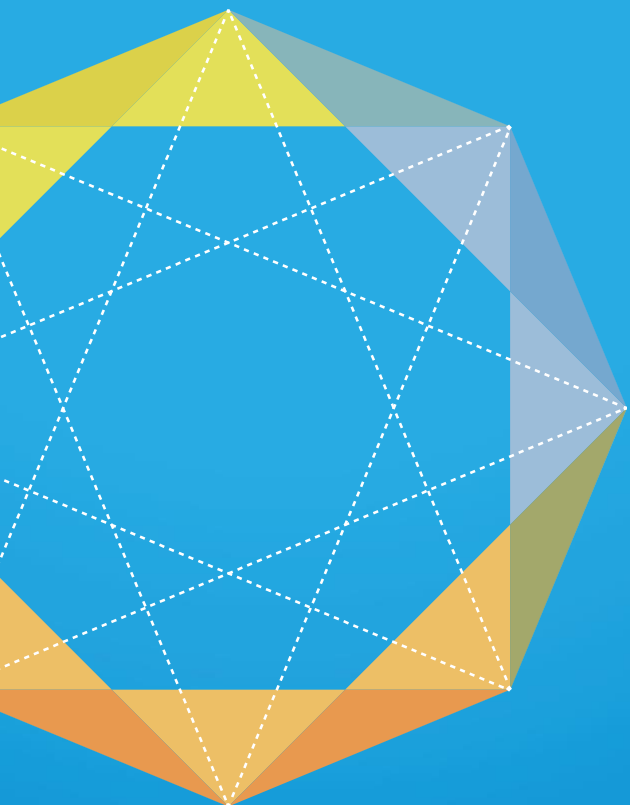




18th ETIP SNET Regional Workshop

Proceedings of the
meeting



ETIP SNET

European Technology and Innovation Platform
Smart Networks for Energy Transition



INTRODUCTION

Context

Within the ETIP SNET initiative, the regional workshops represent an important opportunity to discuss challenges and key topics to **promote a sustainable energy system in Europe**. The 18th regional workshop was organised online on May 16th (10:00-13:15 CET). The workshop focused on the Central European Region (Austria, Belgium, Czech Republic, Germany, Luxembourg, Netherlands, Poland, Slovakia, and Switzerland).

The main objectives of this Regional workshop were to:

- Exchange views on the **alignment of European and national R&I priorities with local needs in view of consolidating consistency**;
- **Promote knowledge sharing between stakeholders** in the energy field to address challenges, advance R&I initiatives and disseminate best practices across Europe;
- **Gather insights to support the Commission** in identifying and addressing current gaps, through the ETIP SNET R&I implementation plan, national and EU programmes;
- **Showcasing national initiatives and projects** related to the decarbonisation of the energy sector to deliver the EU Green Deal.

The workshop aimed to bring together ETIP SNET experts representing different segments of the energy supply chain, as well as interested stakeholders from the wider energy landscape. Overall 90 participants registered to the online workshop, and more specifically market players (<5), regulators (<3), DSOs (>5), TSOs (<3), ICT providers (<10) and non-ICT providers (<5), research and academia (>35), Interface to other energy carriers (<3), equipment and manufacturers suppliers (<5), renewable energy sources providers (<5), and storage technologies (<5).

The workshop's agenda is presented below.

Item	Time	Session
	10:00	Start
#1	10:00	Introduction of ETIP SNET and workshop objectives By Beatrice Profeta - PwC, ETIP SNET Secretariat
#2	10:10	EU priorities for R&I in energy systems, grids and storage By George Paunescu - Policy officer in DG ENER
#3	10:20	The Central Europe region: Research initiatives and technological innovations By Mihai Calin - AIT
#4	10:35	Spotlight Sessions I – Priorities for applied energy research in selected countries • DE: Thomas Degner - Fraunhofer IEE • AT: Michael Hübner - BMK and Clean Energy Transition Partner
#5	11:05	Break out rooms I: Exchanging views on the alignment of R&I priorities (at EU, regional and national levels) and local needs in view of consolidating the consistency
#6	11:45	Discussion of results Moderated by Mihai Calin - AIT
#7	11:55	Coffe break
#8	12:15	Spotlight Session II – Applied energy research: Presentation of R&I projects and results in the Central Europe region • DE: Diana Mincu-Strauss - Fraunhofer IEE • AT: Clemens Korner - AIT
#9	12:35	Break out rooms II: Lessons learned in the implementation of applied energy research projects and best practices
#10	13:05	Discussion of results Moderated by Mihai Calin - AIT
#11	13:15	Closing remarks By Mihai Calin - AIT



The workshop started with an introduction to the European priorities on R&I for smart energy systems and grids. by George Paunescu, Policy Officer at DG Energy in the European Commission. The presentation included an overview of the Horizon Europe programme (including the Strategic Plan for the upcoming period 2025-2027 and the R&I priorities on energy systems over the period 2021-2024). The presentation also covered the contribution of the ETIP SNET Implementation Plan and its proposed priorities (High-level Use Cases), as a valuable input to establishing the priorities of Horizon Europe. Afterwards, Mihai Calin from the Austrian Institute of Technology (AIT) provided an overview of the current energy landscape of Central European countries, namely Austria, Belgium, Czech Republic, Germany, Luxembourg, Netherlands, Poland, Slovakia, and Switzerland. For each country key energy objectives, areas of focus, main energy research programmes, as well as electricity generation and consumption patterns were highlighted. Additionally, a brief outline of the Interreg Central Europe funding program was provided, along with the new 'Central Europe's electricity capacity calculation region, introduced by the European Union Agency for the Cooperation of Energy Regulators (ACER).

Spotlight Sessions 1: Priorities for applied energy research in Germany and Austria

The first spotlight session of the workshop delved into the specific contributions of applied energy research in paving the way for climate neutrality with a focus on Germany and Austria. The presentations were followed by a breakout room exercise to favour an exchange among participants on the alignment of R&I priorities at EU and national level with local R&I needs.

Focus on Germany: Dr. Thomas Degner, Head of Department System Stability and Grid Integration, Fraunhofer IEE

The presentation highlighted innovations for grid-integration of wind and solar power systems in Germany. New challenges and changes needed to the energy supply system were analysed together with the German Grid Development Plan. More in details, grid-forming inverters were indicated as key enablers to increase the installed capacity of renewable energies and to achieve carbon-neutrality. Furthermore, the importance of power system studies was remarked to identify conditions and best practices to ensure a secure energy supply and the balance of generation and consumption (e.g. avoiding voltage, and loading oscillations, and ensuring power system stability against disturbances).

Focus on Austria: Michael Hübner, Strategic Coordination RTD Energy Transition

The presentation focused on innovation priorities for the energy transition in Austria. It emphasised the importance of transformative innovation policies that should be impact oriented, adaptive, far-sighted and should adopt a system approach. Additionally, an overview of thematic priorities such as digital transformation for the energy transition, energy conversion, storage, and efficient end use, was carried out, emphasising the role of energy system transition labs to validate close to real live applications. More specially, Austria's wide innovation network of Living Labs for integrated regional energy systems aims to validate prototype system solution into real life applications allowing concrete regional knowledge exchange.

Breakout Room Session 1: Exchanging views on the alignment of R&I priorities and local needs

After the first spotlight session, participants were divided into breakout rooms to exchange views on the alignment of R&I priorities with local needs. Attendees delivered insightful inputs and shared their firsthand experiences. Discussion results were reported on a synthetic sheet and presented in plenary. A brief recap of the insights emerged during the first breakout room session is presented below:

- **Aligning research and innovation priorities**



The participants across all breakout rooms were asked how the research and innovation priorities set at the EU, regional, and national levels could effectively be aligned with the specific needs and challenges faced by local communities. The discussion highlighted the following aspects:

- **Priority setting and harmonisation of funding schemes:** Potential strategies and solutions for incorporating local insights into R&I priorities were discussed, with a focus on a bottom-up approach to priority setting. Moreover, it was found crucial that funding schemes at both the EU and regional levels are harmonised. This alignment ensures that various funding sources can be combined effectively, thereby increasing the overall co-funding rate. Such an approach not only maximizes the impact of available financial resources but also supports comprehensive and sustained investments in innovative energy solutions.
- **Stakeholder engagement:** Participants emphasised the need for a broader stakeholder engagement in defining strategies, involving energy-intensive industries, network operators (both TSOs and DSOs), energy communities, NGOs, energy agencies, and SMEs. Through the involvement of these diverse stakeholders, strategies can be more inclusive and reflective of the broad spectrum of interests and expertise within the energy sector. Additionally, it was highlighted the need to assess and address regional and local barriers that could impede the implementation of R&I strategies. This includes identifying regulatory, administrative, and technological obstacles and possible solutions.
- **Facilitating collaboration and communication**

Participants were also asked about mechanisms or strategies which can facilitate greater collaboration and communication between policymakers, researchers, and local stakeholders in order to better align R&I priorities with local needs. The key takeaways of the discussion are presented as follows:

- **Funding distribution:** Participants were optimistic about the influence of Member States in defining calls under Horizon Europe, but also raised concerns about the unbalanced funding distribution for R&D projects focusing on specific energy aspects. In particular, it was pointed out that hydrogen does not receive sufficient financial support. Amongst the possible activities for energy stakeholders to influence the definition of budget funding frames, participants remarked the importance of meetings and networking opportunities, as well as the need for experts and associations to produce position papers that contribute to the definition of the research agenda. These measures were deemed important to ensure that critical areas receive the necessary support for advancement within the Horizon Europe framework.
- **Transition from research to innovation:** In bridge the gap between research and pilot implementation, it was suggested that funding calls should emphasize demonstration projects.
- **Local collaboration networks:** Participants spoke favourably about the Clean Energy Transition Partnership for bridging the gaps between national and EU level via mutual information and best practice sharing. They also emphasised the importance of local collaboration networks as demonstrated by the Mobility Lab Initiatives in Austria¹. These initiatives aim to test innovative technologies and solutions in real or realistic operations to achieve renewable energy management. The goal is to maximise the regional use of generated energy and ensure the participation of local actors in the value chain.
- **Policymakers' commitment:** Challenges linked with the commitment from policymakers and industry partners were addressed, suggesting that a dedicated budget might enhance engagement. This could support activities such as information dissemination and capacity building for policy makers to improve their understanding of R&I concepts and practices.
- **Communication of data:** Participants emphasised the need for greater attention to data sharing among policymakers, researchers and local stakeholder. They highlighted challenges such as data acquisition and cleaning, as well as issues related to accuracy.
- **Consistency for impactful outcomes**

The participants discussed the ways in which the consolidation of consistency between R&I priorities and local needs can lead to more impactful and sustainable outcomes for both research and innovation efforts and the communities they aim to serve.

¹ Austrian mobility labs website available at: <https://fti-mobilitaetswende.at/en/articles/mobility-labs/>



The conversation was centred on the benefits of striking a balance between R&I priorities and local needs for creating more impactful and sustainable outcomes. The participants agreed that a consolidated approach will ensure that research and innovation efforts genuinely serve the communities they aim to benefit. Additional inputs are reported below:

- **Knowledge sharing:** Participants were optimistic about the impact of the BRIDGE initiative and the European Research Area Networks (ERA-NETs) in enhancing knowledge sharing. They also highlighted the successful load-limiting approach of German living labs as a best practice. This approach aims to integrate users and actors to generate low-resource innovations in production and consumption systems. By implementing infrastructure support and actor-integrated sustainability research, this method promotes more resilient and sustainable communities.
- **Centralised platform for project showcase:** Participants advocated for the creation of a centralised platform for projects results and data consultation. With open access it should include a broad category of stakeholders and policymakers. The platform could serve as database for best practices and lessons learned consultation categorised by region and topic.
- **Involvement of local actors in R&I projects:** Lastly, to ensure consistent and impactful outcomes, participants called for the involvement of local actors in common R&I projects. To facilitate this involvement, changes in the framework of financing instruments (i.e., Horizon Europe programme) are necessary. Specifically, the aim should be making funding opportunities more accessible to local actors, ensuring their active participation and contribution to these projects.

These inputs suggest a multifaceted approach for aligning national and regional strategies, bolstering collaboration, as well as ensuring impactful and sustainable outcomes.

Spotlight Session 2: Applied energy research: Presentation of R&I projects and results in Austria

The second spotlight session, under the broader theme of “Applied energy research: paving the way for climate neutrality”, delved into actionable strategies and practical research that can promote the transition to a low-carbon energy landscape focusing on Germany and Austria. It showcased applied energy research initiatives and projects that contribute to the development and implementation of innovative technologies for clean energy and explored the role of research in overcoming technological barriers.

LI-SA research project: Dr. Diana Strauss-Mincu, Group Leader Grid Control and Dynamics, Fraunhofer IEE

The presentation, titled “Tools for on-line dynamic security assessment of low inertia power systems”, outlined recent changes in the energy supply system related to the power system operating closer to the limits of system stability, thus making it more difficult to predict grid operations. Within this new context, it arose the need for the development of assistance systems to enable safe and economical operation of interconnected grids with low inertia and a large proportion of renewable energies. The Low Inertia Security Assessment System (LI-SA) research project intends to develop monitoring methods for system stability and security assessment of low inertia power systems. The presentation delved into the status of the activities and the ongoing developments, concluding with exploitation prospects and scenarios of application.

Project 567: Clemens Korner, Austrian Institute of Technology

The second presentation focused on the methods and future scenarios for strategic grid development of low and medium voltage DSO supply areas. Project 567’s objectives include the development of future rollout scenarios of energy technologies and the definition of approaches for the determination of the future grid expansion demand. The project’s results include:

- Regionalised forecasts of future demand scenarios for electromobility, heat pumps, general load increase and generation scenarios for photovoltaics;



- Identification of the area effectiveness of various grid-related measures and of network efficiency-enhancing operating concepts.

Breakout Room Session 2: Lessons learned in the implementation of applied energy research projects and best practices

After the two presentations, participants were divided into breakout rooms to discuss and share lessons learned in the implementation of applied energy research projects and best practices. Attendees in all breakout rooms provided insightful feedback and shared practical experiences that are critical in optimizing R&I initiatives for applied energy. A brief recap of the insight emerged during the second breakout rooms session is presented below:

- **Key lessons from applied energy research**

Participants shared experiences, lessons learned, and outcomes from the implementation of applied energy research projects in the Central Europe region to provide informative insights for future energy R&I initiatives. The key takeaways are highlighted below:

- **Limited financial resources for pilots:** The participants expressed concerns about current financial resources allocated for piloting being not sufficient to ensure effective engagement of stakeholders. This emphasizes the need for appropriate funding mechanisms to enable pilot projects to fully involve key actors and achieve successful outcomes.
- **Post-project technology use:** The participants underscored the importance of clarifying roles and activities tied to technology use before the project end date. They noted that uncertainties over usage responsibilities can potentially impede the application and benefits of project outcomes.

- **Best practices in applied energy research**

Participants were asked to share examples of best practices in the execution of applied energy research projects in Central Europe and suggestions for their scale up in other regions. The following insight emerged from the discussion:

- **Re-use of existing pilots:** Attendees suggested, when feasible, to re-use pilots from previous initiatives, although this might not be feasible, especially when dealing with highly innovative technologies.
- **Co-creation process with end-users:** It was highly recommended the establishment of a co-creation process with end-consumers for the assessment of project objectives, the identification of technical and regulatory challenges, and the definition of the offerings to the users. Participants stressed the importance of designing easy-to-use solutions via a bottom-up approach.

- **Strengthening collaboration for greater impact**

Lastly, participants were engaged in a discussion on possible ways to strengthen collaboration between research institutions, industry partners, and local communities to enhance the impact and sustainability of applied energy research projects in Central Europe. The key takeaways are highlighted below:

- **Stakeholder engagement:** Participants stressed the need to limit the number of representatives from each category of stakeholder, suggesting a high number could hinder effective discussions. However, it was highlighted the importance of ensuring that each stakeholder gets the chance to voice their opinions.
- **Involvement of authority figures:** Participants indicated that it would be beneficial to invite specific authorities, such as energy agencies, to the discussions. Their involvement could aid in designing activities, identifying problems, and defining tailored solutions to meet specific needs and challenges.

The received inputs suggest an action-oriented framework that promotes active participation, efficient



utilisation of resources, and the creation of solutions. These elements are crucial for ensuring that R&I initiatives in the applied energy sector are more impactful and sustainable.

Conclusion

The event explored the diverse views on R&I priorities, mapping approaches and strategies adopted by the EU and identifying gaps with national and regional priorities. The importance of collaboration and knowledge sharing between national and regional initiatives on R&I implementation was emphasised.

Lastly, to continue the discussion on the future of energy systems, participants were invited to the next ETIP SNET Regional workshop focussed on Southern Europe region which will be held October 21st in Milan at PwC's premises.

