
EC	European Commission
EERA	European Energy Research Alliance
ERA	European Research Area
ETIP(s)	European Technology and Innovation Platform(s)
EU	European Union
FP	Framework Programme
GA	Grant Agreement (referring to the one of the SUPEERA project)
H2020	Horizon 2020
HEU	Horizon Europe
HVDC – DC	High Voltage Direct Current – Direct Current
IP(s)	Implementation Plans
IWG(s)	Implementation Working Group(s)
NECP(s)	National Energy and Climate Plan(s)
NCP(s)	National Contact Point(s)
MS(s)	Member States
PV	Photovoltaics
R&D	Research and Development
R&I	Research and Innovation
RIF	Research and Innovation Foundation
RTO(s)	Research and Technology Organisation(s)
SC3	Societal Challenges 3 - Secure, Clean and efficient energy
SET Plan	Strategic Energy Technology Plan
SETIS	Strategic Energy Technology Information System
SUPEERA	SUPport to the coordination of national research and innovation programmes in areas of activities of the European Energy Research Alliance
TSOC	Transmission System Operator in Cyprus
WP(s)	Work Package(s)

LIST OF TABLES AND FIGURES

I INTRODUCTION

On January 1st, 2020, the SUPEERA project[1] – SUPport to the coordination of national research and innovation programmes in areas of activities of the European Energy Research Alliance – was launched.

The project aims at reaching four high-level objectives:

1. Facilitate the coordination of the research community in support to the execution of the SET Plan towards the CET;
2. Accelerating innovation and uptake by industry;
3. Provide recommendations on Research and Innovation (R&I) priorities and policy frameworks through the development and analysis of energy and macroeconomic indicators;
4. Support and promote the connection of the SET Plan and the CET with all stakeholders.

To achieve the first objective, the SUPEERA project foresees, on one side, a detailed understanding of the status and needs of R&I activities of the SET Plan Implementation Plans (IPs) and, on the other, to spread excellence and widen participation in the SET Plan across Europe by fostering a stronger engagement of the MS that joined the EU after 2004, the so-called EU13 countries. These countries, which have rather limited participation rates in the realisation of the SET Plan through its IPs, are mainly eastern countries (Poland, Slovakia, Czech Republic, Hungary, Romania and Bulgaria), the Baltic states (Estonia, Latvia, Lithuania), and south and south-eastern countries (Malta, Slovenia, Croatia and Cyprus).

To pursue this objective, SUPEERA has also launched, within the WP4, a digital campaign called "Meet the EU13" consisting of one success story for each of the 13 Member States showcasing the scientific landscape, major players, networks, infrastructure, expertise, and current engagement in the SET Plan of the selected countries.

The current deliverable therefore complements the D1.8 (*Widening. Preliminary recommendations for mobilising National Public Research resources in EU13 countries*) and it is focused on the reporting of the following actions carried out in the second Reporting Period (RP2):

1. The identification and mapping of (potential) resources from Research and Technology Organisations (RTOs), universities, and relevant national funding bodies responsible for energy R&I in four EU13 countries, namely Croatia, Latvia, Bulgaria and Cyprus;
2. The main findings emerged from four physical workshops organised in above mentioned countries;

[1]SUPEERA Website: https://www.supeera.eu.

3. The analysis of both best practices displayed by stakeholders from four countries as well as main obstacles and barriers that hamper their participation in EU funded programmes, existing R&I networks, and by consequence their proper involvement in the SET Plan execution.

More specifically, this report summarises the actions SUPEERA has carried out to support widening the participation of mentioned countries towards the SET Plan and Horizon Europe (e.g. the facilitation of mobilising relevant national stakeholders). The analysis of each country is structured in three main sections:

- Country's Horizon 2020 performance analysis (updated in respect to the D1.8)
- Country's Horizon Europe performance analysis (based on database research as of 2 June 2022).
- Country's workshop reports

The final chapter (Chapter V) consolidates aspects common to all four countries, with the aim to assist the EC and EERA governance in the elaboration of their policies and strategies to bring EU13 R&I low carbon energy stakeholders closer to the SET Plan ecosystem, thereby facilitating the achievement of ambitious and shared goals of climate neutrality.

II SETTING THE SCENE AND METHODOLOGY

2.1 Introduction

The R&I gap in the European Union remains a pressing challenge. The group of the EU13 countries have a low, or even inexistent, participation in the SET Plan and underperforms in the European Research and Innovation Framework Programmes (FPs) compared to the Member States that had joined the EU before 2004 – the so-called EU15 (in HEU EU14) countries.[2]

Although most EU13 countries are reported to participate, at least formally, in some of the SET Plan Implementation Plans and the related Implementation Working Groups (IWGs), their involvement has been rather limited and inconsistent over time.

This R&I gap is also reflected in an unequal participation in the EU FP for Research and Technological Development of the Horizon 2020 (FP8); the latter representing the most substantial EU instrument to support and foster cooperation among Member States in R&I and develop the European Research Area (ERA) as a "single, borderless market for research, innovation and technology across the EU."[3] In the seven years of FP8 operation, the new members have received only a marginal contribution of its budget.

The two-velocity mechanism (EU14 on one side and EU13 on the other) in both participation in the SET Plan and in supporting schemes will most probably endure in the current FP Horizon Europe. The negative results of such disparity can be mitigated only if a series of corrective measures are timely put in place to promptly readjust the underrepresentation of the EU13 countries in the execution of the Plan.

The aim of this report is to analyse more in the detail the reasons of the lower performance of four EU13 countries in EU R&I polices and strategies (including the SET Plan) and to identify and facilitate the mobilisation of key research organisations and national funding bodies towards the CET process. Based on the findings emerged during the workshops organised in targeted countries, and on already gathered data in the D1.8 (*Widening. Preliminary recommendations for mobilising National Public Research resources in EU13 countries*), several recommendations and policy options will be developed. This report will be realised in its final version at the end of the project, ideally complemented with the analysis of the remaining nine countries.

[2] Julien Ravet, *From Horizon 2020 to Horizon Europe #2.1 Dynamic Network Analysis* (European Commission, Nov. 2018),https://ec.europa.eu/info/sites/default/files/research_and_innovation/knowledge_publications_tools_and_data/documents/h2020_monitoring_flash_112018.pdf.

[3] Michal Pazour, Vladimir Albrecht et al., *Overcoming innovation gaps in the EU13 Member States* (European Parliament, Mar. 2018), 11, https://www.europarl.europa.eu/RegData/etudes/STUD/2018/614537/EPRS_STU(2018)614537_EN.pdf.

The report is structured in six chapters. While Chapter I provides a series of introductory remarks, Chapter II proceeds with the description of the methodology slightly modified by the amendment due to the Covid-19 pandemic. Chapter III offers an update on general R&I gap between EU13 and EU15 countries respect to the, D1.8. Chapter IV provides a separate analysis for each of the four targeted countries in relation to their involvement in the SET Plan, their performance in Horizon 2020; gives a preliminary overview of their participation in Horizon Europe and, most importantly, reports on main findings emerged during the physical workshops. Chapter V consolidates main obstacles and barriers related to the limited participation in the SET Plan (and in the CET at large) and at the same time provides a first set of preliminary recommendations and policy options to bridge the R&I gap in selected countries. Finally, Chapter VI draws some concluding remarks and outlines the next steps to be taken in the last year of the SUPEERA project.

2.1 Methodology of analysis and adaptation of the initial planning

As for the D1.8, the current report partially differs from what planned initially because of the general restrictions imposed to contain the Covid-19 pandemic. As a result, it has not been possible to organise all foreseen physical workshops in the second reporting period (i.e. from July 2021 to July 2022). Only four instead of 6 workshops were organised and duly reported, which represent the core of present document.

With aim to complete the analysis of all EU13 countries, the following workshops are envisaged for the RP3: Hungary (Sep 2022); Malta (beginning of Nov 2022); Czech and Slovak Republics (Nov 2022, back-to-back with the SET Plan conference); Romania (Feb 2023); Lithuania and Estonia (March 2023); Croatia and Slovenia (June 2023, back-to-back with the EERA Annual Strategy Meeting).

III THE R&I GAP BETWEEN EU13 AND EU15 COUNTRIES

3.1 The gap in relation to the SET Plan

Most EU13 countries have a very limited participation in the realization of the SET Plan through the execution of its Implementation Plans. Although some of them officially take part to selected IWGs, their actual involvement is rather limited, as often they do not allocate national funding to any IPs and the information they provide on how the SET Plan may contribute to achieve the national energy and climate objectives is incomplete and unsatisfactory. Such conclusions are particularly evident in the assessments of the NECPs of the new members carried out by the EC.

Sometimes it is not even possible to assess with certainty to which IPs and IWGs EU13 countries belong. There is a discrepancy between the information provided in publications from the Strategic Energy Technology Information System (SETIS) covering in detail EU MSs involvement in SET Plan IPs, and any other sources, such as the aforementioned NECPs and the related EC's assessments.

Alike to D1.8, the tables below assessing EU13 involvement to the SET Plan rely on the most updated information released from SETIS[4] about the EU Members formal involvement in specific IWGs and on the desk research preformed in June 2022. For the sake of completeness, the 2021 SETIS map outlining Member States involvement in IPs is also provided (see Figure 1).

Country	Batteries	CCU-CCS	CSP-STE	Deep Geothermal	Energy Efficiency in Buildings	Energy Efficiency in Industry	Energy systems
Bulgaria							
Croatia	X						
Cyprus	X		X	X		X	X
Czechia	X	X				X	
Estonia	X						
Hungary	X	X					
Latvia	X				X	X	X
Lithuania	X						
Malta	X						
Poland	X					X	
Romania	X						
Slovakia	X					X	
Slovenia	X			X		X	

Table 1– EU13 participation to SET Plan Implementation Working Groups (1)

[4] SETIS - SET Plan information system: Implementing the actions (https://setis.ec.europa.eu/implementing-actions_en)

Country	HVDC-DC	Nuclear safety	Ocean energy	Offshore wind	Photovoltaics	Positive energy districts	Renewable fuels and bioenergy
Bulgaria		X					
Croatia		X					
Cyprus	X		X		X	X	X
Czechia	X	X				X	
Estonia							
Hungary	X	X					
Latvia						X	
Lithuania	X	X					
Malta							
Poland		X				X	X
Romania	X	X				X	
Slovakia		X					
Slovenia		X					

Table 2 – EU13 participation to SET Plan Implementation Working Groups (2)

In comparison to 2021, several countries have joined different IWGs, while some of them also withdrew from the participation in some IWGs. More specifically:

- 5 countries (CY, CZ, HU, LT, RO) joined the newly established recently created IWGs on HVDC – DC
- CY joined the IWGs on Batteries, Ocean Energy, Renewable fuels and Bioenergy
- PL joined the IWG on Renewable fuels and Bioenergy
- SK joined the IWG on Nuclear Safety
- SI joined the IWG on Deep Geothermal and withdrew from the one on Energy Efficiency in Industry

Similar to what has been already reported in D1.8, EU13 countries participation is mostly visible in nuclear safety, batteries, energy efficiency in industry and positive energy districts. Among the EU13 countries, Cyprus firmly remains the most active country, participating in 10 IWGs.

SET Plan Implementation Plans by country

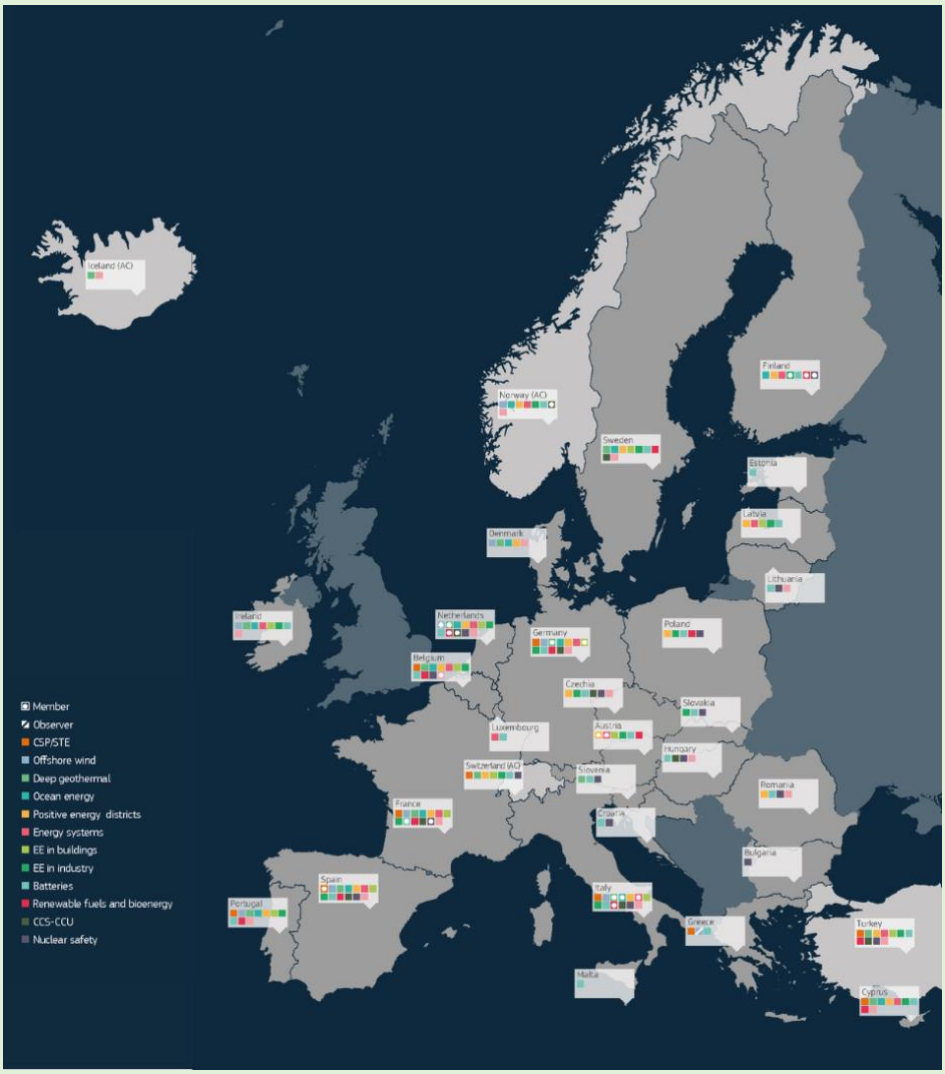


Figure 1 – Map of the SET Plan Implementation Plans by country

IV COUNTRY ANALYSIS

4.1 Introduction

The participation of most the EU13 countries in the EU FPs traces back to before their accession of 2004, when they were admitted to the FP5 (1998-2002) through specific association agreements. Nevertheless, despite two decades of experience with FPs funding, the evidence shows that EU13 still lags behind EU15 in terms of participation and success rate in FPs and that this gap has not significantly decreased over time.

This chapter, in line with the approach adopted for the whole deliverable, will focus on the analysis of four EU13 countries, building on the already existing assumptions embedded in the D1.8. Therefore, this section assesses Croatia's, Latvia's, Bulgaria's and Cyprus' involvement in the SET Plan, their performance in Horizon 2020, gives a very preliminary number of Horizon Europe performances and finally offers a clear list of main obstacles and barriers relative to each of the countries' participation in the above-mentioned instruments and polices.

4.2 Individual country analysis

Introductory remark:

The following division examines the most recent information on countries' participation in the SET Plan, H2020 and HEU. Individual analysis, here beneath in chronological order, is complemented by first-hand data collected during the execution of the physical workshops in respective countries.

For more detailed analysis of the four countries' H2020 performance regarding:

1. Relative weakness of the R&I systems of the EU13 compared to the EU15;
2. Relative lack of scientific excellence in institutions from the EU13 compared to the EU15;
3. Relative lower quality of proposals involving EU13 participants compared to those that do not involve them
4. H2020 retained proposals
5. Relevant stakeholders,

please refer to the D1.8 (*Widening. Preliminary recommendations for mobilising National Public Research resources in EU13 countries*).

	Croatia	Latvia	Bulgaria	Cyprus
When	10th Sep 2021	27th Apr 2022	25th May 2022	1st June 2022
Hosted by	University of Split, Island of Brac	Technical University of Riga, Riga	Technical University of Sofia, Sofia	University of Cyprus, Nicosia
N. participants	13 on site 37 online	25 on site 56 online	15 on site 23 online	18 on site 24 online
Comments	Participation of NCP from Hungary	Participation of several RTOs from Lithuania and Estonia		

Table 3 – Information about the implemented workshops

4.2.1 Croatia

This section shows the development of Croatia's involvement in the SET Plan IWGs and Horizon 2020, since May 2021 (month to which all data contained in SUPEERA Deliverable 1.8 refer to) until June 2022, to which the following updated data trace back.

Over the last year Croatia has not joined any additional IWG being Batteries and Nuclear Safety the only two in which the country is involved. The limited commitment towards the Implementation of the SET Plan also reflects on the country's performance in H2020 and HEU.

Sample	H2020 signed grants	H2020 signed grants (percentage of EU total)	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)
Croatia	582	1,79%	815	0,52%	€ 138	0,22%
EU total	35.424	100,00%	177.113	100,00%	€ 68.330	100,00%
EU13 total	6.363	19,55%	15.123	9,68%	€ 3.590	5,81%
EU15 total	31 358	96,35%	141.154	90,32%	€ 58.110.	94,19%

Table 4 – Croatia. Horizon 2020 performance analysis

Retained Proposals	Retained proposals – Cluster 5 only (Climate energy and mobility)	Retained proposals – Marie Skłodowska-Curie Actions only	Retained proposals – European Research Council only
72	10	5	0

Table 5 – Croatia. HEU retained proposals

The number of H2020 grants signed over the last year reaches 21 (582 in total) with an increase of less than 4% in respect to May 2021.

In one year, 45 new Croatian organizations have joined Horizon 2020 projects, reaching a total of 815 (i.e., 0,52% of EU total), while the same indicator for the entire EU13 and EU15 clusters are, respectively, 15.123 (9,69%) and 141.154 (90,32%). Furthermore, since May 2021, the net contribution received from the grants has grown by 9 million euros, going from 129 EUR million to EUR 138 million (0,22% of the total amount of FP8) vs an aggregate value of EUR 3.590 million (5,81%) for the EU13 cluster and EUR 58.110 million (94,19%) for the EU15 cluster.

It is important to also mention Croatia's involvement in Horizon Europe within which 72 proposals were retained. Among these, 10 were presented under Cluster 5 and 5 under MSC Actions.

Workshop in Bol, Island of Brač, 10th September 2021

On the 10th of September 2021 PANTERA and SUPEERA projects jointly organized a workshop in on the occasion of the SplitTech Conference on the island of Brač, Croatia, with the aim to discuss and raise attention on gaps and barriers that limit the R&I activities in the energy sector and especially hinder a true integration of Croatian R&I stakeholders at EU level. The workshop gathered in total 40 participants both online and on site.

The event was held in hybrid modality, and it saw the participation of experts from the R&I community, the business sector and the Croatian and Hungarian National Contact Points.

The agenda was structured into two main blocks.

The morning session opened with an introduction on the PANTERA project and EIRIE platform by FOSS (Research Centre for Sustainable Energy). Both were presented as important tools easing EU wide connectivity and open access to data at a European level. This first contribution was followed by an oral presentation of the Croatian

Energy and R&I landscape by RSE (Ricerca sul Sistema Energetico) while also reporting on data about decarbonization targets and renewable energy sources penetration in the country.

The third and last presentation of the first session was jointly given by Suite 5 and DERlab (European Distributed Energy Resources in Laboratories) and focused on EIRIE functionalities and on the benefits for its users; in particular, two important areas of the platform were covered: the search tools and training and education material.

The second block of the workshop, taking place during the afternoon, opened with a presentation by EERA on the SUPEERA Project and on R&I gaps between EU13 and EU15 which reflect on their participation in H2020; a special attention was eventually dedicated to some recommendations to overcome such challenges: Harmonizing national and EU R&I priorities, strengthening EU networks, increasing funding, fostering academia-business cooperation, reducing administrative barriers and enhancing NCPs' activities.

The Panel discussion that followed allowed both online and on-site participants to ask questions and exchange views on how to accelerate regional R&I activities through research collaboration, national regulations, policy issues, financing opportunities and good practices.

During the discussion, IERC (International Energy Research Centre) introduced the PANTERA RICAP process together with the R&I status and priorities in Croatia and presented the country's NECPs. At the end of the presentation, recommendations were made in order to accelerate the R&I activities in the field of Smart Grids and renewable energy.

The Croatian NCP outlined the national support system for R&I activities and presented some statistics about the contribution of Croatia to H2020 and on the funds received in addition to specific measures to support participation in Union programmes for R&I. HEPODS (HEP-Distribution System Operator doo) intervened by revealing their strong support to R&I activities despite being quite hard for the DSO to depend on products and solutions that are under development.

REGEA (North-West Croatia Regional Energy Agency) intervened in the conversation by highlighting the importance of providing regions and cities with tools to implement the NECPs strategy, which requires a dedicated budget and lamented a lack of communication between local and regional governments and start-up incubators.

The discussion that followed also involved the public and focused on the following main subjects: barriers to R&I in Croatia, the main difficulties for the Academia in data finding and the challenges in trying to build successful Consortia for research activities. A more detailed summary of the workshop can be found in the ANNEX I.

4.2.2 Latvia

This section shows the update of Latvia's involvement in the SET Plan IWGs and Horizon 2020, since May 2021 (month to which all data contained in SUPEERA Deliverable 1.8 refer to) until June 2022, to which the following revised data trace back.

Over the last year, Latvia has not joined any new IWGs and only remained involved in the five it had joined before May 2021: Batteries, Energy Efficiency in Buildings, Energy Efficiency in Industry, Energy systems The following tables give an overview on Latvia's performance in H2020 and HEU.

Sample	H2020 signed grants	H2020 signed grants (percentage of EU total)	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)
Latvia	434	1,33%	539	0,34%	€ 117	0,19%
EU total	35.424	100,00%	177.113	100,00%	€ 68.330	100,00%
EU13 total	6.363	19,55%	15.123	9,68%	€ 3.590	5,81%
EU15 total	31 358	96,35%	141.154	90,32%	€ 58.110.	94,19%

Table 6 – Latvia. Horizon 2020 performance analysis

Retained Proposals	Retained proposals – Cluster 5 only (Climate energy and mobility)	Retained proposals – Marie Skłodowska-Curie Actions only	Retained proposals – European Research Council only
47	9	1	0

Table 7 – Latvia. HEU retained proposals

The number of H2020 grants signed over the last year reaches 10 (434 in total) with an increase of just above 2% respect to May 2021.

In one year, 13 new Latvian organizations have joined Horizon 2020 projects, reaching a total of 539 (i.e., 0,34% of EU total), while the same indicator for the entire EU13 and EU15 clusters are, respectively, 15.123 (9,69%) and 141.154 (90,32%). Moreover, since May 2021, the net contribution received from the grants has grown by 2 million euros, going from EUR 115 million to EUR 117 million (0,19% of the total amount of FP8) vs an aggregate value of EUR 3.590 million (5,81%) for the EU13 cluster and EUR 58.110 million (94,19%) for the EU15 cluster.

It is important to also mention Latvia's involvement in Horizon Europe within which 47 proposals were retained. Among these, nine were presented under Cluster 5 and one under MSC Actions.

Workshop in Riga, 27th April 2022

The first workshop on EU-widening organized within task 1.4 was held jointly with the EU H2020 project PANTERA – PAN European Technology Energy Research Approach - in Latvia, Riga, on 27th April 2022. The workshop gathered 81participants, both on site and online, with the aim to enhance collaboration in R&I activities in the Baltic States, facilitate knowledge exchange and showcase best practices of how international networking and cooperation between national stakeholders and key international associations and organizations can be beneficial for establishing long-lasting interactions and fostering joint R&I activities.

The event speakers included representatives from the European Commission (DG Energy) and from the three Baltic States as well as from the two projects organizations, i.e. from partners' organization of SUPEERA and PANTERA.

The EC started presenting their strategy and latest policy and legislative developments on the CET and thereafter an overview of R&I activities in Latvia supporting such transition was provided by senior representatives from the Latvian authorities. It is worth mentioning the established agreement between the government and several R&I actors to model future energy scenarios, making evident the importance of research and innovation in national decision-making. In this respect, several possible research areas for Latvia to focus on in the coming future such as deep renovation of buildings, energy efficiency, and integration of renewables was listed up.

These three presentations set the scene for four additional speakers from all three Baltic States as well as Norway, and representing both industry and academia, who shared best practices and own experiences in international R&I collaboration. These four presentations alongside with an introduction of the PANTERA process and of the SUPEERA findings on the engagement of the Baltic States in H2020 laid the groundwork for a fruitful round-table discussion addressing opportunities to increase participation in joint R&I activities. Some key take-aways from this first table-discussion were the need to align national and European agendas/priorities and the importance of education in building future knowledge.

The second half of the workshop was particularly devoted to creating awareness about the SET Plan. A detailed overview of the mobilization of EU13 countries in the SET Plan was provided, with special emphasis on The Baltic States, and the added value/opportunities arising when participating actively in the SET Plan. It was complemented with two additional presentations on R&I funding opportunities. First, a presentation on funding opportunities within Horizon Europe was given, particularly with regards to the CETP and to Widening Participation and Strengthening

the European Research Area. The second funding opportunity presented addressed the so-called EEA/Norway Grants, a dedicated funding mechanisms for EU13 countries often unknown by part of the research community from such countries.

The third and final block of the workshop covered Lithuania's role in the energy transition and the role of the ETIP SNET platform in facilitating collaboration between national stakeholders and European R&I entities. A representative from the Lithuanian government, presented the current national energy policy priorities as well as the participation/investment in the CETP and underlined that the ministry is now in the phase of selecting the CETP-energy areas to focus on in collaboration with national stakeholders through a public consultation. Thereafter, the Lithuanian Energy Institute shared own experiences and best-practices on participating in international energy networks. Despite their existing activity in such networks, it was stressed the importance to keep on promoting further cooperation, particularly on regional level within the Baltic States, in order to join forces to be more prominent on the EU level, and shared his views on barriers for the establishment of a Baltic research alliance. A more detailed summary of the workshop can be found in the ANNEX II.

4.2.3 Bulgaria

This section will show the updates of Bulgaria's involvement in the SET Plan IWGs and Horizon 2020, since May 2021 (month to which all data contained in SUPEERA Deliverable 1.8 refer to) until June 2022, to which the following updated data trace back.

Over the last year Bulgaria has joined its first SET Plan IWG on Nuclear Safety, being, nevertheless, one of the EU13 countries (together with Estonia and Malta) with the lowest rate of involvement in the implementation of the SET Plan. As shown in the following tables, this trend also reflects on the country's performance in H2020 and HEU.

Sample	H2020 signed grants	H2020 signed grants (percentage of EU total)	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)
Bulgaria	662	2,03%	990	0,63%	€ 161	0,26%
EU total	35.424	100,00%	177.113	100,00%	€ 68.330	100,00%
EU13 total	6.363	19,55%	15.123	9,68%	€ 3.590	5,81%
EU15 total	31 358	96,35%	141.154	90,32%	€ 58.110.	94,19%

Table 8 – Bulgaria. Horizon 2020 performance analysis

Retained Proposals	Retained proposals – Cluster 5 only (Climate energy and mobility)	Retained proposals – Marie Skłodowska-Curie Actions only	Retained proposals – European Research Council only
88	12	44	0

Table 9 – Bulgaria. HEU retained proposals

The number of H2020 grants signed over the last year reaches 26 (662 in total) with an increase of just above 4% respect to May 2021.

In one year, 35 new Bulgarian organizations have joined Horizon 2020 projects, reaching a total of 990 (i.e. 0,63% of EU total), while the same indicator for the entire EU13 and EU15 clusters are, respectively, 15.123 (9,69%) and 141.154 (90,32%). Finally, since May 2021, the net contribution received from the grants has grown of 7 million euros, going from EUR 154 million to EUR 161 million (0,26% of the total amount of FP8) vs an aggregate value of EUR 3.590 million (5,81%) for the EU13 cluster and EUR 58.110 million (94,19%) for the EU15 cluster.

It is important to also mention Bulgaria's involvement in Horizon Europe within which 88 proposals were retained. Among these 12 were presented under Cluster 5 and 44 under MSC Actions.

Workshop in Sofia, 25th May 2022

The second SUPEERA/PANTERA workshop on EU-widening was held in Sofia, Bulgaria, on 25th May 2022. This second event was also organized in a hybrid mode, allowing for online and onsite participation, and gathered 38 participants. The overall objective was to enhance collaboration in R&I activities in Bulgaria and as for the previous workshop in the Baltic States, to facilitate knowledge exchange and showcase best practices of how international networking and cooperation between national stakeholders and key international associations and organizations can be beneficial for establishing long-lasting interactions and fostering joint R&I activities.

The event speakers included mainly representatives from the Bulgarian research community as well as from the two projects' organizations, i.e., SUPEERA and PANTERA. Unfortunately, Bulgarian governmental authorities did not join despite significant efforts to get them onboard.

The session started with an overview of the gap between EU13 and EU15 countries on H2020 contributions and Bulgaria's performances on this research program. This introductory note was followed by a presentation addressing the importance of the SET Plan and the CET in the current European and World Context. Bulgaria has up to date only participated to the SET Plan marginally. For instance, all EU13 countries are active on batteries (crucial in the future energy system), except Bulgaria. This poor engagement in the SET Plan could explain to a certain degree the low funding received from H2020. Contributing to the effort for turning around the current situation, a number of advantages arising from participating in the SET Plan were presented.

Thereafter three presentations representing the national research/education community and a presentation by the Sofia Energy Agency (SOFENA) were given. Three assistant/associated professors from University of Varna and University of Sofia provided an overview of key research activities supporting the energy transition and shared best-practices, both in terms of EU-projects as well as relevant lab infrastructure. On the other hand, SOFENA explained the important role they play in developing a sustainable energy policy in the capital of the country, showcased projects in the public sector and presented European green energy financial opportunities for Bulgaria such as Structural Funds and Cohesion Funds as well as LIFE.

The four presenters participated in a panel discussion that started addressing barriers hindering the participation in EU funding schemes. All participants agreed on the lack of national energy priorities leading to a lack of national coordination, the existence of administrative burdens, and a rather poor knowledge capacity on EU in general. The difficulty to reach National Contact Points (NCPs), lack of network on EU level and the significantly less available infrastructure, where additional barriers mentioned and discussed during the panel discussion.

The second half of the workshop was devoted to present R&I opportunities for collaboration and funding within Horizon Europe (HEU) on the one hand, particularly looking at the Cleaning Energy Transition Partnership and Widening Calls, and Norway /EEA Grants on the other hand, the latter two as dedicated funding mechanisms for EU13 countries. An open discussion on how to further assist Bulgarian stakeholders on improving their EU participation took place and a number of recommendations were suggested. Among those, taking an active role during Info Days organized by the EC, particularly on the organisation of brokerage events; becoming an EERA member, opening doors for participation in agenda setting and network building and; registration of your interest and expertise for a dedicated call within the HEU participant portal. A more detailed summary of the workshop can be found in the ANNEX III.

4.2.4 Cyprus

This section shows the development of Cyprus' involvement in the SET Plan IWGs and Horizon 2020, since May 2021 (month to which all data contained in SUPEERA Deliverable 1.8 refer to) until June 2022, to which the following revised data trace back.

Over the last year Cyprus has joined 4 new IWGs (Batteries, HVDC-DC, Ocean Energy, Renewable fuels and Bioenergy) in addition to the 6 in which it was already involved, thus representing the most high-performing EU13 country in the implementation of the EU SET Plan. Despite the small size of the country, Cyprus' research community is also very productive, a trend that echoes its performance in H2020 and HEU.

Sample	H2020 signed grants	H2020 signed grants (percentage of EU total)	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	1.394	4,28%	1.876	1,20%	€ 512	0,83%
EU total	35.424	100,00%	177.113	100,00%	€ 68.330	100,00%
EU13 total	6.363	19,55%	15.123	9,68%	€ 3.590	5,81%
EU15 total	31 358	96,35%	141.154	90,32%	€ 58.110.	94,19%

Table 10 – Cyprus. Horizon 2020 performance analysis

Retained Proposals	Retained proposals – Cluster 5 only (Climate energy and mobility)	Retained proposals – Marie Skłodowska-Curie Actions only	Retained proposals – European Research Council only
127	25	15	1

Table 11 – Cyprus. HEU retained proposals

The number of H2020 grants signed over the last year reaches 22 (734 in total) with an increase of just above 3% respect to May 2021.

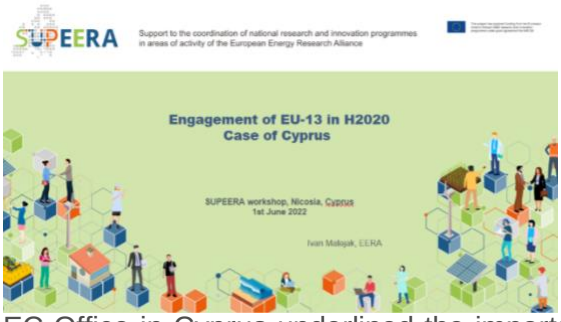
In one year, 36 new Cypriot organizations have joined Horizon 2020 projects, reaching a total of 982 (i.e., 0,63% of EU total), while the same indicator for the entire EU13 and EU15 clusters are, respectively, 15.123 (9,69%) and 141.154 (90,32%). Moreover, since May 2021, the net contribution received from the grants has grown by 9 million euros, going from EUR 311 million to EUR 320 million (0,52% of the total amount of FP8) vs an aggregate value of EUR 3.590 million (5,81%) for the EU13 cluster and EUR 58.110 million (94,19%) for the EU15 cluster.

It is important to also mention Cyprus' involvement in Horizon Europe within which 127 proposals were retained. Among these, 25 were presented under Cluster 5, 15 under MSC Actions and 1 through the European Research Council.

Workshop in Nicosia, 1st June 2022

The third SUPEERA/PANTERA workshop on EU-widening was held in Nicosia, Cyprus, on 1st June in a hybrid mode, allowing for online and onsite participation. It gathered 42 participants in total. The overall objective was to enhance collaboration in R&I activities in Cyprus and as for the previous two workshops, to facilitate knowledge exchange and showcase best practices of how international networking and cooperation between national stakeholders and key international associations and organizations can be beneficial for establishing long-lasting interactions and fostering joint R&I activities.

The event covered a large variety of sectors, with representatives from the EC, the public and private sectors in Cyprus as well as speakers from the two projects' organizations, i.e., SUPEERA and PANTERA.



The program was structured into three main blocks. The first one included an oral presentation by the EC on the current EU strategy and latest policy and legislative developments supporting the CET, followed by two presentations on the engagement and performances of Cyprus in H2020 and its activity in SET Plan, and a final overview showcasing R&I best practices in Cyprus. The representative of the EC Office in Cyprus underlined the important role sunny countries like Cyprus shall play in the CET in Europe, especially after the REPowerEU communication, and encouraged Cypriots to multiply their renewable energy activity (PV) to achieve climate neutrality by 2050. When someone asked for the lack of financing to accelerate the fast role out of renewables, the EC stated that the funds are available and referred specifically to IRF European Finance Investments.

The presentation on the role of Cyprus in the EU in terms of H2020 performance and SET Plan activity showed that among EU13 countries, this country is doing fairly well and is the most active one in the SET Plan IWGs. However, alignment between SET Plan targets and national energy and climate targets is still lacking.

The second block of the workshop was devoted to a very alive and fruitful discussion on the energy strategy of Cyprus and main barriers to achieve climate targets with the participation of the Ministry of Energy of Cyprus, the Cyprus Energy Regulatory Authority (CERA), the national

Research and Innovation Foundation (RIF) and the Transmission System Operator in Cyprus (TSOC). The Ministry of Energy explained the most important ongoing activities on renewables both at small and large scale systems, mainly on PV and wind energy, and pinpointed the challenges on R&I related to the lack of involvement of the private sector due to the fact that Cyprus has a service-based economy with absence of heavy industry. However, the ministry representative valued the cross-ministerial collaboration established through the development of the national energy and climate plan for Cyprus. CERA indicated the numerous activities the agency is promoting to engage citizens in the CET, for instance, offering them a price comparison tool to check tariffs and identify best energy suppliers. Furthermore, RIF informed about a dedicated new program to fund projects on renewable energy technologies (so far RIF has not had specific thematic areas for funding) and underlined that one of the main barriers to achieve future climate targets is the lack of alignment between researchers. Finally, TSOC indicated that the national grid and the operators are ready to accommodate for the large capacities that will be needed in the energy transition, and for that clarity, trust and coordination are needed.

The third block initiated with two presentations by RIF and the Ministry of Research, Innovation and Digital policy (DMIRD). By RIF it is with mentioning the participation of Cyprus in two very important European Partnerships such as the CET Partnership and the Blue Economy Partnership. On the other hand, DMRID showed the commitment of the government on R&I, revealed by the steady increase in R&D expenditure since 2015, and stressed the fast-growing innovation ecosystem in the country, despite the fact that on EU level Cyprus is as of today categorized as moderate innovator. As for the national R&I strategy, the ministry mentioned that is under preparation and that one of the main objectives is to facilitate commercialization of research results.

This final block ended up with a presentation on the Norway/EEA Grants, a dedicated funding mechanism for EU13 countries, and a presentation of the PANTERA project and the EIRIE platform. Even though the EEA/Norway Grants were known to the audience, the presentation and follow-up discussion provided new insights onto the process for such mechanism and on how to influence the selection for research areas. A more detailed summary of the workshop can be found in the ANNEX IV.

V FINDINGS AND PRELIMINARY RECOMMENDATIONS

This chapter aggregates the empirical data collected during the workshops in the four visited countries, categorising them by obstacles and challenges of different nature. This data is also used to complement the findings of the desk research performed in the D1.8 (*Widening. Preliminary recommendations for mobilising National Public Research resources in EU13 countries*) to provide a first set of preliminary recommendations and policy options to bridge the R&I gap. The complete report that will be issued in M42 will incorporate the analysis of preliminary assumptions and observations from all visited countries.

5.1 Main findings from field research in the four visited EU13 countries

1. Low interest and engagement of key stakeholders

From the initiation phase of the agenda set up and the initial dialogues with EERA's contact points in each of the visited countries, it was made clear the importance of inviting representatives of the SET Plan Steering Group, or an officer from the respective ministries in charge of portfolios relevant to the SET Plan and CET related activities (including relevant funding programmes). Even though this proved to be quite straightforward for Croatia, Latvia (Baltics) and Cyprus, the situation was rather different in Bulgaria.

In the case of Bulgaria, the first invitation was sent to an official at the Bulgarian ministry of Energy that was suggested by SUPEERA contact person from the Technical University of Sofia. After the **rejection of the invitation** due to **unavailability** of the representative in that specific day, SUPEERA partners proceeded immediately with two different approaches: a) contact directly via a phone call those who had already registered for the event and other contacts from the RTO's contact list put together in the previous years by SUPEERA partners b) contact via phone the Bulgarian Permanent Representations in Brussels, so as to get in touch with representatives from the respective Bulgarian ministries to convey the invitation to their colleagues in Bulgaria.

For the first approach, and in the framework of the previous exercise outlined in the D1.8 SUPEERA partners had already compiled a list of contacts in Bulgaria (as well as in other M13 countries) which included RTO's, NCPs and other stakeholders (e.g. contacts from the Ministry of Education and Science, Ministry of Energy, energy agencies, research institutes etc.) as well as contacts from Bulgaria that had shown interest to SUPEERA activities in the past. From this list, which counts more than 65 contacts in total, SUPEERA partners contacted via phone the majority of them, in an attempt to inform them about the workshop and, where relevant, invite them to participate as speakers. Those that was possible to reach via phone, they requested to send them the invitation via email. While those that didn't show interest or they were not available

in that specific date, it was requested from SUPEERA partners' side to either provide the contact details of their colleagues - that could be possibly interested to participate in the workshop - or to forward them the email invitation. From this attempt, it was possible to confirm the participation of **only one speaker** from an NGO.

The second approach envisaged a direct communication via phone with the Permanent Representation of Bulgaria to the EU, requesting to be brought in contact with NCPs and representatives of the Ministry of Education and Science and the Ministry of Energy. All of the three contacted persons were welcoming and keen to provide support, mainly by forwarding the follow-up email invitation to the respective contacts in Bulgaria. Even though this approach was not successful in attracting NCPs or ministry representatives as it was initially intended, it managed to spur some interest among entities in the private sector, who subsequently registered and participated to the workshop.

Especially for Bulgarian **NCPs it was not possible** to attract any of them as a speaker, despite the different approaches followed, including email invitations and direct phone calls. The reasons for this were their unavailability due to busy agendas, no response on the phone calls and low interest to participate in the absence of communicating the list of speakers and participants in advance. On the contrary, no similar obstacles were observed in the other visited countries. Especially, in the workshop in Croatia, two NCPs participated in the panel discussion from both Croatia and Hungary (also an EU13 country), while in Latvia, NCPs supported the promotion efforts of the event.

Lastly, SUPEERA partners attempted to invite public officers from a municipality to participate as speakers, but they reported unavailability for this type of event. As explained via a phone call, the work schedule of public officers in the municipality did not foresee the participation in such kind of events.

2. Structural and administrative barriers

Structural and administrative barriers are hampering the participation of universities and research institutes at EU funded R&I activities and be engaged in energy related European fora. For example, as reported during the workshop in Bulgaria, currently, there **isn't any strategy at national level to define the R&I priorities**, and the coordination of different stakeholders in this respect is still missing.

Lack of structured management and applied methodology related to the supporting schemes, was also mentioned as an important barrier among targeted countries. More specifically, in the current administrative structure of many research organisations, project management and financing departments are centralised and there isn't any mechanism in place for efficient

information and data exchange. The same applies for information collection processes, where there isn't in place any mechanism at centralised level to track progress of the different departments regarding their participation in EU funded projects. This creates an obstacle on interdepartmental collaboration within the same institute, as information exchange between different departments and faculties doesn't occur through an established or top-down communication process – but only from personal initiative which relies heavily on interpersonal relationships between faculty members in each department.

3. Collaboration between research institutes, ministries and industry

In most of the visited countries, there seem to be certain structures in place to support communication and collaboration between research, industry and the respective ministries, underpinned in some cases by bilateral agreements and national R&I projects. However, even though established communication channels do exist, as well as the bilateral interest for collaboration at national level, there are several barriers that could be overcome.

As reported in the workshop in Latvia, engaging industrial partners in R&I projects has been proved challenging as they are **not fully aware of the benefits** of such participation. In that end, continuous and systematic efforts in establishing mid and long-terms collaborations, ideally bridging gaps lab-fab, are needed.

In Bulgaria, there are different opinions on this topic that draw a **rather inhomogeneous picture.** For instance, one research institute collaborates closely on R&I activities with globally renowned technology companies, but substantial **collaboration at national level** with other research institutes is currently missing. The same observation was reported by an NGO active in energy sector, where it has established collaborations with partners outside the country, but not with national research institutes within Bulgaria. For the invited RTOs' representatives, the workshop was perceived as an opportunity to exchange views and inform each other about their activities, something that testifies the limited number of collaboration opportunities between the participating to the workshop stakeholders. It was also reported that collaboration opportunities rely at a great extent on personal contacts and initiatives taken by individuals to contact an entity for discussing any possible collaboration. Lastly, it was mentioned that communication channels between research institutes and ministries do not result in a collaboration as research institutes are rarely perceived as potential partners by the ministries.

4. Barriers towards participation in EU funded projects

A possibility to participate in the EU funded projects appears to be a major obstacle for low participation in the CET process among all four countries.

During the workshop in Latvia, the audience was asked what in their opinion are the most important reasons for low R&I activity in their country in the domain of smart grids. The majority replied that Horizon Europe (including Horizon 2020) is very competitive and more advanced countries have an advantage over less engaged ones in EU funded projects, making the playing field at EU level rather **challenging in terms of competitiveness**. The main reasons for this are from one hand, the **lack of advanced research infrastructure** within the research institutes in the country and from the other, the **lack of technical capacity** of the university staff to **draft proposals** but also **coordinate EU funded projects**. Elaborating on the latter point, it was noted that the "project culture" is missing in the research institutes and is not as developed as in other EU countries. When it comes to human resources, it was remarked that some organisations cannot afford their participation in an EU funded project, given that they have to allocate a considerable **amount of workload** to this activity. These extra costs and the associated risks weigh heavily in the budget of an organisation, especially if it is coordinating the drafting process of a proposal.

The **identification of the right partners** with the sought-after expertise was recorded as one of the challenges in participating in EU funded projects, especially in Croatia and Bulgaria. During the workshop in Croatia, the audience was asked to prioritise the challenges that R&I community faces when trying to find matching collaborators in the process of building successful consortia for R&I activities. The majority of the audience replied that there is a lack of national support in connecting with platforms that facilitate the process. In Bulgaria, it was reported that there is a lack of a centralised database with the fields expertise of the different faculty members; therefore, making it hard for project initiators to start a dialogue with a potential project partner from the same university.

In addition, there is a **lack of awareness of all available funding programmes** and opportunities, along with the different application procedures. For instance, some participants in the workshop - and potential project applicants - were not aware of the presented calls on Widening Participation and Spreading Excellence actions, as well as the EEA funding schemes.

An important aspect that was underlined by Croatian participants, is that the respective institutes **focus more on national funding programmes** rather than international ones, by emphasizing the that universities are quite busy with solving the local challenges and in short-term, without expanding to European projects and funds with long-term and international outlooks. Additionally, accessing to **substantial indirect EU funds** (i.e. those managed by national and/or regional governments such as ERDF, ESI, CF, et sim) is part of a competitive process which can be heavily

influenced by major national stakeholder and policy makers. As a result, national RTOs' participation to direct EU grants (such as HEU), which are managed *inter alia* by non-influenceable structures, becomes less appealing to potential applicants.

5. Inhomogeneous degree of engagement by NCPs

In most of the visited countries, it wasn't any challenging to engage NCPs to participate and contribute to the workshop. Some of them also supported the promotion efforts of the event by forwarding it to their national contacts and promoting it on social media. As mentioned at the beginning of this chapter, a dissimilar situation was faced in Bulgaria, where it was **not possible to engage any NCP** to participate in the workshop in Sofia. During the workshop, the invited RTOs' representatives underlined that they would find it very helpful if the Bulgarian NCPs provided more information about the participation rules and application procedures to Horizon Europe programme, for instance in a form of periodic webinars or a help-desk type of support. Additionally, and given the aforementioned barriers on finding partners to collaborate in an EU funded project, NCPs could facilitate this process via, for example, brokerage events.

6. Not sufficient funding for R&I projects

Insufficient national funding towards the R&I in general, and the energy sector in particular, was noted as one of the main reasons behind the low involvement of RTOs in R&I actions in Lithuania, where the main source of relevant funding are European R&I funding programmes. The same is goes for Croatia, where the **low country budget allocated to R&**I actions was voted by the audience as the major barrier from being actively involved in such activities. In Latvia, the audience voted the inadequate national funding as the second most important reason for low participation in R&I activities, while in Bulgaria RTOs mentioned that the national funding dedicated to research is inadequate to bridge the current R&I funding gaps.

The reported needs of national R&I funding extend beyond their quantitative dimension, where in several countries, it was commented that the respective **calls are note well aligned with the EU R&I priorities** and should be tailored to also address the regional specificities.

5.2 Preliminary recommendations and next steps

The main findings from field research and the participation in the workshops mentioned in the present report, confirm that the preliminary recommendations elaborated in the D1.8 (*Widening. Preliminary recommendations for mobilising National Public Research resources in EU13 countries*) are still valid and relevant for any future action at EU and national level. For the sake of complementarity, these recommendations are as follows below.

Most of the following recommendations are interconnected and interdependent but are also meant to be applied separately. Moreover, given the heterogeneity of the EU13 cluster, some of them are more relevant for some of these countries but not others.

1. **Link national R&I priorities to European ones**

EU13 should align their national priorities in terms of R&I with those at the EU level. Enhancing their participation in the SET Plan through selected Implementation Plans would be pivotal to get involved in the wider EU discourse pertaining to research in low carbon energy technologies and understand current priorities, other than enhancing international ties, sharing research infrastructures and profit from all the other opportunities arising from participating in the SET Plan.

2. **Strengthen participation in EU R&I networks**

EU13 would benefit from being involved in R&I European communities and networks to bring their national priorities closer to the EU ones and, at the same time, to have a say over and contribute giving shape to the latter. Among such communities and networks, a pivotal role is played by those related to the SET Plan implementation landscape – and hence EU13 countries should focus more on those, such as ETIPs, EERA Joint Programmes, CSAs, newly formed partnerships and industrial associations. To this end, EU13 countries are encouraged to increase the engagement of active students and researchers with the relevant expertise, active in the respective domains (e.g., smart grids - ETIP SNET).

3. **Increase R&I funding**

The analysis showed a clear correlation between the low quality of national R&I systems and scientific institutions and poor performance in Horizon 2020 – an issue confirmed by the NCPs of several countries. EU13 should invest more in R&I to close the gap with EU14. They should reverse the trend of austerity and financial cuts that hit their R&I structures beginning with the 2008-2009 financial crisis. It is also necessary to make R&I systems more competitive to engage

successfully EU14. For most of the Horizon Europe research grants, salaries in public research institutions are fixed and linked to civil servants' wages, which in EU13 countries are far below the average pay for a scientist in Western Europe. These salaries should instead be left free to fluctuate.[5]

National R&I funding should aim to connect theory and practice and be adjusted to the local and regional needs. They should also be more visible to the consumers and facilitate a closer dialogue between national agencies and ministries. Finally, they should promote cross-disciplinary cooperation and should incorporate technical but also non-technical fields of collaboration (e.g., social sciences).

4. Foster stronger academia-business cooperation

Several NCPs pointed to the shape of their economies, the relative limited industry sector, and the absence of integration between business and academia as one of the main causes for their limited participation in Horizon 2020. EU13 should strengthen this connection, tracing a stronger link between universities and industry, accelerate uptake by industry and translate research into concrete business opportunities. During the workshops, EIRIE platform was mentioned as a tool that could facilitate the collaboration between academia and industry. Also, in Cyprus, the national funded CO-DEVELOP Programme aims to bridge the gap between academia and industry and utilize the existing know-how to meet specific needs and challenges of the economy.

5. Improve administrative procedures and reduce administrative barriers

Develop, modernise and enhance the administrative and management capacities of research institutions to allow for an efficient management of existing EU funded projects, but also better communication and coordination between different faculties and departments for future projects. Moreover, several countries pointed to the administrative and regulatory burdens that impinge on R&I in these countries. These bureaucratic procedures should be shortened and simplified so as to also ease of tracing international connections and participating in EU structures such as the SET Plan.

[5] Florin Zubașcu, *Newer member states facing conundrum in extracting value from Horizon Europe* (Science Business, May 2021), https://sciencebusiness.net/news/newer-member-states-facing-conundrum-extracting-value-horizon-europe.

6. Enhance the role and activities of National Contact Points

The roles and activities of NCPs across Europe should be homogenised, so RTOs across EU to have access to the same level of services. For instance, in some countrieeus, the NCPs organise webinars with outlining the application guidelines to EU funded projects, Info days, Brokerage evens etc., while in other countries they are not active at all. National Contact Points should be reformed, from rather information-providing bodies to promoters of excellence and internationalisation, providing assistance and support with proposals preparation. In view of the new Horizon Europe programme, some countries restyled their NCPs completely, increased their ties at the European level and put in place a more informative communications strategy to both advertise the work of these institutions and share information and expertise related with Horizon Europe. NCPs could also serve as providers of administrative assistance to applying institutions and promoters of the opportunities arising from funding schemes to academia.

7. Support capacity-building programmes for EU grant applications

As analysed in D1.8 (*Widening. Preliminary recommendations for mobilising National Public Research resources in EU13 countries*), the eligibility rate – i.e., the number of proposals that have not failed at the eligibility or admissibility step – is lower in EU13 countries as compared to EU15. Additionally, in most of the visited countries it was reported the limited capacity of RTOs to set up consortiums and coordinate successful project proposals, which entails in making them less competent against RTOs in states that are more experienced with such application processes. In that end, EU13 countries should take measures to improve the administrative expertise of institutions applying for Framework Programme grants by creating national bodies providing administrative assistance and guidance to applying institutions. These measures could include *inter alia* the establishment of an inter-sectoral group for strategic support and collaboration at national level, or even a liaison R&I office in Brussels.

VI CONCLUSION AND WAY FORWARD

For a successful implementation of the SET Plan and its targets in the broader context of the CET it is essential to spread research excellence across the entire EU, with specific focus to the EU13 countries. In a long term, in fact, the relatively weak position of the EU13 in R&I programmes poses a concrete risk that the 2030 and 2050 climate and energy targets will not be met, while, in a short term, identified limited participation might be reproduced also in Horizon Europe, thereby broadening even more the disparities among EU27 RTOs.

The current deliverable builds on D1.8 (*Widening. Preliminary recommendations for mobilising National Public Research resources in EU13 countries*) and will be released in its final version in M42. In order to further improve its content and to fine tune the recommendations by listing key issues for further engagement of EU13 in the SET Plan and their positioning towards the CET, including respective funding schemes, SUPEERA will undertake the following steps:

- By means of desk research, continue and deepen the assessment of the main reasons why participation of the EU13 in the SET Plan is low, first with the focus on nine EU13 countries (those not yet visited), and towards the end of the project a general update for the whole block will follow;
- Organise by June 2023 at least six physical workshops (clustering the countries where possible) in the remaining EU13 countries. The main purpose will be to provide a detailed overview of the SET Plan (probably in its revised version), to introduce the main instruments (HEU, CET Partnership, EEA funding schemes, etc.) that can support their participation in the SET Plan and, above all, to get a detailed insights on countries' causes for the limited participation in the EU low carbon R&I, as well as the respective best practices potentially replicable at different levels. Whenever possible, these workshops will be organised in collaboration with existing initiatives (e.g. project PANTERA) and/or in coordination with national key stakeholders (for example as a side event to national open/info R&I days);
- Maintain the coordination with respective NCPs (and other relevant bodies), which proved to be crucial for the successful execution of the workshops;
- Foster best-practices sharing by organising high-level meetings between key EERA members and non-EERA EU13 stakeholders and by doing so, facilitate their engagement in the CET process (for instance, by organising EERA Annual Strategy Meetings in one of the EU13 countries, in CZ in 2022 and in HR in 2023).

The main goal is to prepare a set of clear and targeted recommendations that will facilitate the work of the EC in the elaboration of the structured long-term approach, so as to bring this group of countries closer to the SET Plan, the CET process and the climate neutrality targets.

ANNEX I Report on SUPEERA Widening Workshop in Croatia

PANTERA & SUPEERA Joint Workshop
Boosting the R&I activity on Smart Grid Technologies

SPLITECH conference Croatia - 10th of September 2021

Agenda of the workshop

Time (CEST)	Topics	Description	Presenter
9:15 **9:25**	The PANTERA project and the regional approach	Short description of the project, the importance of the regions, introduction to the bottom-up approach of regional desks	**Dr Venizelos Efthymiou (FOSS)**
9:25 **9:45**	Croatia: energy and	Analysis, facts and figures from the energy and R&I contexts highlighting	**Mr Mattia Cabiati (RSE)**
9:45 **10:45**	EIRIE – how the regional arm accelerates yourSG R&I activities	Use case solutions with the participation of local stakeholders, that can match the needs and profiles of the region.	**Mr Tasos Tsitsanis (Suite5)** **Mr Mohamed Shalaby (DERlab)** ***Representatives of local stakeholders:*** Prof. Tomislav Capuder (Univ. of Zagreb)
10:45 **14:00**	**Break**		
14:00 **14:20**	The SUPEERA project	Linking objectives with PANTERA: Mobilization of EU-13 national public research resources in the Clean Energy Transition: challenges and opportunities	**Dr Ivan Matejak (EERA)**

14:20 **15:20**	Panel Discussion and Q&A session	How to accelerate the R&I activities of the region? • Research Collaboration • National regulations • Policy issues • Financing opportunities • good practice	***Moderators:*** **Dr Venizelos Efthymiou** **Dr Ivan Matejak** **Contribution from:** **Dr Shafi Khadem** *(IERC)* ***Panelists****:* **Ms Zorana Barišić**, *Croatian NCP* **Ms Orsolya KÜttel**, *Hungarian NCP;* **Mr Damir Pirić**, *Director HEPODS – Croatian DSO;* **Dr Tomislav Novosel**, *REGEA*
15:20 **15:30**	**Closing Remarks**	**Wrap up of all sessions giving emphasis to** **the outcomes related to the region**	**Dr Luciano Martini - RSE**

Workshop report

PANTERA and SUPEERA EU projects jointly organized a workshop at the SpliTech conference aiming to discuss and raise attention on gaps and barriers that limit the R&I activities in the energy sector and especially hinder a true integration of Croatian R&I stakeholders at EU level.

The SpliTech conference was an excellent occasion to organise a side event for the PANTERA project being an IEEE conference dealing with “Smart and sustainable technologies” thus collecting a good participation from the energy field stakeholder from the R&I field, first stakeholders of the PANTERA project.

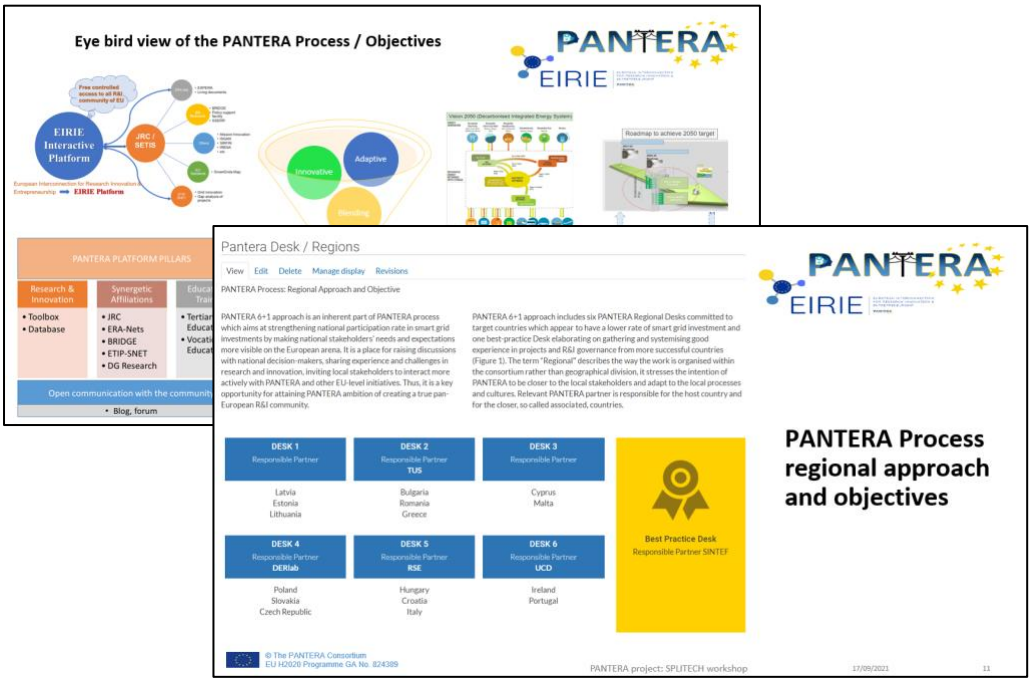
The event was also the occasion to present the EIRIE platform highlight its role in supporting the R&I unified approach across Europe aiming to act as a single stop-shop for searching and finding information related to project on smart grids and the energy system at large.

The workshop saw the participation of project stakeholders from the countries neighbouring Croatia following an approach perfectly in line with the PANTERA scope. Moreover, the joint organisation with the SUPEERA projects, that shares with PANTERA different key objectives, allowed to foster stakeholder participation and to enhance the discussion in the panels.

Opening of the workshop - The PANTERA project and the regional approach

Venizelos Efthymiou (PANTERA project coordinator - FOSS - Cyprus) opened the workshop welcoming all the participants. After having briefly introduced the PANTERA project, its main objectives and the approach, he presented the recently released EIRIE platform. The vision behind the platform development and how this has been transferred to reality were explained.

PANTERA aims to substantially contribute to the needs of the R&I community in Europe delivering the EIRIE platform that facilitates EU wide connectivity and access to state of the art data,



information and knowledge to support on a level playing field the R&I endeavours of member states.

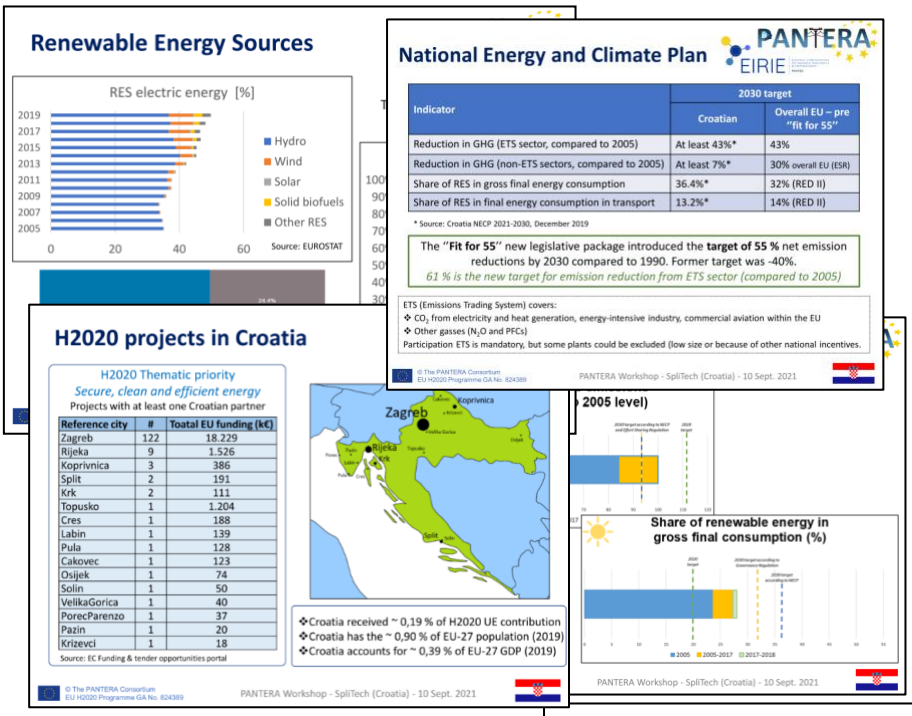
Before the end of his introductory speech Venizelos highlighted also how the PANTERA regional approach will support the EIRIE platform development through information collection and stakeholder engagement. Moreover, the platform itself has an area dedicated to regional collaboration fostering knowledge and information sharing.

Before starting the next session, quick questions to the audience were addressed using the Slido tool. In the following figure it is reported the participant affiliation with respect to the type of organisation.

Croatia: energy and R&I landscape - Analysis, facts and figures from the energy and R&I contexts highlighting possible collaboration opportunities

Mattia Cabiati (RSE - Italy) introduced the general Croatian background within R&I activities took place reporting high level data about decarbonization targets and renewable energy sources (RES) penetration. Both EU level and Croatian targets were mentioned and the actual RES penetration was showed. Besides good amount of hydro energy production nowadays wind power plants are being installed while photovoltaic has still to reach a wide diffusion. It was pointed out during a brief discussion that hydro power plants are indeed an important source to meet clean energy targets and through retrofitting of old plants the amount of energy produced could still increase.

In order to understand better how the situation of the Croatian R&I activities integration at EU level in the field of smart grids and energy system is at large, an analysis of H2020 projects with Croatian participants in the H2020 thematic priority “Clean and secure energy” was conducted by the PANTERA project. Besides the actual number of projects and funding received, it was shown the location of the project partners. The large majority came from Zagreb, leaving large room also for improvements with local (coming from other part of Croatia with respect to the capital city) stakeholder involvement.

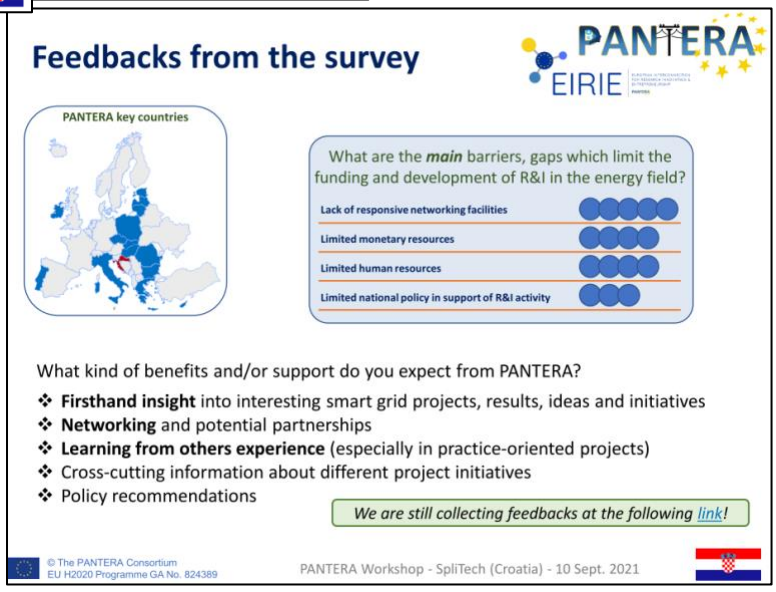


After the first part aimed to set the background of the workshop, Mattia presented what the PANTERA project could offer to foster EU integration in R&I activities. Firstly, the results of a survey were shown considering the replies coming from Croatian representatives, reported in the figure above. The results show the main barriers that the Croatian stakeholders are indicating as hindering R&I activities and the main benefits that they are expecting from the PANTERA project.

Starting from these results, the following initiatives

- DERLab
- ISGAN
- ERIGrid 2.0 project

with which PANTERA is closely collaborating were presented since they could actually support R&I and especially the following identified barriers:



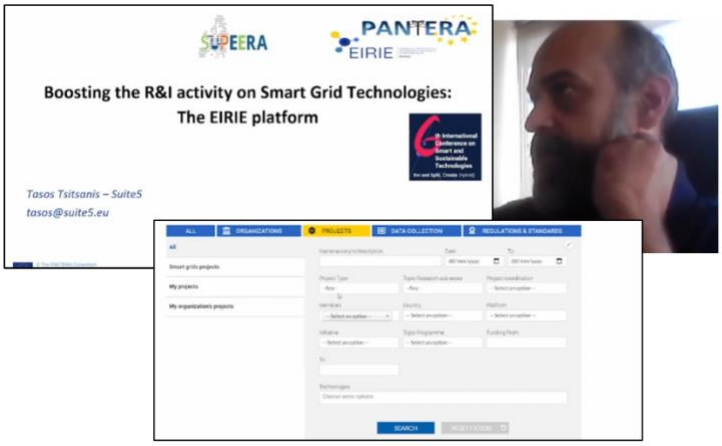
- lack of responding facilities
- limited human resources
- limited monetary resources

Finally, a recap of the main activities of the PANTERA project in support of true EU integration of R&I activities were made especially in addressing the main benefits expected from the PANTERA project.

EIRIE platform: How the regional arm accelerates your SG R&I activities - Use case solutions with the participation of local stakeholders, that can match the needs and profiles of the region

Mr Tasos Tsitsanis (Suite5) presented in detail the EIRIE platform functionalities starting from the EIRIE "mission statement":

A reference platform and one-stop shop for information sharing, collaboration and knowledge creation aiming at evidently supporting the advancement of R&I activities in Smart Grids at national, regional and pan-European level and, subsequently, facilitating the energy transition.



After having introduced the platform, real live demo case study using the EIRIE platform capabilities was proposed. Both the following two important areas of the platform were covered:

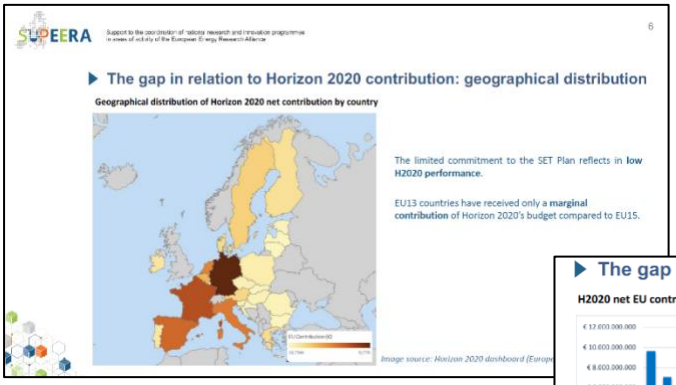
- The search tools
- Training and education material

The aspects relevant for the different typology of users were tackled, especially considering researchers, R&I organisations and policy makers.

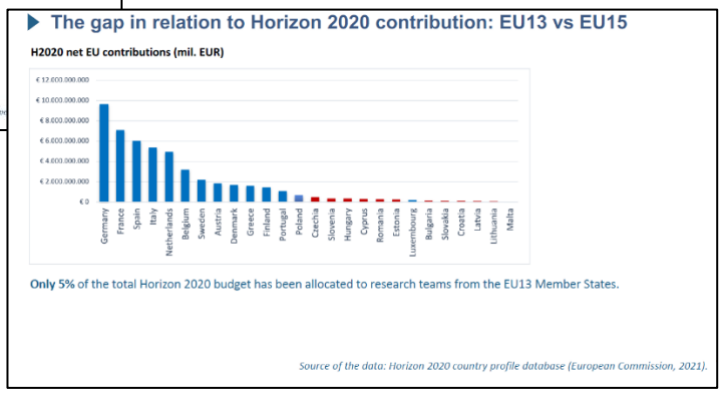
To close the overall overview of the EIRIE platform ***Mr Mohamed Shalaby*** (DERlab) presented the EIRIE platform section related to training and education. This section has been developed in close collaboration with the ASSET and EDDIE projects.

The SUPEERA project: Linking objectives with PANTERA: Mobilization of EU-13 national public research resources in the Clean Energy Transition - challenges and opportunities

Dr Ivan Matejak (EERA) briefly introduced the SUPEERA (Support to the coordination of national research and innovation programmes in areas of activity of the European Energy Research Alliance) project that was co-organizing the workshop. The SUPEERA project supports the SET-Plan and the clean energy transition by facilitating the coordination of the research community, accelerating innovation and uptake by industry and providing recommendations on policy.



It has been noticed that there is a research & innovation gap between EU136 and EU15 member states. The EU13 countries have low participation rates in the SET-Plan, their national research organisations have limited awareness of the CET priorities, funding schemes and initiatives and have received only a marginal contribution of Horizon 2020's budget. Only 5% of the total H2020 budget has been allocated to research teams from the EU13 Member States.



Dr Matejak presented the main causes that lead to EU13 performance gaps, which are:

- National priorities not aligned with European ones;
- Weakness of the R&I systems;
- Administrative and regulatory burdens obstructing R&I;
- The 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.

Bridging the gap between EU13 and EU15 countries would allow to achieve an untapped opportunity for growth and development of EU13 national economies and the EU as a whole, ensure that underlying policies and strategies will unfold in an even way throughout the whole EU, narrowing disparities across member states and increase the likelihood of meeting 2030 and 2050 targets.

At the end of ***Dr Matejak***'s presentation, he recommended the following points to reduce the gap between EU13 and EU15 countries:

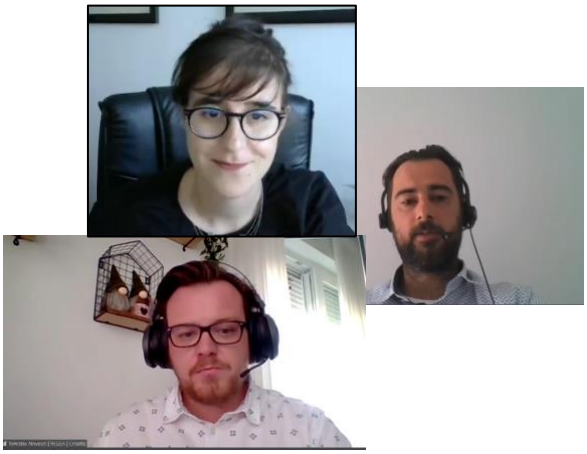
[6] Countries that have joined the EU since 2004: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.

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

Panel Discussion and Q&A session: How to accelerate the R&I activities of the region?

Dr Venizelos Efthymiou and ***Dr Ivan Matejak*** jointly coordinated the panel discussion aimed to discuss around how to accelerate the R&I activities of the region through the following main items:

- Research Collaboration
- National regulations
- Policy issues
- Financing opportunities
- Good practices



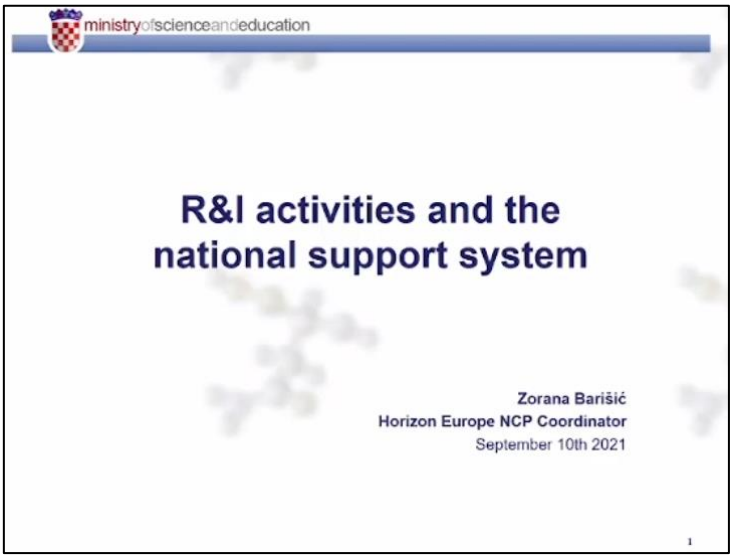
The panellists of this roundtable were:

- ***Ms Zorana Barišić***, Croatian NCP
- **Mr. Damir Pirić**, Director HEP ODS – Croatian DSO;
- ***Dr Tomislav Novosel***, REGEA

Also, ***Ms Orsolya KÜttel***, Hungarian NCP contributed to the discussion by sending in advance a presentation kindly presented by Ivan Matejak.

At the beginning, ***Dr Shafi Khadem*** (IERC) gave a presentation to better explain how the PANTERA project is working in supporting the enhancement of R&I activities through the PANTERA RICAP process. He also presented R&I status and priorities in Croatia based on the analysis done of 22 projects. Moreover, the National Energy and Climate Plans (NECP) for Croatia were presented. At the end of the presentation, recommendations were made to accelerate the R&I activities in the field of Smart Grid and renewable energy in Croatia.

After Dr Khadem presentation, Dr Matejak welcomed ***Ms Zorana Barišić*** (Croatian NCP). She gave a presentation on R&I activities and the national support system. She presented some statistics about the contribution of Croatia to the Horizon 2020 program and the amount of funds received. Furthermore, some measures to support participation in Union programmes for research and innovation were presented e.g., the establishment of an inter-sectoral group for strategic support and collaboration on the national level. In addition to that, she highlighted the importance of improving the quality of the project proposals, increase the excellence and participation of partners and enabling synergy between sections.

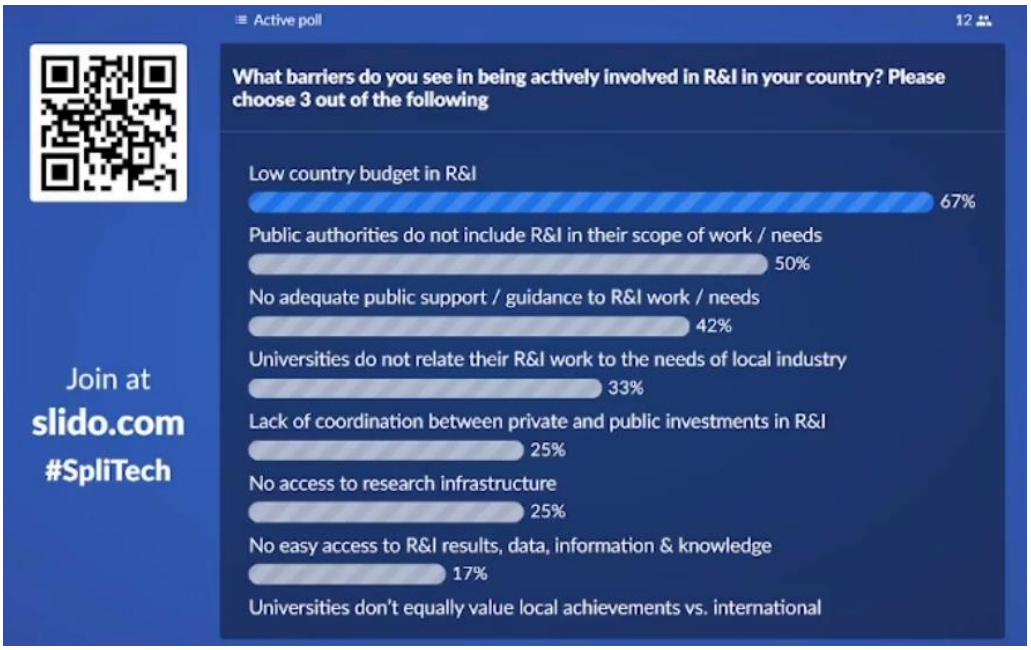


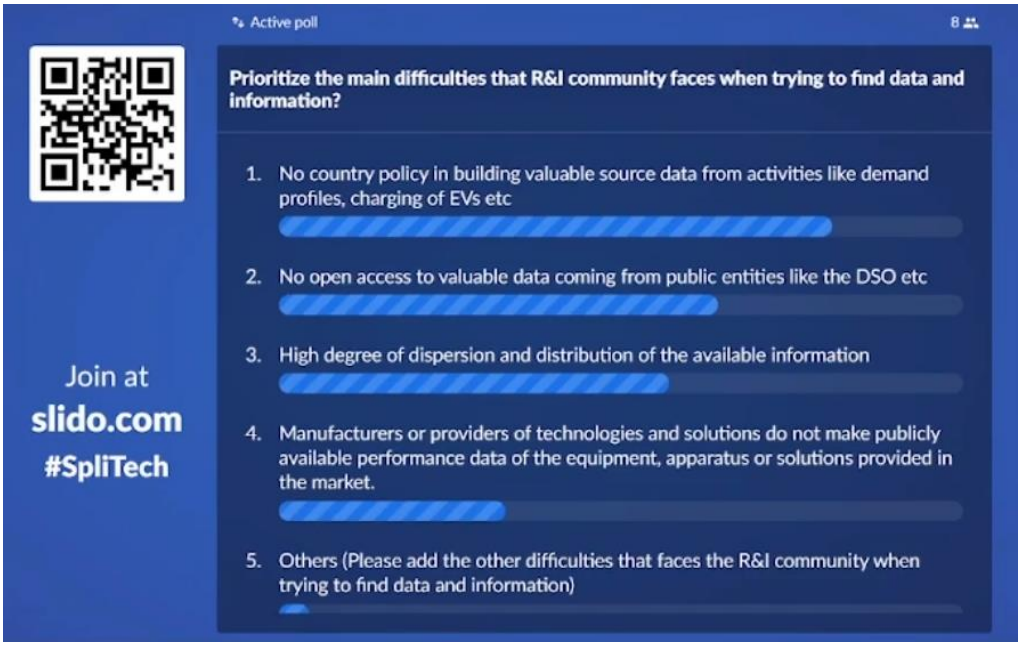
After Ms Barišić presentation, Dr Efthymiou welcomed and introduced ***Mr Damir Piric*** (Director of HEPODS the Croatian DSO). Dr Efthymiou addressed the following question “How do DSO approach the need for change to cope with the energy transition, seamlessly integrating emerging technologies like storage, vehicle to grid?”. Mr Piric highlighted that HEPODS is the only DSO in Croatia and it is fully state-owned. The DSO role is to deliver high-quality power to the end customer and ensure the balance between supply and demand. Therefore, they have to depend on certified technologies and solutions to guarantee their power quality to the customer and it is

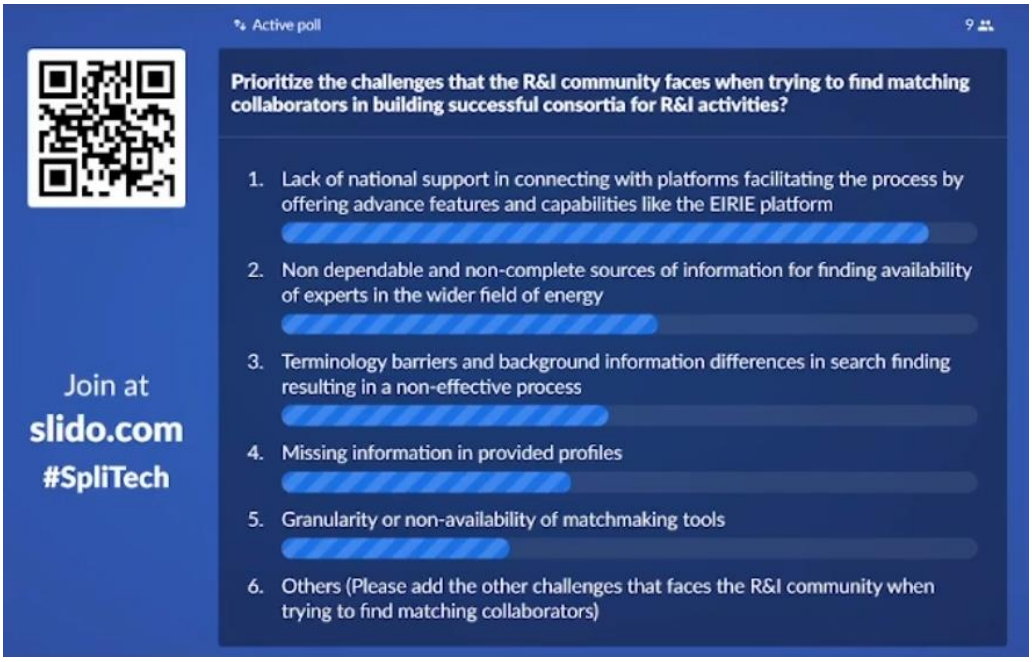
quite hard to depend on products and solutions that are under development/research. Nevertheless, the DSO strongly supports the R&I activities coming from academia.

After Mr Piric presentation, Dr Efthymiou welcomed and introduced ***Dr Tomislav Novosel*** (North-West Croatia Regional Energy Agency). Dr Efthymiou addressed the following question to Dr Novosel "Can you please identify areas which need specific attention through the National Energy and Climate Plan (NECP) of Croatia?". Dr Novosel highlighted the importance of providing regions and cities with tools to implement the NECPs strategy, which requires a dedicated budget. Furthermore, he recommended connecting the national strategy with the implementation plan and budget for it. Moreover, he highlighted the point that there is a lack of communication between local and regional governments and start-up incubators. In addition to that he underlined the importance of the EIRIE platform and the role it plays in the R&I community, however, he recommended increasing the visibility of the platform, as it is not quite well known to the R&I community at this stage.

Before ending the roundtable, the audiences were encouraged to the following three questions on Slido:




Active poll
8
Prioritize the main difficulties that R&I community faces when trying to find data and information?
1. No country policy in building valuable source data from activities like demand profiles, charging of EVs etc
2. No open access to valuable data coming from public entities like the DSO etc
3. High degree of dispersion and distribution of the available information
4. Manufacturers or providers of technologies and solutions do not make publicly available performance data of the equipment, apparatus or solutions provided in the market.
5. Others (Please add the other difficulties that faces the R&I community when trying to find data and information)
Join at
slido.com
#SpliTech


Active poll
9
Prioritize the challenges that the R&I community faces when trying to find matching collaborators in building successful consortia for R&I activities?
1. Lack of national support in connecting with platforms facilitating the process by offering advance features and capabilities like the EIRIE platform
2. Non dependable and non-complete sources of information for finding availability of experts in the wider field of energy
3. Terminology barriers and background information differences in search finding resulting in a non-effective process
4. Missing information in provided profiles
5. Granularity or non-availability of matchmaking tools
6. Others (Please add the other challenges that faces the R&I community when trying to find matching collaborators)
Join at
slido.com
#SpliTech

Ms Barišić commented on the first question that Croatia spends more than 3% of GDP on R&I. Meanwhile, Dr ***Novosel*** underlined the importance of expanding R&I activities to focus more on the future challenges that will face the DSO. ***Prof. Capuder*** commented on "Universities don't equally value local achievements vs. international", by emphasizing the point that universities are quite busy with solving the local challenges, without expanding their thoughts to long term to European projects and use European funds.

During the discussion it was also pointed out that many EU projects involving Croatia stakeholders are Coordination and Support Actions (CSA) therefore not directly dealing with R&D activities. The need to increase the involvement of Croatian stakeholder in Research and Innovation Actions (RIA) as well as in Innovation Actions (IA) has been indicated as a point to improve.

A barrier related to the education side has also been indicated as a possible factor hindering the R&I activities in smart grids. This is the fact that current university courses are especially dealing with high voltage related topics while an important amount of R&D activities are actually happening at distribution / medium voltage level.

After the round table discussion ***Dr Venizelos Efthymiou*** and ***Dr Ivan Matejak*** thanked the audience and closed the workshop. All materials related to this event can be found on the SUPEERA Website.

ANNEX II Report on SUPEERA Widening Workshop in Latvia

International research collaboration opportunities fostering EU Clean Energy transition in Baltic States – PANTERA / SUPEERA joint workshop

27th of April 2022, Riga

Agenda of the Workshop

Time	Content	Presenter
9:00 – 9:30	Registration and coffee	
09.30 – 09:35	Welcome address	**Dr Anna Mutule**, Head of Smart Grid Research Centre, Latvia
9:35 – 09:50	European strategy and latest policy and legislative developments supporting clean energy transition	**Aleksandra Kronberga**, Policy Officer at New Energy Technologies' Unit, DG Energy, EC
09:50 – 10:20	R&I activities supporting clean energy transition in Latvia: • Strategy • Priorities • Challenges and opportunities	**Einārs Cilinskis**, Senior Expert, Department of Sustainable Energy Policy, Ministry of Economics **Jānis Ancāns**, Head of National Contact Point for Horizon Europe, Latvian Council of Science
10:20 – 11:20	Sharing experience in international R&I collaborative projects and best practice: • Latvian best practice in energy R&I, experience in implementation of Projects of Common Interest • Lithuanian best practice in energy R&I	**Dr Antons Kutjuns**, Head of Department of International Projects, Augstsprieguma Tīkls, Latvia **Dr Žaneta Stasiškienė**, Director of Institute of Environmental Engineering, Kaunas University of Technology, Lithuania **Karl Kull**, researcher in Tallinn University of Technology, Department of Electrical Power Engineering and Mechatronics, Estonia

	• Estonian best practice in energy R&I • Nordic best practice in energy R&I	**Dr Irina Oleinikova**, Department of Electric Power Engineering, Faculty of Information Technology and Electrical Engineering, Norwegian University of Science and Technology
11:20 – 11:40	Coffee break	
11:40 –11:55	SUPEERA findings: engagement of Baltic States in H2020 or R&I	**Dr Ivan Matejak**, SUPEERA coordinator, EERA, Belgium
11:55 –12:10	PANTERA process	**Dr Venizelos Efthymiou**, PANTERA coordinator, University of Cyprus
12:10– 13:00	Panel discussion: Opportunities to increase participation in join R&I activities	***Moderator:*** **Dr Paula Carroll**, Centre for Business Analytics | Energy Institute Management Information Systems Department, University College Dublin ***Panellists:*** **Dr Antons Kutjuns** **Dr Žaneta Stasiškienė** **Karl Kull** **Dr Irina Oleinikova**
13:00-13:20	EIRIE platform, how is accessed, the roles of various users, collaboration area, matchmaking area etc.	**Dr Venizelos Efthymiou** **Tasos Tsitsanis**, Suite5, Cyprus **Dr Kyriaki Psara**, University of Cyprus
13:20-13:30	Wrap up and feedback	**Dr Venizelos Efthymiou**, PANTERA coordinator, Cyprus
13:30-14:30	Lunch and networking	
14:30-14:50	The SUPEERA project: Mobilization of EU-13 national	**Dr Ivan Matejak**, SUPEERA coordinator, EERA, Belgium

	public research resources in the Clean Energy Transition: challenges and opportunities ○ SET Plan and CET - benefits and engagement possibilities ○ Investment and reform measures for Baltic States for CET	
14:50-15:20	R&I opportunities for collaboration and funding • Horizon Europe ○ Clean Energy Transition Partnership ○ Widening Calls • Norway/EEA Grants	**Spyridon Pantelis**, Project Manager, EERA, Belgium **Petter Støa**, Vice President Research, SINTEF Energi AS, Norway
15:20-16:20	• Energy technology policy formation in Lithuania • Experience and benefits from the participation in the energy international networks • ETIP SNET as an active link of national stakeholders with EU's R&I prime movers	**Daumantas Kerezis,** Adviser at the Innovation Group of the Ministry of Energy of the Republic of Lithuania **Dr Rolandas Urbonas**, Deputy Director of the Lithuanian Energy Institute **Dr Venizelos Efthymiou,** PANTERA coordinator, FOSS Research Centre of University of Cyprus
16:20-16:30	Wrap-up and closing remarks	**Dr Ivan Matejak**, SUPEERA coordinator, EERA, Belgium
16:30-17:00	Networking	

Workshop report

PANTERA and SUPEERA projects jointly organised a workshop to discuss and raise attention on gaps and barriers that limit the R&I activities in the energy sector in the Baltic countries, facilitate knowledge exchange and showcase best practices of how international networking and cooperation between national stakeholders and key international associations and organisations can be beneficial for establishing long-lasting interactions and fostering joint R&I activities.

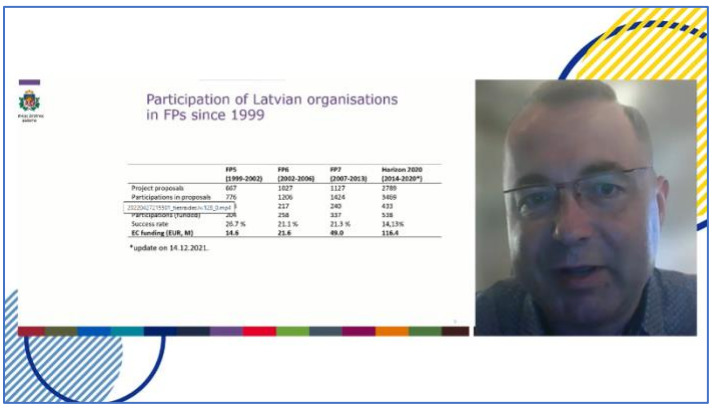
Opening the workshop

Aleksandra Kronberga (Policy Officer at New Energy Technologies' Unit, DG Energy, EC) set the tone with her mission to motivate Baltic stakeholders to do even more in the area of energy transition. Her presentation "EU on the way to clean energy transition" focused on achievements of the three Baltic countries, latest EU policy and legislative developments, overview of funding possibilities and concluded with open questions encouraging dialogue about means of how EC could support to facilitate R&I in Baltic States. One of the possible options, mentioned during presentation, could be using the European Regional Development Fund (ERDF) particularly for innovation purposes, as the ERDF is relatively easy to access thanks to national allocation and quite big resources involved. Finally, Aleksandra highlighted the importance of collaboration and dialogue between national decision makers and the Commission.

R&I activities supporting energy transition in Latvia

The next section included interventions of representatives of Latvian state institutions: ***Jānis Ancāns*** (Head of National Contact Point (NCP) for Horizon Europe, Latvian Council of Science) and ***Einārs Cilinskis*** (Senior Expert, Department of Sustainable Energy Policy, Ministry of Economics).

Jānis Ancāns shared information on Latvian participation and funding rate in Horizon 2020 (H2020). Eastern European countries' performance is often considered as insufficient. However, data presented shows that Latvian performance in EU FPs has considerably improved. Secure, Clean and Efficient Energy thematic had the biggest share in H2020 in terms of number of participations. However, according to PANTERA estimations, most of funding in *Secure, Clean and Efficient Energy* thematic for Latvian organisations was granted to CSA. This trend could mean that more efforts are needed to involve industry and increase the capacity of research institutes and universities. This supports the common idea that success in FPs usually goes hand in hand with the amount of national financing devoted to mobilise and support the national community towards EU. Thus, in the Latvian situation NCPs have a lot of work to do to facilitate participation in Horizon Europe. One option that was expressed as a question during the workshop is establishing an R&I liaison office in Brussels. Jānis informed that the Investment and Development Agency of Latvia (LIAA) has made first steps towards this by having a contact person working in Brussels.



Einārs Cilinskis talked about the Latvian National Energy and Climate Plan (NECP) and the way it is planned to revise the NECP based on the results of several scientific projects, confirming that the Ministry of Economics is interested in cooperation with the scientific community in the topic of energy transition. Einārs also informed about the agreement the government has with several R&I actors to model future energy scenarios. As for specific interest areas for future research, these could be positive energy districts, urban and rural energy communities, e-mobility, district heating, new types of solar cells and 2nd generation biofuels. Answering to a question from the audience, Einārs highlighted the absolute necessity of cooperation between Baltic and Nordic countries and gave as example the Latvian-Estonian *ELWIND* project on offshore wind.

Sharing experience in international R&I collaborative projects and best practice

This section included interventions of experts coming from Latvia, Lithuania, Estonia and Norway, representing both industry and academia, sharing their experience in international projects' implementation, best practices and lessons learned.

Dr Antons Kutjuns (Head of Development and Research Division, Augstsprieguma Tīkls, Latvia) shared experience from an industrial perspective and talked about *Projects of Common Interest (PCIs)* where Latvia is doing very well in terms of attracting European funding. Anton referred in particular to importance of synchronizing systems across Europe, especially after the REPowerEU communication. The latest and ongoing Baltic States synchronisation project with continental Europe has been granted 75% co-financing by the *Connecting Europe Facility* (*CEF*). Example of innovative solutions used for synchronisation project are synchronous condensers for providing system inertia. Antons highlighted, that the implementation of such huge projects wouldn't be possible without political support (for example, allocating status of National Interest Object). Pre-studies, getting construction permits and complicated procurement procedures lasted for about 5-6 years. The most important challenge AST is facing today is the dramatically increased costs due to the geopolitical situation in Europe

Dr Žaneta Stasiškienė (Director of Institute of Environmental Engineering, Kaunas University of Technology, Lithuania) looks at energy issues from an environmental point of view, especially from a city perspective, and recommends discussing solutions in an interdisciplinary approach. Žaneta has a broad experience in collaborative projects, which started from cooperation with Scandinavian countries, then Eastern and Central Europe, then Africa and Central America and finally established with Lithuanian industrial stakeholders and municipalities. Her research focuses more on non-technical issues such as behavioural change and supportive legislation on municipality level and circular economy enabling solutions on company level. She also devotes part of her time to train consumers and prosumers, thus increasing citizen engagement, in line with one of the EC's priorities. A promising direction for future research activities could be using Artificial Intelligence for climate change mitigation. In situation of insufficient national financing as it is in Lithuania, the main source of funding for research activities is European funding programmes, which are nonetheless very

competitive. For this reason KTU's choice is not restricted only to Horizon 2020 and Horizon Europe, and that is partially due to the fact that the playing field at the EU level is rather challenging in terms of competitiveness. For example, one of KTU's successful projects – *Baltic Dialogue Platform on Smart Cities for Climate* - was funded by the European Climate Initiative by the German Federal ministry for the Environment, Nature, Conservation and Nuclear. Some other examples are the *EV energy* and *LOCARBO* projects which were funded by the Interreg Europe programmes. According to PANTERA observations, Horizon Europe tends to include more and more calls for Innovation Actions calling for industrial involvement and delivering practical solutions where the participation of industry and technology providers is a precondition. Engaging industrial partners seems to be an important challenge in less involved countries. Žaneta's experience confirms that this requires hard systematic work of explaining companies the benefits of participating in R&I projects.

Karl Kull (researcher in Tallinn University of Technology, Department of Electrical Power Engineering and Mechatronics, Estonia) shared a success story from the H2020 *SMAGRINET* project aiming at providing services to European universities, municipalities and industries to enhance their capacity in energy research and innovation to tackle challenges related to the smart grid energy transition. The project developed in two main directions: from one hand, the launching challenge and case-based university programs to train students and on the other, the organisation of short-term blending programs for the workforce to provide them insights into R&I and change outdated understanding and beliefs. During the project implementation multiple challenges appeared due to pandemic: educational programmes were delayed, mobility programmes were not possible to implement, the overall workflow had to be rearranged. On the other hand, the positive outcome of the pandemic period was the acceleration of the digitalisation of educational programmes. Karl highlighted that having a vision and a good core idea helped to overcome several difficulties. Other success factors include the attraction of strong partners and enhancement of public cooperation.

Dr Irina Oleinikova (Head of Power System Operation and Analysis group, Norwegian University of Science and Technology) introduced the NTNU's special initiative - *Energy for a Better Society* – usually referred as *NTNU Energy*. *NTNU Energy* is driving interdisciplinary research by fostering cooperation between faculties through developing common strategies and activities. One of the most important drivers of this work is the active participation (taking part in discussions, creating reports and different position papers, visiting brokerage events) in different international initiatives, like *EERA*, *ISGAN*, *CIGRE*, *ETIP SNET*, etc. Furthermore, all research activities are supported by strong collaboration with industry, specifically Nordic TSOs, and cooperation with policy makers at different levels. For example, last activities included the coordination of feedback to the EC on the *Action Plan on the Digitalisation of Energy Sector*, feedback to *ENTSO-E* on *RDI Implementation Report 2021-2025* and currently, NTNU's team is actively involved in commenting and contributing to the *Horizon Europe Work Programme draft for 2023-2024*. Thus, Irina confirmed that active involvement in European initiatives is key to successful networking, increased visibility and establishing new consortia.

Opportunities to increase participation in joint R&I activities

The main idea of the section was to encourage knowledge exchange and open discussion on the pathways to improve the performance in national and international projects towards energy transition.

Dr Ivan Matejak (SUPEERA coordinator, EERA, Belgium) introduced the *European Energy Research Alliance* (EERA), which is officially the research pillar of the *European of the European Strategic Energy Technology Plan* (*SET Plan*) and the SUPEERA project aiming at facilitating coordination of research community and promoting the *SET Plan*. He projected statistical data that indicate low participation rates of EU13 countries in the *SET Plan* and limited awareness of the CET priorities by their national research organisations. This limited commitment to the *SET Plan* translates to low H2020 performance, with only marginal contribution in terms of funding compared to EU15 countries. Ivan explained that possible reasons behind this performance gap include among others: weaknesses of the R&I systems, administrative and

regulatory burdens obstructing R&I, and lack of integration between business and academia. Concluding, he stressed the importance of collaboration and the key role of working together towards common 2050 EU climate goals.

Dr Venizelos Efthymiou (PANTERA coordinator, FOSS Research Centre of University of Cyprus) presented the PANTERA process which targets the set-up of a European forum composed of different stakeholders active in the fields of smart grids, energy storage and local energy systems (including policy makers, industry, standardisation bodies, research and academia, European organisations, etc.), and therefore supporting the energy transition.

Panel discussion

Dr Paula Carroll (Centre for Business Analytics | Energy Institute Management Information Systems Department, University College Dublin) moderated the round-table discussion on *"opportunities to increase participation in joint R&I activities"* in the Baltic region. Panellists were Karl Kull, Dr Antons Kutjuns, Dr Irina Oleinikova, and Dr Žaneta Stasiškienė. The panel reviewed the responses to the online questions formulated during the discussion. The majority of respondents answered that Horizon Europe is too competitive and more economically developed countries are more advantaged. The respondents also stated that the supports provided by national funding agencies were insufficient – participants rated that as "neither good nor bad". The followed discussion touched upon several related themes.

Education: Education is key in improving participation in EU projects and therefore there is a need for education to upskill current workforce through continuing professional development, particularly to help them understand national and EU policy and to train them on proposal development to showcase best-practices. While some proposal drafting teams may have the technical expertise and their submission is sometimes highly ranked, there is a sense that submissions failed because of weak presentation.

There is also a need for new programmes to attach young students into the area and build a pipeline of skilled workers to contribute to the energy transition. Further, there is a need to educate and communicate with ordinary citizens and lay people, so as to understand the opportunities and challenges of the energy transition, e.g. the choices of low carbon technologies, and how government energy policies support achieving national energy and climate targets.

National Funding: Call designs need to connect theory to practice and consider local and national needs – more tailored calls are needed for local solutions. The panel noted that pilot and

demonstration projects would have high visibility to address education of consumers and would connect theory to practice. Multi and interdisciplinary calls are needed to facilitate cooperation with social sciences. More dialogue across national agencies and ministries would lead to such calls where technical and social science disciplines can be interconnected.

Alignment of policy and strategy: It was stated that national and European strategies and policies are not always well aligned. This misalignment is also the case between policies and strategies at national level. The panel noted that each sector has its remit, for example TSOs are regulated and must firstly ensure transmission system technical problems are addressed. It was also noted that decisions on grid tariffs to maintain grid will be needed in parallel with the development of energy communities so that the core network is adequately funded. For long term clean energy objectives to be met, community (local) opposition to infrastructure projects will need to be addressed to realise ambitious projects with short timelines. The whole energy community needs to hold its nerve in the face of the current war in Ukraine which has put a spotlight on European energy independence.

Finally**, *Dr Venizelos Efthymiou***, ***Tasos Tsitsanis*** (Suite5, Cyprus) and ***Dr Kyriaki Psara*** (FOSS Research Centre of University of Cyprus) presented the EIRIE platform that stands for European Interconnection for Research Innovation & Entrepreneurship. *EIRIE's* vision is to

become a reference operational point to unify European activity, incentivise further investments in smart grids and support access to exploitable results that can spark further cooperation and bridge the existing gaps.

During the afternoon session, Mr Matejak presented the challenges and opportunities for the mobilization of EU13 national public research resources in the CET, highlighting key information per Baltic country. He stressed the importance for Baltic countries to participate in the *SET Plan*, mentioning that the associated benefits could be numerous; from enhancing international ties, to sharing research infrastructure and increasing their involvement in transnational funding schemes.

Spyridon Pantelis (EERA Project Manager, Belgium) provided an outline of the Horizon Europe programme and the CETP, highlighting Pillar II and in particular Cluster 5 on Climate, Energy and Mobility, and the section on Widening Participation and Strengthening the European Research Area as the two most important funding pathways for the participants. Spyridon provided a list of selected upcoming calls within the two aforementioned funding pathways, encouraging all participants to consider these calls for proposal submission.

Petter Støa (Vice President Research at SINTEF, Norway), presented the EEA and Norway Grants, a dedicated funding mechanism for EU13 countries, with the aim to create awareness about this unique funding scheme and encourage participants to consider it in near future. In the Baltic region, Lithuania and Estonia have been the only two countries receiving funding for energy-related projects in the funding period 2014-2021. After an introductory explanation of these mechanisms, Petter presented three projects/success stories as inspiration to the audience.

Daumantas Kerezis (Adviser at the Innovation Group of the Ministry of Energy of the Republic of Lithuania) presented the current and upcoming activities and priorities in energy technology policy from the side of the ministry, indicating its intention to join and invest into the Horizon Europe ‘s CETP. He also added that the ministry is part of the joint Baltic-Nordic roadmap for co-operation on clean energy technologies and that Lithuania is aiming at becoming a country creating and exporting energy technologies.

Rolandas Urbonas (Deputy Director of the Lithuanian Energy Institute) presented the experiences and benefits from the participation in international energy networks. He underlined that, although being a part of an international association leads to a boost in the number of projects and general activity of the institution, Baltic countries have to face several challenges in order to be prominent at a European level. He suggested that one way to overcome these obstacles is to promote further cooperation on a regional level in the Baltics.

Panel discussion

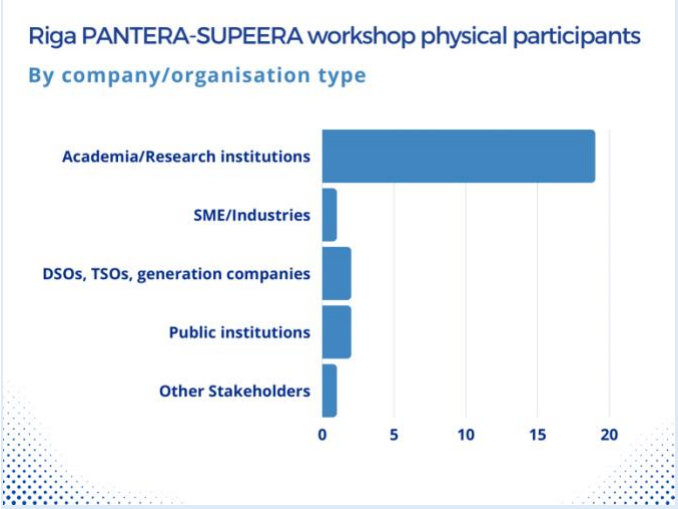
In the followed panel discussion ***Mr Kerezis*** stated that nuclear technology is not included in the ministry's strategy at the moment, although the plan is to include modular reactors in the future energy mix. On this matter, ***Dr Urbonas*** added that nuclear energy is a subject of interest within his institution. Regarding the CETP, Mr Kerezis explained how the ministry is trying to connect stakeholders from research and business through a consultation process that aims to find shared common priorities. This process was identified as a best practice that could be replicated in other countries. Furthermore, the idea of establishing a research collaboration between the Baltic states was brought up, and possible challenges and strategic differences were examined.

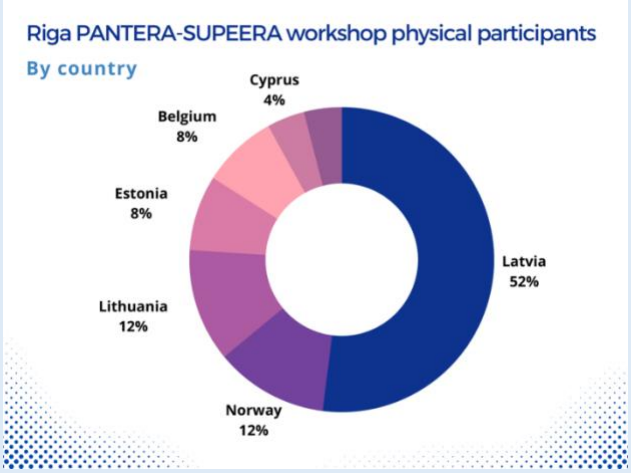
PANTERA Coordinator and Cyprus representative on the *SET Plan Steering Committee* ***Dr Venizelos Efthymiou*** underlined the role of *ETIP SNET* to provide a platform for collaboration between national stakeholders and European R&I entities, highlighting that actions in this direction are reinforced by a series of regional workshops across EU. Replying to a question from the audience, Dr Efthymiou explained that Cyprus' success on being the most active country amongst the EU13 countries within the *SET Plan* stands in its active student and research population, which is able to offer strong contributions to the ad-hoc committees that were formed specifically for the implementation of the *SET Plan*. This is underpinned by increased financial support by the Cypriot government towards R&I activities during the past few years.

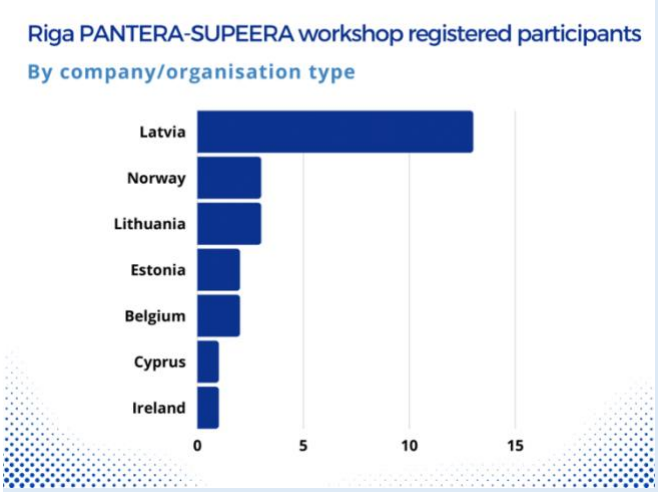
During the workshop, the audience actively used the possibility to ask questions. The experts tried to respond to as many - of the 38 questions received in total - as possible. These questions reflected the challenges researchers and innovators are facing in their activities, like establishing close working relationships with industry, regional collaboration opportunities, support in proposal preparation as well as more general issues, such as consumer empowerment and country specific policies in energy transition. All materials related to this event can be found on the SUPEERA Website.

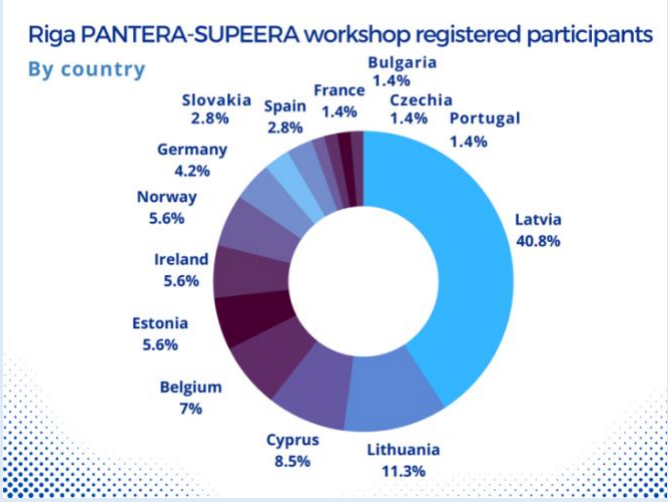
Workshop Statistics

The workshop was organised in a hybrid mode and gathered 25 participants physically in Riga and 56 visitors connected remotely.



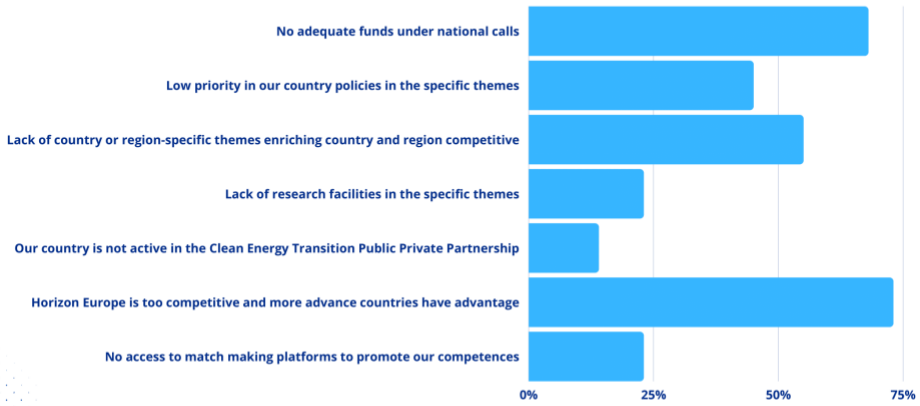




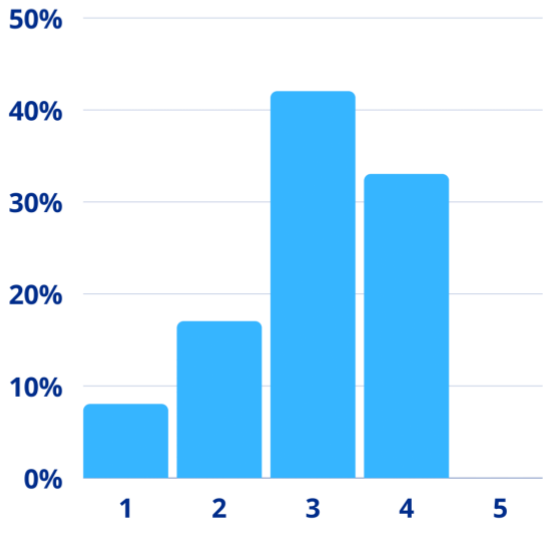


Survey results

What do you think is the most important reasons for low R&I activity in your country in smart grids, storage and local energy systems? Choose three of the following reasons that suit best your case:



Are there any mechanisms supporting the initiation and completion of R&I projects organized by national institutions? How do you rate support services provided by national institutions / agencies?



ANNEX III Report on SUPEERA Widening Workshop in Bulgaria

International research collaboration opportunities fostering EU Clean Energy transition in Bulgaria

SUPEERA / PANTERA joint workshop

25th of May 2022, Sofia

Agenda of the workshop

Time (EEST)	Topic	Speaker
09:00	**Registration and coffee**	
09:30	Welcome address	**Valentin Kolev,** Dean of the Electrical Engineering Faculty of TU-Sofia
09:40	Mobilization of EU-13 national public research resources in the Clean Energy Transition: challenges and opportunities SUPEERA findings: engagement of Bulgaria in H2020 or R&I	**Ivan Matejak,** SUPEERA coordinator, EERA
10:00	Sofia University's research activities and collaboration with the business in support of the energy transition EU funding for energy efficiency projects - the experience of SEA SOFENA Research team in the area of "Electric Power Systems" at the Technical University of Varna	**Mariya Trifonova**, Assistant Professor Department of Industrial Economics and Management **Lily Stammler,** Senior Energy Security expert, SOFENA **Dimitar Georgiev**, Assistant Professor, Department Electric Power

	PANTERA process	engineering, Technical University of Varna **Rad Stanev**, TU-Sofia / **Dr Venizelos Efthymiou**, PANTERA coordinator, FOSS Research Centre of University of Cyprus
11:00	Panel discussion and Q&A	Moderator: **Ivan Matejak**
11:30	**Coffee break**	
12:00	R&I opportunities for collaboration and funding • Horizon Europe ○ Clean Energy Transition Partnership ○ Widening Calls Norway/EEA Grants	**Spyridon Pantelis,** Project Manager, EERA **Petter Støa,** Vice President Research, SINTEF Energi AS
12:25	The EIRIE Platform	**Tasos Tsitsanis**, Suite5 / **Dr Kyriaki Psara**, FOSS / **Rad Stanev**, TU-Sofia
13:10	Open discussion and Q&A	
13:40	**Lunch break**	

Workshop report

One month after the appointment in Riga, on the 25th of May, the SUPEERA and PANTERA Projects jointly organised a second workshop in Sofia, with the aim of sharing best practices in the field of the Clean Energy Transition and fostering the engagement of non-EERA stakeholders towards EERA activities and the SET Plan.

The workshop, which took place in hybrid modality, was joined by 15 participants in presence and 23 online and it gathered experts mainly from the research sector and local organisations active in R&I activities.

Welcome address

The Workshop was officially opened by ***Valentin Kole***, Dean of the Electrical Engineering Faculty of the Technical University of Sofia who welcomed all participants and recalled the importance of these kinds of events for the university.

First session of the workshop: existing barriers

Ivan Matejak**,** SUPEERA Coordinator, gave an overview on Bulgaria's scarce engagement in Horizon 2020 activities based on the relatively low number of signed grants, the modest attention to the SET Plan and the degree of involvement in the Implementation Working Groups. He also highlighted the root causes and structural challenges for EU13 countries in moving towards the CET, underlining the opportunities that would arise by bridging such gap.

Next, ***Maryia Trifonova***, from Sofia University (SU), presented the research activities implemented by SU along with the numerous collaboration agreements with many different actors in Bulgaria and abroad. In addition to participating in Horizon 2020 and Horizon Europe proposals, the Department of Industrial Management and Economics has been working with smaller research grants and collaborates closely with policy makers and industry.

Lilly Stammler, Senior energy expert at SOFENA (Sofia Energy Agency), opened her speech with a map displaying the energy associations currently active in Bulgaria and the interactions

among them. Next, Ms Stammler provided an overview of SOFENA's activities in collaboration with the Sofia Municipality, mainly on the topic of energy efficiency in buildings, facilitating workforce upskilling activities and addressing issues relevant to energy poverty and citizens engagement.

Dimitar Georgiev, from Technical University of Varna, after giving an overview on the research team in the Dept. of Electric Power Systems at TU Varna, outlined a series of ongoing and past projects in the field of CET. He highlighted the strong collaboration of the university with industry stakeholders and especially ongoing research projects with renowned industry players (e.g. Siemens) in the field of power systems modelling.

Rad Stanev, Associate Professor at Technical University of Sofia, gave an introduction on the University's structure by presenting TU Sofia's facilities to support students' training activities in the field of power and grid management, also underlining the current R&I activities of the university in these fields and its involvement in EU funded projects.

Panel Discussion and Q&A

The first part of the event prompted a fruitful Q&A session and panel discussion, moderated by Ivan Matejak, which allowed participants to share opinions on Bulgaria's low involvement in H2020 and other European research programs The first question addressing the speakers aimed at investigating their views on the challenges and obstacles for Bulgaria's participation to funding schemes.

First respondent, Ass. Prof. ***Maryia Trifonova*** complained, on the one hand, the lack of a national strategy on CET and, on the other hand, the absence of data collection mechanisms on past proposals' success rate within the University. In addition, she lamented lack of know-how on EU funding programmes and proposal writing, submission and reporting process which, together with the low organisation at administration level, has been the main reason for the non-engagement of the University in leading roles. Nevertheless, Ms Trifonova explained that the University of Sofia has been trying to address these kinds of issues by developing ad-hoc workshops and training activities in European Project Management for Research addressing PhD students, with the general objective of creating a "*project culture*" within the Institution.

Lilly Stammler underlined the lack of collaboration between the municipality and the Bulgarian higher education institutions, possibly to be traced back to the absence of structured understandings and cooperation agreements between research centres and NGOs.

Finally, ***Rad Stanev*** underlined on the one hand TU Sofia's difficulty to reach and establish durable communication channels with Bulgarian National Contact Points and on the other the good collaboration between the Ministry of Energy and the University.

After presenting and discussing the main bottlenecks for Bulgaria's involvement in H2020 and HEU, the second part of the conversation regarded how to tackle such challenges and how to improve collaboration at EU and national level.

Maryia Trifonova stressed that in the last couple of years there has been a huge interest from the business to pursue collaborations with universities whereas, despite the existent dialogue with government authorities, it is hard to establish more structured collaborations with Ministries. Ms Trifonova added that the University of Sofia has been working on a strategy to create specific tools, such as assessment framework and models to ease the process of developing successful collaborations and applying for EU calls.

On the topic of improving networking with other stakeholders, ***Lilly Stammler*** mentioned that one of the most pressing issues concerns making the first contact with other organisations, being very hard to even have a response from them.

On the other hand, ***Dimitar Georgiev*** stated that TU of Varna, although being geographically distant from the capital, over the years has managed to establish a good network of collaborations in Bulgaria, in particular with TSO and DSO.

Rad Stanev wrapped up the Q&A session by listing the challenges for TU Sofia in participating in EU research programmes: from the disadvantage of being less experienced to the difficulty in securing the financial resources needed to generate quality proposals and from Bulgaria's limited infrastructures to the inadequate national funding dedicated to research. Nevertheless, he emphasized the importance for TU Sofia to be involved in European Initiatives such as ETIP-SNET, being it an advantageous way for the University to work its way into the prolific environment of other organisations.

Second session of the workshop: available opportunities for collaboration

The second session of the workshop focussed on existing opportunities and platforms for collaboration; it was opened by ***Spyridon Pantelis***, Project Manager at EERA, who introduced the CET Partnership's structure and involved stakeholders' groups. After an overview on Horizon Europe's pillar 2, Mr Pantelis presented a selection of upcoming calls under Cluster 5 (Climate, Energy and Mobility) and the HEU Widening calls with a focus on the Hop On Facility, aiming at integrating one participant from the widening countries to an ongoing project under pillar 2.

Berta Matas Güell, Senior Researcher at SINTEF, gave an overview on EEA and Norway Grants for the period 2014-2021, which are directed to the EU13 States. EEA and Norway Grants for the period 2014-2021, which are directed to the EU13 States. Ms Matas Güell showed the programme's structure, the eligibility criteria and concluded with examples of ongoing projects in Bulgaria under the umbrella of EEA funds.

The second session of the workshop continued with the display of two recorded presentations by ***Venizelos Efthymiou***, PANTERA coordinator and Chairman of FOSS Research Centre. The first presentation focused on the PANTERA Project, whose aim is to strengthen the involvement and cooperation of all EU Member States to achieve the CET through the development of R&I. The second presentation focused on the EIRIE Platform, an online collaborative environment aiming at bringing all the knowledge created in Europe on smart grids and green energy under the same umbrella and make it accessible to the public.

Panel Discussion and Q&A

The second part of the workshop triggered a meaningful discussion among participants, on new collaborations and new funding opportunities for Bulgaria.

Dimitar Georgiev recognized the value and advantages of EU Funding in concretizing research ideas within the university. Likewise, ***Lilly Stammler*** revealed SOFENA's strong interest in participating to the outlined funding opportunities once potential project topics have been identified. Nevertheless, Ms Stammler expressed concern towards the "not intuitive" application process for EU funding and for the shortage of professional figures that have the competences to complete the setting-up of the Consortium and the drafting and submission of proposals. In this regard, ***Spyridon Pantelis*** presented various options to be taken into account for collecting useful information and get in touch with potential future project partners: from using the funding and tenders portal, to participating in infodays organised either at a European (EC) or national level (organisations, NGOs). ***Ivan Matejak*** intervened in the discussion by also mentioning the crucial

role of National Contact Points in providing specific information and in offering research institutions and businesses with free training on the process of proposal drafting and submission. Mr Matejak also reminded the audience of the role of EERA in creating synergies and fostering cooperation through the 18 Joint Programmes at a European level.

On this note, ***Berta Matas Güell*** underlined the importance of activating NCPs and draw attention on the value of matchmaking events as occasions to meet with different stakeholders that could be interested in collaboration opportunities.

Angel Nikolaev from Black Sea Energy Research Centre expressed its concern over the lack of infrastructure and capacity for his Association to coordinate projects and called for authorities to develop a process aimed at helping smaller organisations prepare the proposals and get in touch with other European partners. In this respect, Mr Nikolaev mentioned the role of the Association of the Bulgarian Energy Agencies in organising annual events which are, however, mostly addressing NGOs, and not research centres, invested in the topic of CET. In this respect, **Mr Stanev**, stated that, despite this option it is not easy to find partners willing to engage in proposal writing and that it would be helpful for the research community of EU13 countries to also have a special support coming from the EC.

Closing remarks

Although actively working towards achieving a low carbon economy, Bulgaria, features low participation rates in research and innovation (R&I) activities and in the realisation of the EU's SET Plan Implementation Plans. As a consequence, and unlike more successful Member States, Bulgaria has received only a marginal contribution of EU R&I Horizon 2020's budget. By organizing these kinds of events, the SUPEERA Project aims at raising awareness about the SET Plan and Clean Energy Transition among research organisations and funding bodies from EU13 countries, while encouraging their mobilization towards their implementation. All materials related to this event can be found on the SUPEERA Website.

ANNEX IV Report on SUPEERA Widening Workshop in Cyprus

International research collaboration opportunities fostering EU Clean Energy transition in Cyprus

1st June 2022, Nicosia

Agenda of the workshop

Time (EEST)	Topic	Speaker
09:00	**Welcome and objectives of the workshop**	**Ivan Matejak, EERA**
09:05	**Green deal objectives and beyond** European strategy and latest policy and legislative developments supporting the Clean Energy Transition	**Thanos Athanasiou, EC Office in Cyprus**
09:30	**The SUPEERA project: Mobilization of EU-13 national public research resources in the Clean Energy Transition: challenges and opportunities** ○ SET Plan and CET - benefits and engagement possibilities ○ Investment and reform measures of Cyprus for CET **SUPEERA findings: engagement of Cyprus in H2020 or other EU R&I financial instruments**	**Ivan Matejak, EERA** **Spyridon Pantelis, EERA**
10:00	**R&I best practices for Cyprus** Sharing experience in international R&I collaborative projects and best practices: Cyprus best practices in energy R&I	**Nestor Fylaktos, Cyprus Institute**
10:20	Q&A	
10:40	**Coffee break**	

11:10	**Panel Discussion** Energy strategy of Cyprus and pressing needs in relation to: ○ Policy and regulation ○ Addressing the needs of the Green Deal and REPowerEU ○ System infrastructure and services ○ R&I supporting mechanisms and growth	• **Nikos Hadjinikolaou, Ministry of Energy of Cyprus** • **Marilena Delenta, CERA** • **Anna Maria Christoforou, RIF** • **Alexandros Nicolaides, TSOC** **Moderator: Ivan Matejak, EERA**
12:10	Q&A	
12:30	**Lunch break**	
13:30	**Cyprus R&I strategy: Focus to Energy** R&I activities of Cyprus in building appropriate policies and actions in line with the strategic objectives of the country: ○ Policies and actions ○ European and national programmes	**Evgenios Epaminondou, DMRID** **Anna Maria Christoforou, RIF**
14:10	**Norway/EEA Grants**	**Berta Matas Güell, SINTEF Energy Research**
14:20	**PANTERA project and the EIRIE platform** PANTERA project and the launching of the EIRIE platform in support of the R&I community in Cyprus: • Objectives and opportunities • Actively participating & contributing in the EIRIE platform: The Cyprus corner)	**Venizelos Efthymiou, FOSS** **Kyriaki Psara, FOSS**
15:10	**Q&A**	
15:25	**Wrap up and closing remarks**	**Ivan Matejak, EERA**

Workshop report

After the successful outcomes produced in Riga and in Sofia, on the 1st June 2022, the SUPEERA project team flew to Cyprus where, in collaboration with the PANTERA Project, organised a workshop aimed at sharing best practices in the field of green energy and at fostering the

engagement of external stakeholders in EERA activities and towards the implementation of the SET-Plan.

The workshop, which took place in hybrid modality, was joined by 18 participants on site and 24 online and it mainly gathered experts from the research sector, local organisations active in R&I activities, members of the government and representatives from the industry.

Welcome address

The workshop was officially opened by ***Ivan Matejak***, SUPEERA Project Coordinator, and ***Venizelos Efthymiou***, PANTERA coordinator and Chairman of FOSS Research Centre, who welcomed the participants and presented the objectives of the workshop.

Mr Efthymiou proceeded with an overview of the PANTERA Project and he provided an insight into the PANTERA RICAP process, a tool providing the main methodology on how EU initiatives' come together with stakeholders and other resources to unify and align forces under the same umbrella.

Thanos Athanasiou, Press Officer at the EC Representation in Cyprus, opened with a reflection on the insufficient solar thermal panel installation rate in Cyprus, especially when associated with the number of sunny days on the island. Starting from this statement, Mr. Athanasiou underlined the need for Cyprus to multiply efforts and foster collaboration between authorities, research and industry in order to reach energy independence and to gain profits on the development and implementation of renewables.

Ivan Matejak presented the SUPEERA project and outlined the R&I gaps between EU13 and EU15 in terms of performance in the Horizon 2020 Programme. The displayed tables revealed that Cyprus' percentage of H2020 eligible proposals is higher than the EU13 average and almost twice as big as the European average. Nevertheless, Mr. Matejak highlighted, only 6% of the net amount of funds received has gone to research; the reasons for this are to be found in the low

level of national investment in R&I, the young research community, the limited capacity of Cyprus industry and the scarce access to high-quality international networks.

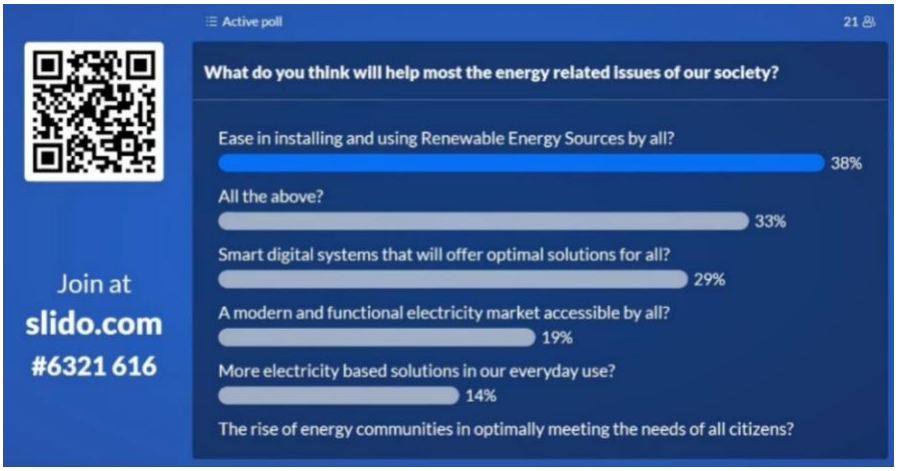
Nestor Fylaktos**,** Associate Research Scientist the Cyprus Institute (CYI), offered an interesting overview of R&I best practices for Cyprus. Mr. Fylaktos highlighted some of the lessons learned from the management of R&I projects, i.e.: defining proper budgeting, finding the right people, having the right management tools and holding efficient meetings. Based on these four key elements, Mr. Fylaktos illustrated: the INSHIP Project on solar heat for industrial processes, the CySTEM Project on solar and thermal energy, the SFERA III Project on mobility of researchers and shared use of research infrastructure and, last, the Green Deal Project providing scientific support for the implementation of the EU Green Deal in Cyprus. Mr. Fylaktos closed his presentation by sharing four important tips learned more specifically in the management of energy related projects: joining alliances, embracing multi-disciplinarity, working with diverse stakeholders and supporting collaborations among local, regional and international scientific institutions.

The panelists' presentations prompted an interesting discussion which was moderated by ***Ivan Matejak***. ***Mr Efthymiou*** took the floor arguing that when we talk about Cyprus' performance in R&I in statistical terms, it is important to always keep in mind the small size of the country and its low number of inhabitants: it is only by taking these elements into account that we get a realistic (and also rather positive) picture of the situation. On his side, ***Mr Athanasiou*** shed light on another problem affecting CET in the EU, which is the inability for the EC to enforce decisions to Member States and called for a stronger EU able to impose itself more on the prerogatives of the EU Council.

Theodoros Zachariadis, Associate Professor at the CYI, underlined the great role of Cyprus in the region and outlined how it teams up with countries from Central and Eastern Europe and Western Asia to design common energy and climate strategies and to bring the performance of the global energy community forward.

Panel discussion

The panel session opened with a question that addressed both panellists and audience and which represented the basis for the following discussion e.g.: what do you think will help most the energy related issues of our society? The majority of participants answered: "ease and installing renewable energy sources by all" whereas the second favourite chosen answer was "smart digital systems that will offer optimal solutions for all".



Nicos Hadjinicolaou, Industrial Extension Officer at the Ministry of Energy of Cyprus, explained that the Ministry is working towards easing the implementation of renewable energy sources across the country by acting on two fronts: by enforcing regulations to make the installation of PV compulsory for new households and by granting incentives for families and businesses that decide to install PV on existing buildings.

Venizelos Venizelou**,** Energy Engineer at Cyprus Energy Regulatory Agency (CERA), stated that CERA promotes schemes that are structured to promote the renewable energy by encouraging the establishment of renewable energy communities, collective self-consumption and all provisions coming out of the electricity directive.

Anna Maria Christoforou, Scientific Officer at the Research and Innovation Foundation (RIF), explained that RIF (mainly subsidized through government structural funds) has been providing funding, of minimum 1 million euros each, in specific projects that are submitted by researchers to improve efficiency and make the energy systems more innovative.

Alexandros Nicolaides from Cyprus Transmission System Operator underlined the importance to work hand in hand with other stakeholders in order to ensure that all the resources and technologies are coming at the right time so that supportive solutions (for energy storage for instance) catch up with the rapid deployment of new technologies.

On the same topic, ***Mr. Hadjinicolaou*** intervened and claimed the need to support initiatives aimed at ensuring energy efficiency for their vital role in reducing energy demand which is a first important step towards a more effective and better functioning energy system.

After the discussion, ***Mr Venizelou*** outlined the core activities and R&I Projects of CERA and presented a paper on "Regulatory Sandboxes in Incentive Regulation" seeking to provide clarity and a framework for the different tools that energy national regulatory authorities can use to facilitate innovation in the context of incentivizing regulation for grid operators. On the topic of

technology maturity in Cyprus, Mr Venizelou underlined that the country is still in the process of digitalising the electricity sector and important steps have to be taken to fully adopt the flexibility of the energy market.

Throughout the following Q&A session, panelists had the opportunity to answer ad hoc questions specifically regarding their area of expertise.

On the importance of the living environment for meeting energy objectives, ***Mr. Hadjinicolaou*** highlighted two main points. After shedding light on the great relevance of transport share in Cyprus' energy consumption, he claimed that a special attention should be paid to this sector since it involves a lot of stakeholders and requires lots of structural and behavioral changes from the side of the citizens as well. In addition, Mr. Hadjinicolaou focused on another issue that is concerning not only Cyprus but all countries in general, which is the lack of interest/motivation of the private sector to invest in R&I, an area that is almost completely funded through public resources.

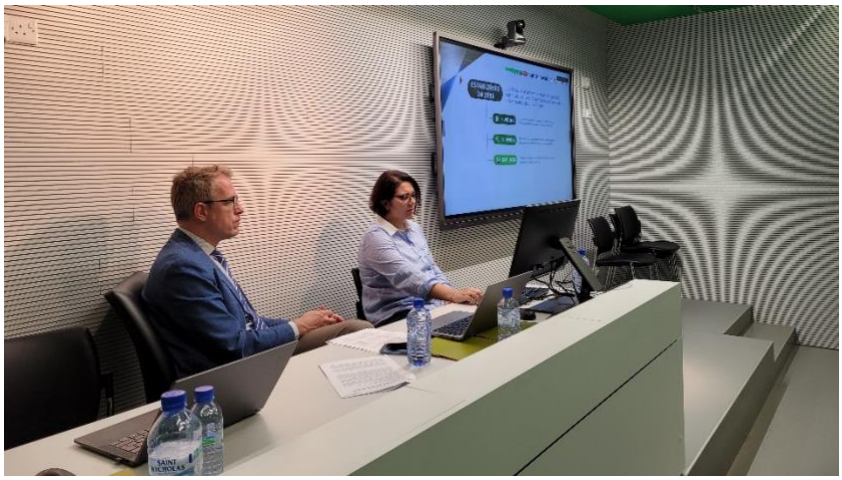
Asked on Cyprus' response to the 5th pillar of the energy union on "research, innovation and competitiveness", ***Ms Christoforou*** listed some of the most important national tools that the country has adopted to comply with the green energy targets. Among the mentioned regulatory instruments there was the Smart Specialization Strategy for Cyprus, which was adopted in 2015 and aims at supporting R&I activities and investments while fostering cooperation between the academic community and the business world in established thematic areas, including energy. Ms Christoforou concluded her intervention by recalling that while it is important to have funding for basic science and bottom-up research, it is equally significant to have targeted thematic areas.

On the issue of adopting a more holistic approach encompassing also social and economic, not just engineering criteria, ***Mr Venizelou*** stated that active citizenship is part of CERA's strategy. Such commitment is reflected in activities like the development of a price comparison tool that will enable citizens to check the tariffs of the various suppliers that are registered to the market thus offering them the opportunity to easily switch their energy provider if they find it convenient. In the same vein, ***Mr Hadjinicolaou*** confirmed that the involvement of the consumer is one of the policy pillars of the Ministry and added that the government is working towards making the CET in

Cyprus as much of a democratic process as it can be by also involving diverse groups of stakeholders from both public and private sectors.

On top of the previous comments and intervention, ***Mr Efthymiou*** stressed the importance of cooperation with the authorities on activities addressing energy issues.

The first session was wrapped up by panellists with short conclusive remarks statement on what are the major barrier for the Cypriot research community in reaching 2030 - 2050 energy goals. Among others, speakers mentioned: alignment of interests from different stakeholders; alignment of researchers towards societal needs, the need to catch up with the rapid changes, the need to align clarity, coordination and trust.



The second part of the workshop focussed on national and European funding opportunities and was opened by ***Anna Maria Christoforou*** who introduced 4 funding programmes aimed at accelerating the green energy transition in Cyprus: the National Funding Programme, organised through the Restart Work Programme (130 Million euros), the CO-DEVELOP Green Transition Programme aiming at bridging the gap between industry and Academia (6 million euros), the CET Partnership covering 7 transition Initiatives (3 million euros) and the Climate Neutral, Sustainable and Productive Blue Economy Partnership (2 million euros).

Evgenios Epaminondou from the Deputy Ministry of Research, Innovation and Digital Policy (Directorate for Research and Innovation) gave an overview of Cyprus R&I governance system and strategy with a focus on the energy sector. Mr Epaminondou showed that Cyprus ranks 1st in the absorption of H2020 funds per capita in the EU[7] and gave an overview of the current research ecosystem of the country, including 10 Universities, 8 research institutes, 6 Centres of Excellence and more than 2100 researchers. After presenting the Smart Specialisation Strategy, Mr Epaminondou also mentioned some of the most relevant European Initiatives of which Cyprus is

[7] STOCKwatch (2021), "Cyprus first among EU Member States on funds absorption", source: https://www.stockwatch.com.cy/en/article/voyli-eyropi-oikonomia/cyprus-first-among-eu-member-states-funds-absorption#:~:text=Cyprus%20ranks%20first%20among%20EU,EU%20average%20being%20at%2062%25.

part: the CET partnership, ERA discussion and actions, Euromed R&I initiatives, the ESFRI Projects and the Technical Committee 5 on research innovation, competitiveness and digitalisation.

Berta Matas Güell, Senior Researcher at SINTEF, gave a presentation on EEA and Norway Grants for the period 2014-2021, directly addressing the so-called EU13 States. Ms Matas showed the programme's structure, the eligibility criteria and concluded with examples of new cooperation agreements signed with Cyprus on a number of new programmes in 2019, that also aimed at reducing vulnerability to climate change and improving environmental status.

Venizelos Efthymiou and ***Kyriaki Psara*** from FOSS concluded the second session of the workshop with a presentation of the PANTERA Project and the EIRIE Platform in support of the R&I community in Cyprus. Mr. Efthymiou described the EIRIE Platform as the meeting point of all actors active in the fields of green energy and as the tool aimed at bridging the gaps that currently exist in the energy field between EU MS, by bringing together successful national, regional or European partnerships. Mr. Efthymiou gave a general overview of EIRIE's vision, key functionalities, user roles, value propositions whereas Ms Psara took over the presentation by going more into details in the platform's open architecture and functionalities.

Mr. Efthymiou closed the workshop by remarking the importance of communication among the R&I community and by noting the relevance of these kinds of events for exchanging best practices and for fostering collaboration at different levels.

Closing Remarks

Despite the small size of the country, Cyprus' research community is very active in the field of CET, a trend that is reflected in the country's performance in Horizon 2020 and Horizon Europe Programmes and in its involvement in 10 out of 14 SET Plan IWGs. Nevertheless, several are still the barriers that prevent Cyprus from further increasing its performances in the R&I and energy fields**.**

By organizing these kinds of events, the SUPEERA Project aims at raising awareness about the SET-Plan and CET among research organisations and funding bodies from EU13 countries, while encouraging their mobilization towards their implementation. All materials related to this event can be found on the SUPEERA Website.

ANNEX V EERA Annual Strategy Meeting 2022

In addition to the above, EERA also organised its Annual Strategy Meeting in Prague, Czech Republic, on 22 and 23 of June 2022. This was meant as a clear signal from the EERA community (in particular from the Executive Committee and Joint Programme Coordinators) to further contribute to the onboarding of EU13 countries in key policy dossiers, spanning from the REPowerEU plan to the revamp of the SET Plan. Discussions were based on the deep work that EERA has been carrying out in these fields and counted on the contributions from prominent EU and Czech policymakers, also with the view of informing the work of the Czech Presidency of the European Union, which started on last 1st of July.

During the discussions, it was stressed the importance of the efforts to increase the participation of EU13 in the SET Plan, CET and Horizon Europe Programme and different types of approach at different levels are needed to increase their engagement. Overall, it is important to clearly illustrate the benefits of such activities for these countries and understand better which aspects should be attractive to them.

It was also mentioned that a possible course of action towards this, would be to introduce eligibility criteria for the inclusion of a minimum number of beneficiaries from EU13 in Horizon Europe projects, similar to the existing ones (e.g. Gender Equality Plan). Furthermore, it was noted that officials in EU13 countries might not be possessing the necessary language skills that would enable them to participate in the SET Plan IWGs, or their busy schedules do not leave space for activities at EU level. To this end, and as also suggested in Chapter V, a possible solution would be to engage younger and more active researchers.

Additionally, the dialogue around the engagement of EU13 countries could be facilitated at a separate IWG meetings, as an important non-technical cross-cutting topic that could see the participation of IWG members from the existing, technology-oriented IWGs. As closing remarks, it was underlined that EERA can play an important role on involving EU13 countries and identifying more concretely the existing barriers that would result in tangible and targeted recommendations.

EERA's efforts under the SUPEERA project to involve more stakeholders from the EU13 countries was also discussed with the Czech representatives from the Ministry of Industry and Trade and the Ministry of Science and Science Research and Innovation. There were discussed SUPEERA's future plans to organise similar to the above workshops in the country during the SET Plan conference in Prague in Nov. 2022 with the participation of relevant entities and key stakeholders.

ANNEX VI Deep Geothermal workshop 2022

Joint workshop addressed ways to strengthen transnational cooperation in Clean Energy throughout Europe

On 19th January 2022, 65 participants from across Europe came together to discuss the opportunities that the SET Plan and the Clean Energy Transition (CET) hold for the European countries that become actively involved. Alternatives to further integrate EU13 countries and facilitate communication and information exchange were also debated.

The EU has set an ambitious target for the decarbonisation of the European energy system by 2050. This breakthrough decision opens up new opportunities for innovative, cross-sectoral activities and stimulates solution-oriented approaches. Nevertheless, a successful Clean Energy Transition can only be achieved through collaboration and innovation in energy research from all European member states.

In light of this, the Implementation Working Group Deep Geothermal Support Unit, SUPEERA, and EERA aisbl jointly addressed this issue by giving the representatives of the EU13 countries (Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia) and Greece and Portugal, the opportunity to gain more knowledge about the initiatives favouring their countries' institutions. Also, ways to strengthen the cooperation in the EU were brought forward.

The webinar highlighted the importance of the SET Plan and the CET, the crucial role of all European countries' involvement, and the need to align national and regional strategies with the European plans for a carbon-free society.

The event kickstarted by presenting the current involvement of the EU13 countries in the SET Plan and the CET. In this regard, three aspects were highlighted:

- EU13 countries possess, use, and continue to develop renewable energy sources (PV, wind, ocean, geothermal, hydro) according to the regional possibilities.
- The representativity of EU13 countries in the SET Plan communities is very low, which prevents them from actively influencing its course.
- Only about 5% of the H2020 funds were allocated to EU13 countries.

With the purpose of addressing the previous point, funding opportunities favouring the EU13 countries (and Greece and Portugal) were introduced. Representatives of research institutions and universities were informed about the EU's Widening initiative, the EEA and Norwegian grants and the Just Transition Founds. Moreover, success stories in the voice of EU13 institutions were portrayed to illustrate that participation in funded projects is often the starting point of new and fruitful initiatives.

To conclude, the webinar focused on cooperation and networking opportunities that facilitate participation in European consortia and winning projects and enable exchange between organisations on administrative issues. Specifically, the EIRIE platform was introduced to the

participants, while the benefits of participating in the European Energy Research Alliance (EERA) were highlighted.

The key question that permeated the discussions was how to bring more active researchers from EU13 countries closer to the SET Plan and the CET community. One of the clear answers that emerged was the organisation of informative and participatory instances in the country concerned, where national research institutions and universities could learn first-hand about the opportunities these initiatives open up. All materials related to this event can be found on the SUPEERA Website.