Michael Hübner

- Austrian Federal Ministry of Transport, Innovation and Technology Department of Energy and Environmental Technologies (Smart Energy Systems, Smart Grids)
- Co-Chair SET-Plan MS Working Group on SET-Plan Action 4-Energy Systems and Networks (SET-Plan Steering Group)
- Chair National Stakeholders Coordination Group "Smart Networks for the Energy Transition" (European Technology and Innovation Platform ETIP SNET)
- Coordinator ERA-Net Smart Energy Systems
- EXCO International Smart Grids Action Network (ISGAN) – a TCP of the International Energy Agency (IEA)

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The European Strategic Technology Plan

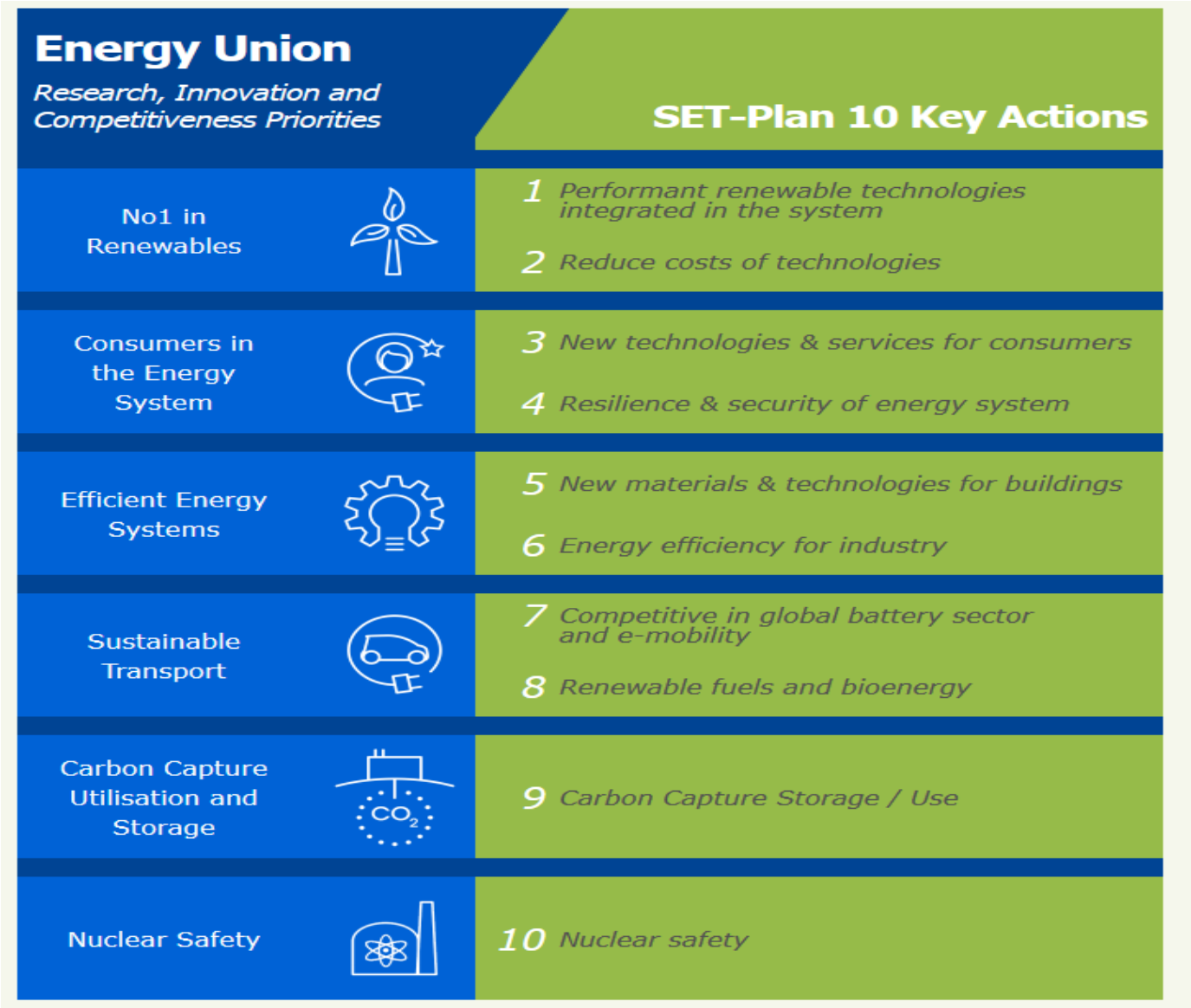
Strategic **E**nergy **T**echnology **Plan (SET-Plan)**

<u>The SET-Plan is the technology pillar of the EU's energy and climate policy</u>

The SET-Plan, adopted by the European Union in 2008, is a first step to establish an energy technology policy for Europe. It is the principal decision-making support tool for European energy policy, with a goal of:

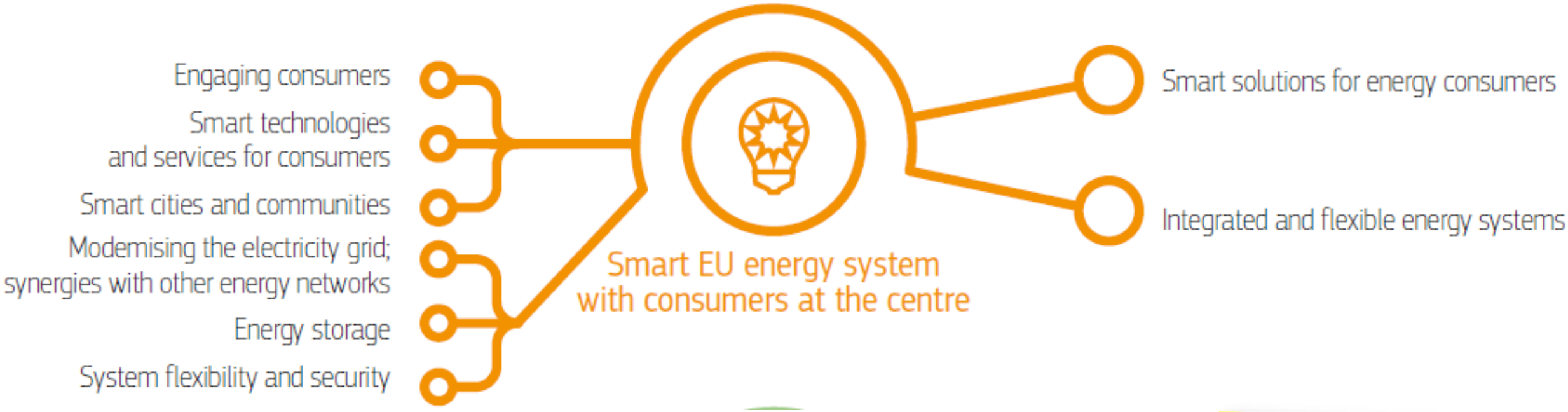
- Accelerating knowledge development, technology transfer and up-take;
- Maintaining EU industrial leadership on low-carbon energy technologies;
- Fostering science for transforming energy technologies to achieve the 2020 Energy and Climate Change goals;
- Contributing to the worldwide transition to a low carbon economy by 2050.

10 Key Actions of the SET – PLAN



- 10 Key Actions (2015)
- „Declarations of Intent“ (2016)
- Member States and Stakeholders

SET-Plan Action 4:
Energy Systems and Networks



Link:

SET-Plan Action 4

SET-Plan Action 4 - Landscape

European Commission

- EERA-JPs
- ETIP RHC
- ETIP PV
- ETIP Geothermal

ETIP SNET Governing Board

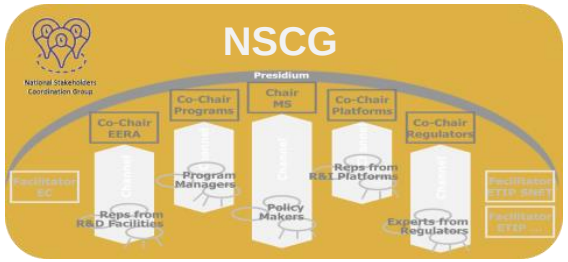
European Technology and Innovation Platform on Smart Networks for the Energy Transition

SET-Plan Steering Group (EC + MS)

- IWG
- IWG
- IWG
- IWG
- IWG
- MSWG A4

ETIP SNET Working Groups

NSCG



ERA-Net SES

- Smart Grids +
- RegSys

Stakeholders

- transnational
- national
- regional
- Industry
- reseach
- academia
- need owners

SET-Plan Action 4 Implementation Plan (1)

Published Jan 2018

Flagship Initiative 1: Develop an Optimised European Power Grid

Enabling the appropriate level of reliability, resilience and economic efficiency, while integrating variable renewables, such as wind and solar generation by providing increased flexibility thanks to innovative technologies enhancing customer participation, integrating better storage, making the best use of connections with other networks (e.g. heat and cold, transport) and optimising the use of flexible sustainable combined power and heat generation.

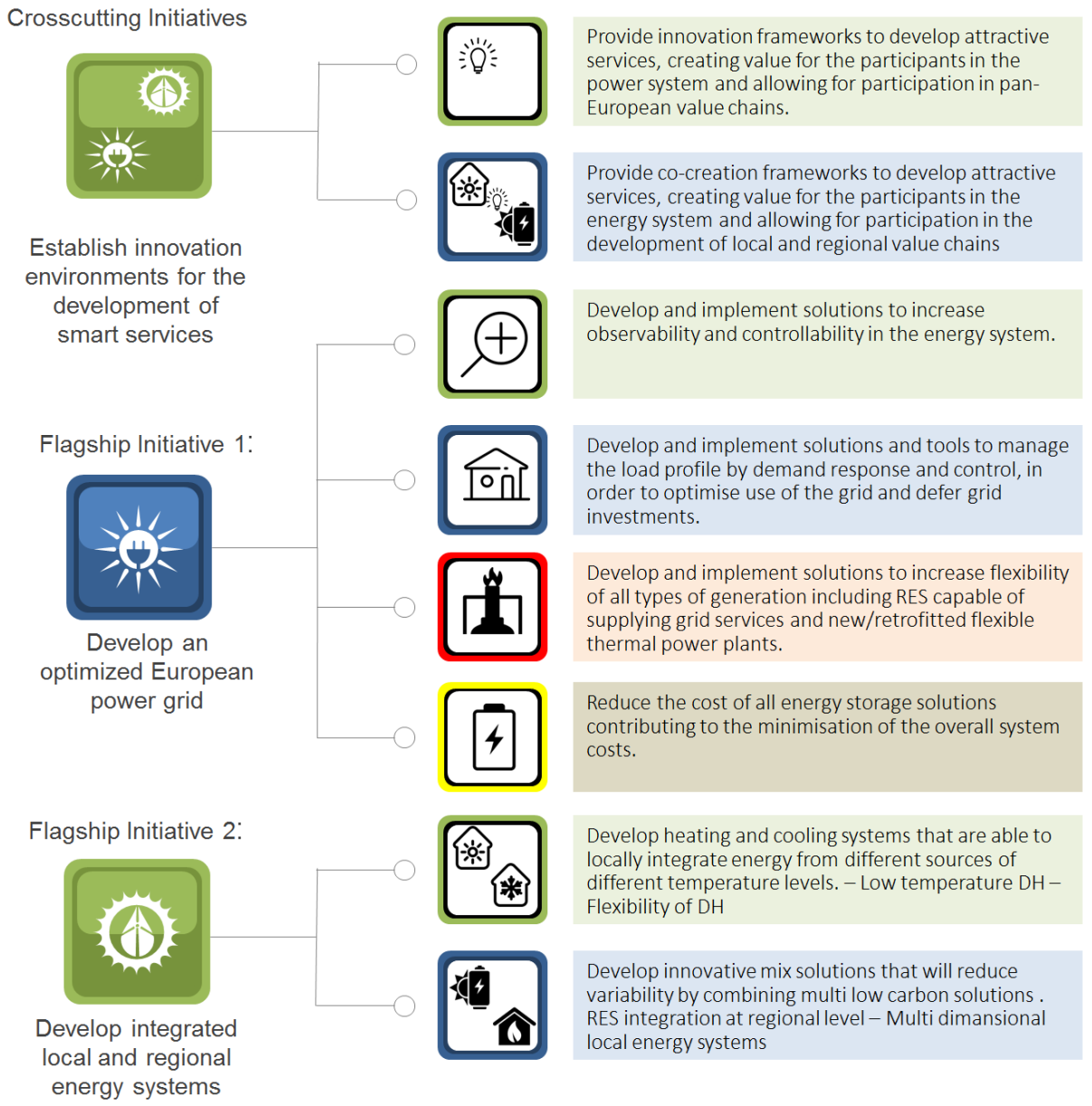
Link:
SET-Plan Action 4 Implementation Plan

Flagship Initiative 2: Develop Integrated Local and Regional Energy Systems

that make it possible to efficiently provide, host and utilise high shares of renewables, up to and beyond 100% in the local or regional supply by 2030, enabling regions and local communities to realise their high sustainable energy ambitions. They shall provide tailor-made solutions that meet the local and regional requirements and demand. At the same time they shall link to a secure and resilient European energy system, enabling the participation in inter-regional exchange of energy as well as in sharing responsibility to maintain the overall system, considering a sustainable use of local and global resources.

SET-Plan Action 4 Implementation Plan (2)

Innovation Activities



Link:

SET-Plan Action 4 Implementation Plan

Innovation Action A4-IA2.2-5 (I)

Families of Living Labs to Develop Technology- Service Systems for Direct Use of PV Energy on an Aggregated Level of Multi Family Buildings, Districts or Communities

Optimizing direct consumption of PV energy on an aggregated level of multy family buildings, districts or communities can be seen not only as a starting point for business model development, but also for mobilizing flexibility potentials for power grids, integrating the end user. It is expected, that synergies can be leveraged by aggregation of users and assets. At the same time, the development of comprehensive technology-service systems for potential procurers (communities, property developers, building managers, …) is complex. Economic potentials and opportunities for the energy systems often are not exploited.

Innovation Action A4-IA2.2-5 (II)

Families of Living Labs to Develop Technology- Service Systems for Direct Use of PV Energy on an Aggregated Level of Multi Family Buildings, Districts or Communities (cont.)

Solutions will have to provide a sufficient service-depth in order to meet the actual demand of potential procurers and users, leveraging on the opportuities provided by digitalisation. They will have to be able to integrate regional optimization goals (of users and operators of the technology-service systems) as well as overarching system- optimization goals (contribution to system control, flexibility potentials, etc.). In order to reach critical scale, they shall be ready to be effectively implemented under actual framework conditions (technologies, business processes, legal and contractual issues, licences, etc.)

Innovation Action A4-IA2.2-5 (III)

The overall goals of this activity are:

- Facilitate the development of such comprehensive technology-service systems that enable optimized direct consumption of PV energy on an aggregated level of multy-family buildings, districts or communities,
- Provide innovation ecosystems, in which potential procurers and providers work together in co-creation processes in order to develop and test prototypes under real-life or close to real-life-conditions.
- Leverage on the opportunities provided by digitalization and enable sustainable business models by promoting trans-regional platform solutions.

Innovation Action A4-IA2.2-5 (IV)

Description of RD&I or Programming Activities

- Coordinate and link living labs on national or regional level that facilitate an innovation ecosystem for the development and testing of prototypes
- Share real-live (or close-to-real-live) development and test environments, in which technology-service systems and their components (energy management systems, business processes and platforms, etc.) can be developed and tested.
- Connect those to networks of procurers, that gather potential buiers and users of the solutions at an early stage, in order to help to understand the needs and requirements
- Develop and implement methodologies and tools to enable effective co-creation of "need owners" (potential users and procurers) and solution providers (involvement, building competences, working methods, etc.)
- Develop and implement dynamic decision support models that enable optimization among different ways of utilization of produced PV energy (direct use, storage, provide grid and system services, trade, etc.) under actual and upcoming legal and regulatory framework conditions (EU Winterpackage).
- Link those living labs to the European knowledge base in this field of Smart Energy Systems (e.g.: ERA-Net SG+ Knowledge Community)

Innovation Action A4-IA2.2-5 (V)

Joint Initiatives

JI-1: Create a transnational platform for living labs

facilitate the sharing of test invironments

facilitate the sharing of co-creation methods and tools

facilitate the knowledge exchange across different legal, cultural and technical environments

JI-1: Start a transnational initiative with the living labs to co-create with need owners and solution providers

Provide information about technical and legal possibilities as well as already existing practical examples for potential procurers and customers (communities, building operators, etc.)

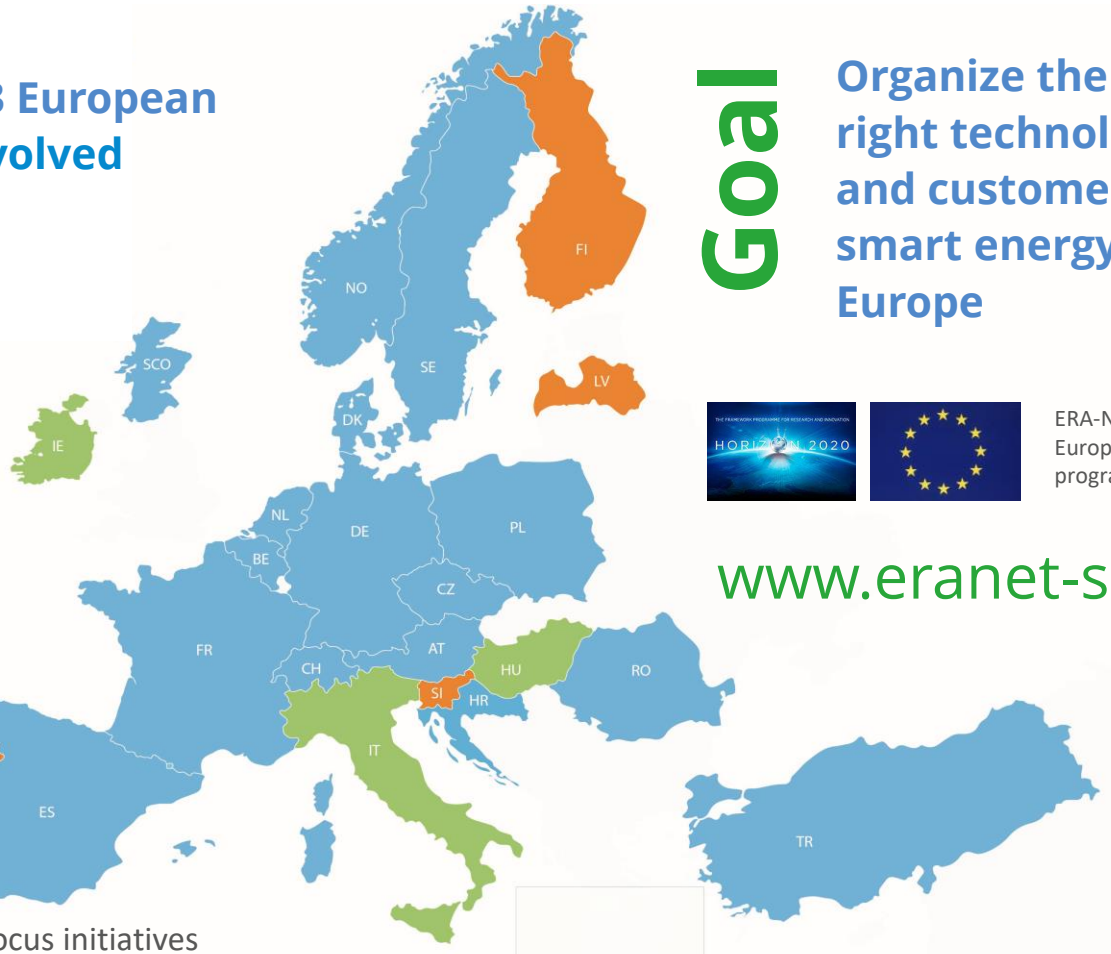
Develop standardised need profiles ("what do people dream of")

Joint Programming Platform
ERA-Net Smart Energy Systems

Joint Programming for Flourishing Innovation from Local and Regional Trials towards a Transnational Knowledge Community

30 **funding partners from 23 European countries and regions involved**

Austria, Croatia, Denmark, Finland, Flanders, France, Germany, Hungary, Ireland, Israel, Italy, Latvia, Lombardy, Norway, Poland, Portugal, Romania, Scotland, Slovenia, Spain, Sweden, Switzerland, The Netherlands, Turkey, Wallonia



both focus initiatives
focus initiative „Integrated Regional Energy Systems“ (RegSys) only
focus initiative „Smart Grids Plus“ (SG+) only

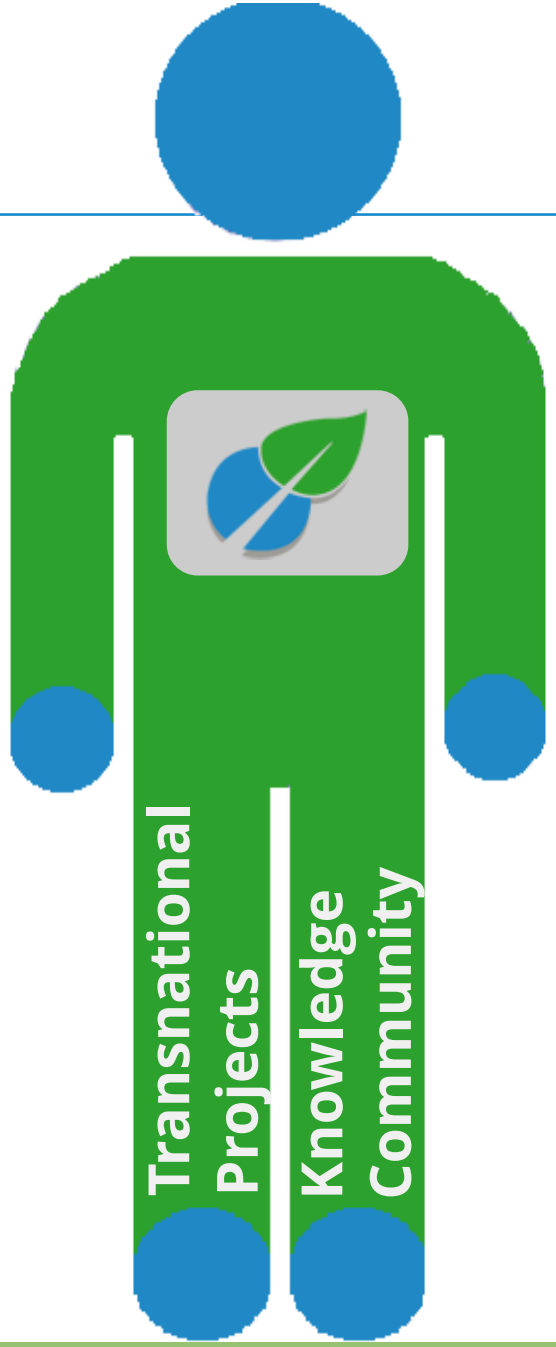
Goal

Organize the learning to enable the right technologies, market designs and customer adoption to achieve the smart energy system vision & goals of Europe

ERA-Net Smart Energy Systems has received funding from the European Union’s Horizon2020 research and innovation programme under grant agreement No 64603 and No. 775970.

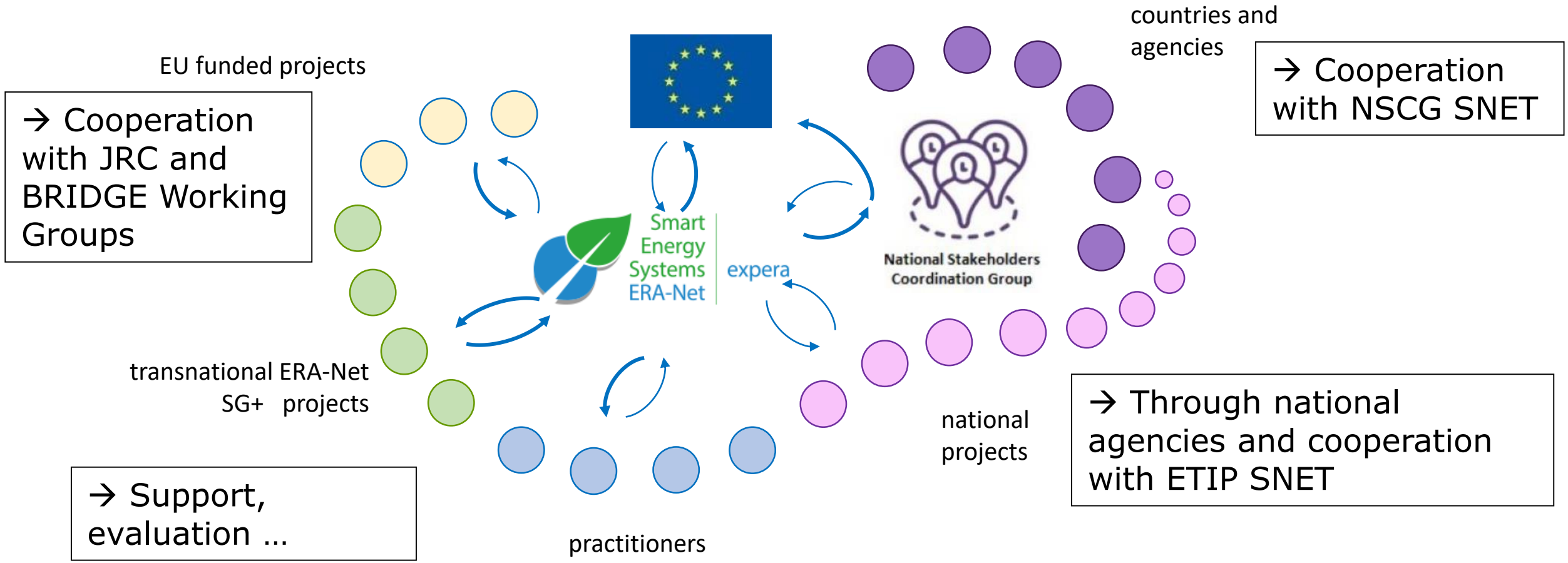
www.eranet-smartenergysystems.eu

Walking on two legs



- Transnational Projects
  - national funding with EU top-up funds
  - selected in ERA-Net Calls
  - communication and evaluation by Support Team
- Knowledge Community
  - from and for the ERA-Net SG+ projects
  - national and international experts
  - unique networking and knowledge base

KNOWLEDGE COMMUNITY LINKING THE WORLDS



- Registered Members: 372
  - Experts: 277
  - Followers: 82
- Projects in repository: 206
  - **import of project passports**
  - ERA-Net SG+ projects: > 20
  - Important EU projects: > 20
  - National projects > 150
    (mainly CH and DE)
  - (JRC database to be imported : > 1.000)

- Living Documents: 46 of 60 chapters born
- Members registered for WGs: 73
  - System Architecture & Modelling: 36
  - Regulatory & Market Development: 26
  - Consumer & Citizen Involvement: 28
  - Storage and Cross Energy: 30
  - Interoperability & Standardisation: 36

Numbers as of February 2017

DIGITAL EXPERA PLATFORM AS WORKSPACE

Smart Energy Systems ERA-Net

BROWSE PAGE

EDIT EXPERT PROFILE CONTACT TERMS OF USE IMPR

Smart Energy Systems ERA-Net | expera

LIVING DOCUMENTS RESULTS WORKING GROUPS PROJECTS EXPERTS EVENTS NEWS SETPLAN A4 ENERGIE & IKT EXCHANGE

REPOSITORY FOR GENERAL NSCG AND SET-PLAN DOCUMENTS

REPOSITORY FOR WG 4 SPECIFIC DOCUMENTS

EDIT LINKS

Workspace for national stakeholders and SET Plan Action 4

This section of expera serves as a work space for the member states led activities in SET-Plan Action 4 – Energy Systems. Particularly it provides a repository and living document for the SET-Plan Steering Group Temporary Working Group for Action 4 (TWG A4) as well as for the National Stakeholder Coordination Group (NSCG). This page and all its sub-pages are only accessible for registered members of TWG A4 and NSCG. The maintenance of this workspace within expera is provided by the Austrian Ministry of Transport, Innovation and Technology (bmvit) in the course of its co-chairmanship of the TWG A4 and chairmanship of the NSCG.

Repository for NSCG SNET
Repository for TWG A4

Implementation Plan TWG A4

Living Documents:

Chapter 1,2: Intro & Overarching Goals
Chapter 3: Innovation Targets
Chapter 4: Elaboration on Innovation Targets
Chapter 5: Overview of the Proposed Innovation Activities

Annex 1a: Innovation Activities IA0 - "Crosscutting Activities"
Annex 1b: Innovation Activities IA1 - "Develop an Optimised European Power Grid"
Annex 1c: Innovation Activities IA2 - "Develop Integrated Local and Regional Energy Systems"
Annex 2: Stakeholder Declaration
Annex 3: Countries and Stakeholders
Annex 4: Ongoing R&I Activities

Link to SET-Plan Action 4 Workspace

Print this page

Important Links

SET-Plan (EC)
SET-Plan Action 4 (SETIS)
SET-Plan A4 Implementation Plan online
ETIP SNET
ERA-Net Smart Energy Systems

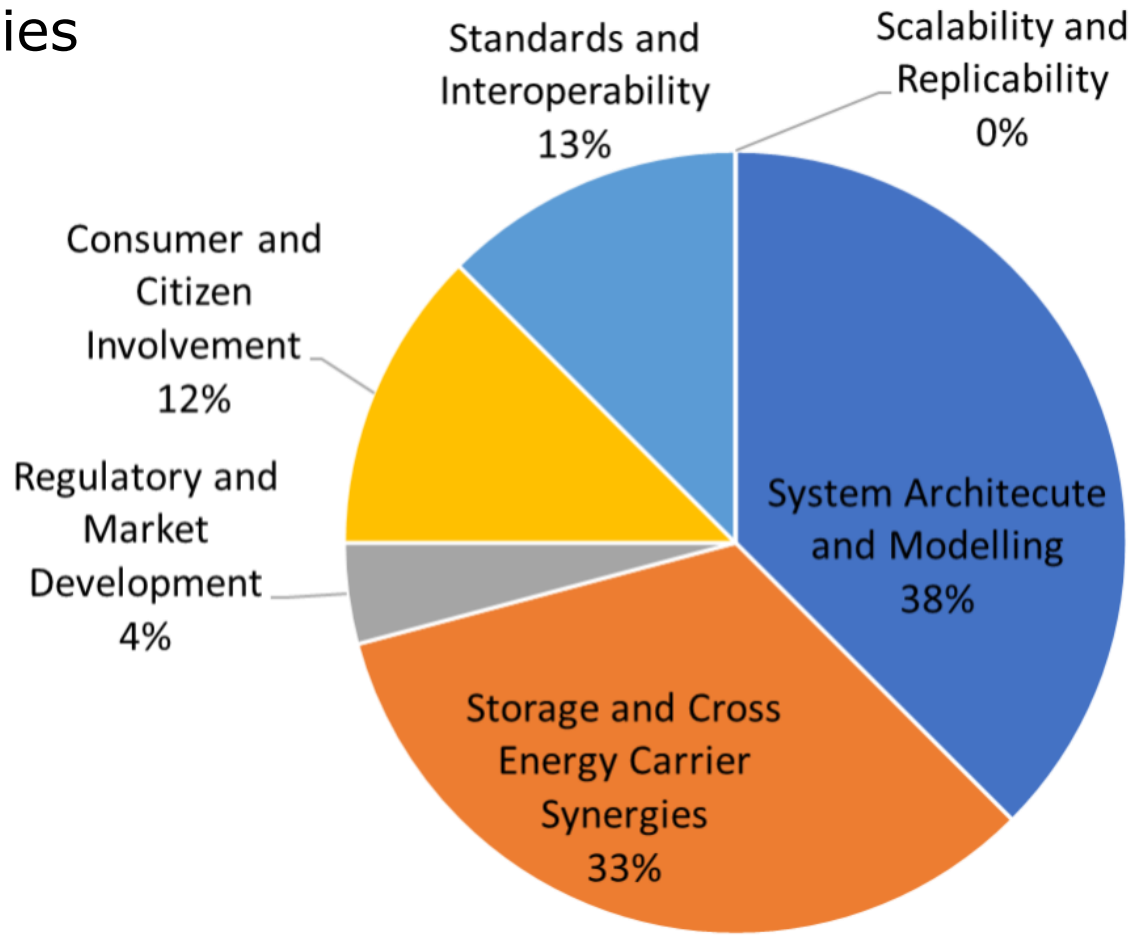
https://expera.smartgridsplus.eu/

LIVING DOCUMENTS

- System Architecture and Modelling
- Storage and Cross Energy Carrier Synergies
- Consumer and Citizen Involvement
- Regulatory and Market Development
- Standards and Interoperability
- Scalability and Replicability

- 10 chapters („questions“) each
- consolidated knowledge
- process to discuss with experts

Contributions to Living Documents



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Knowledge Community
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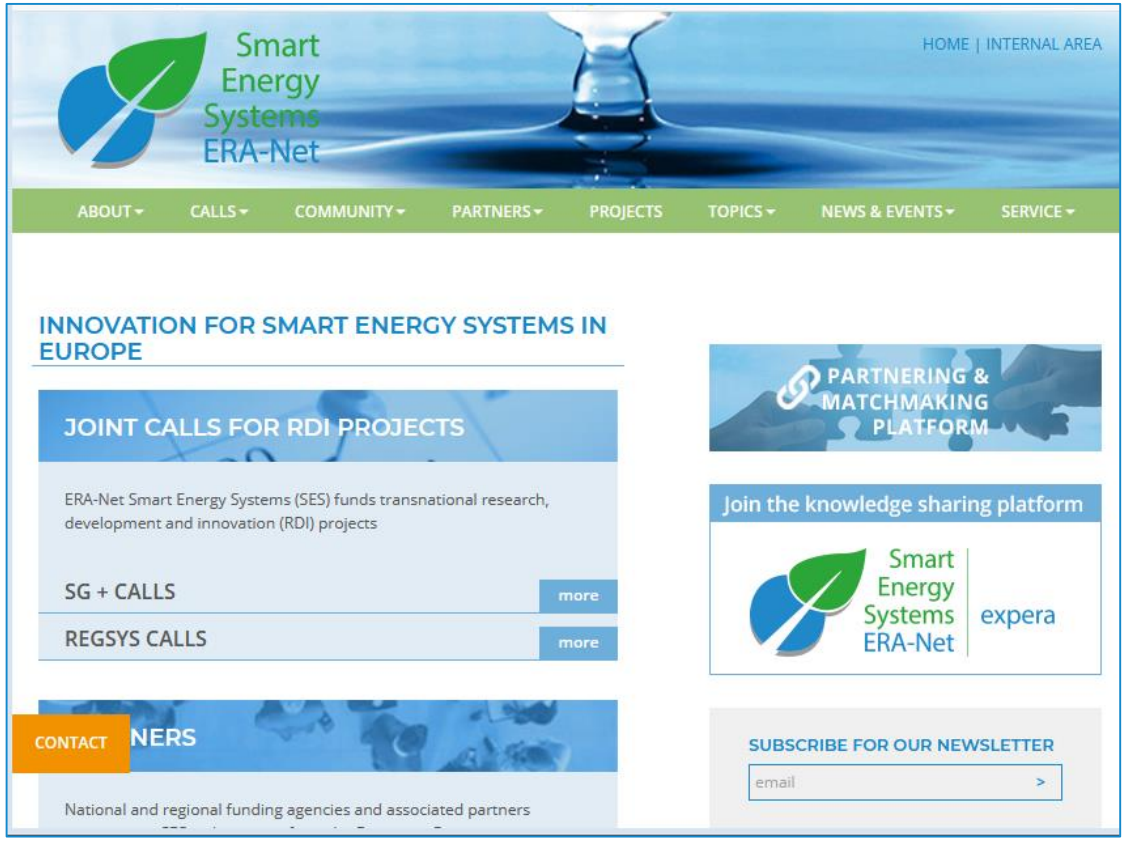
Twitter: **https://www.linkedin.com/in/michael-huebner-bmvit/**



Funding Partners

FCT Fundação para a Ciência e a Tecnologia

FFG

Federal Ministry for Economic Affairs and Energy

bmvit Bundesministerium für Verkehr, Innovation und Technologie

seai Sustainable Energy Authority of Ireland

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

ADEME Agence de l'Environnement et de la Maîtrise de l'Energie

Fond za zaštitu okoliša i energetsku učinkovitost

National Research, Development and Innovation Office Hungary

Ministero dell'Istruzione dell'Università e della Ricerca

klima+ energie fonds

TÜBİTAK

ptj Projektträger Jülich Forschungszentrum Jülich

Ministry of Energy www.energy.gov.il

Ministerio de Economía, Industria y Competitividad

CDTI Centro para el Desarrollo Tecnológico Industrial

Flanders Innovation & Entrepreneurship

Flanders State of the Art

NWO Netherlands Organisation for Scientific Research

Regione Lombardia

Ministère de l'Environnement, de l'Énergie et de la Mer

EUDP Energiteknologisk udvikling og demonstration

Tekes

uefiscdi

Wallonie énergie SPW

Scottish Enterprise

The National Centre for Research and Development

Ministerul Educației Naționale

The Research Council of Norway

Innovation Fund Denmark

Swedish Energy Agency

Republic of Slovenia Ministry of Infrastructure

Smart Energy Systems ERA-Net

This initiative has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements no. 646039 and no. 775970.

MISSION INNOVATION Austria Week & Conference

MI Austria Week: **6.-10. Mai 2019**
many parallel tracks

MI Austria conference: **Thur, 9. Mai**
High Level: Minister, Mission Innovation Chair, European Commission, …..