

CET Partnership

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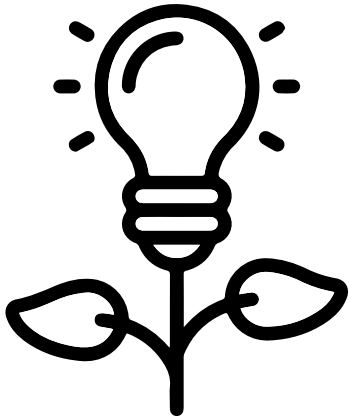
CETPartnership Joint Call 2022 Info Day 1

13 September 2022





The CETPartnership ...



- enables more than **50 national and regional** RTDI programme owners and managers from more than **30 countries** to align their priorities
- **pools** national and regional **RTDI funding**
- initiates and **funds transnational RTDI projects** for a broad variety of technologies and system solutions required to make the transition
- **empowers the clean energy transition** and contributes to the EU's goal of becoming the first climate-neutral continent by 2050

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30+ Countries

EU Member States
+ Associated Countries
+ International Partners

50+ Funding Partners

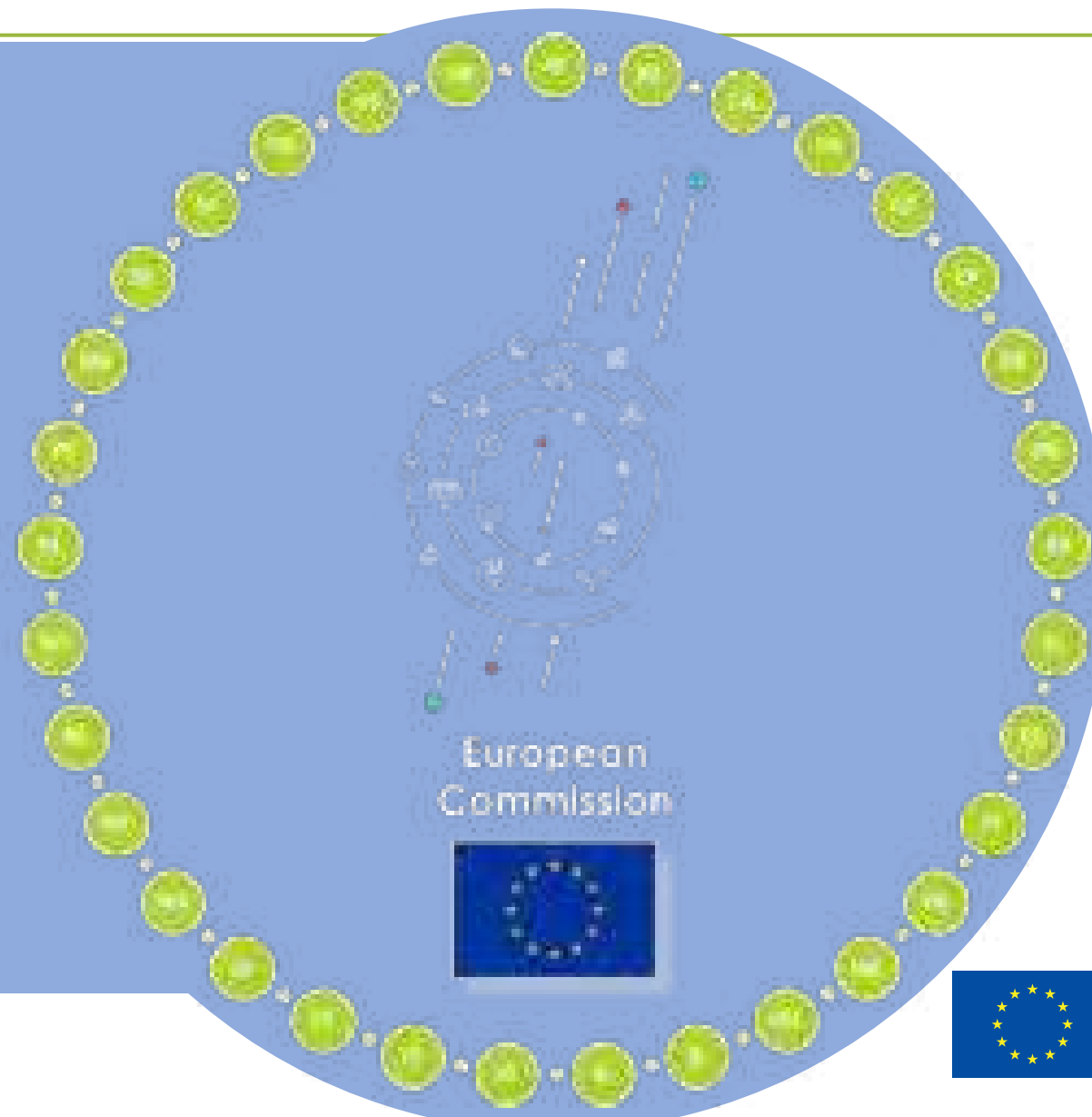
Funding Agencies
& Ministries

13 Coordination Units

Coordinators:
Austrian Ministry of Climate Action
Swedish Energy Agency

Annual Joint Calls for RTDI Projects

100 – 130 Mio €/a
2021 - 2027



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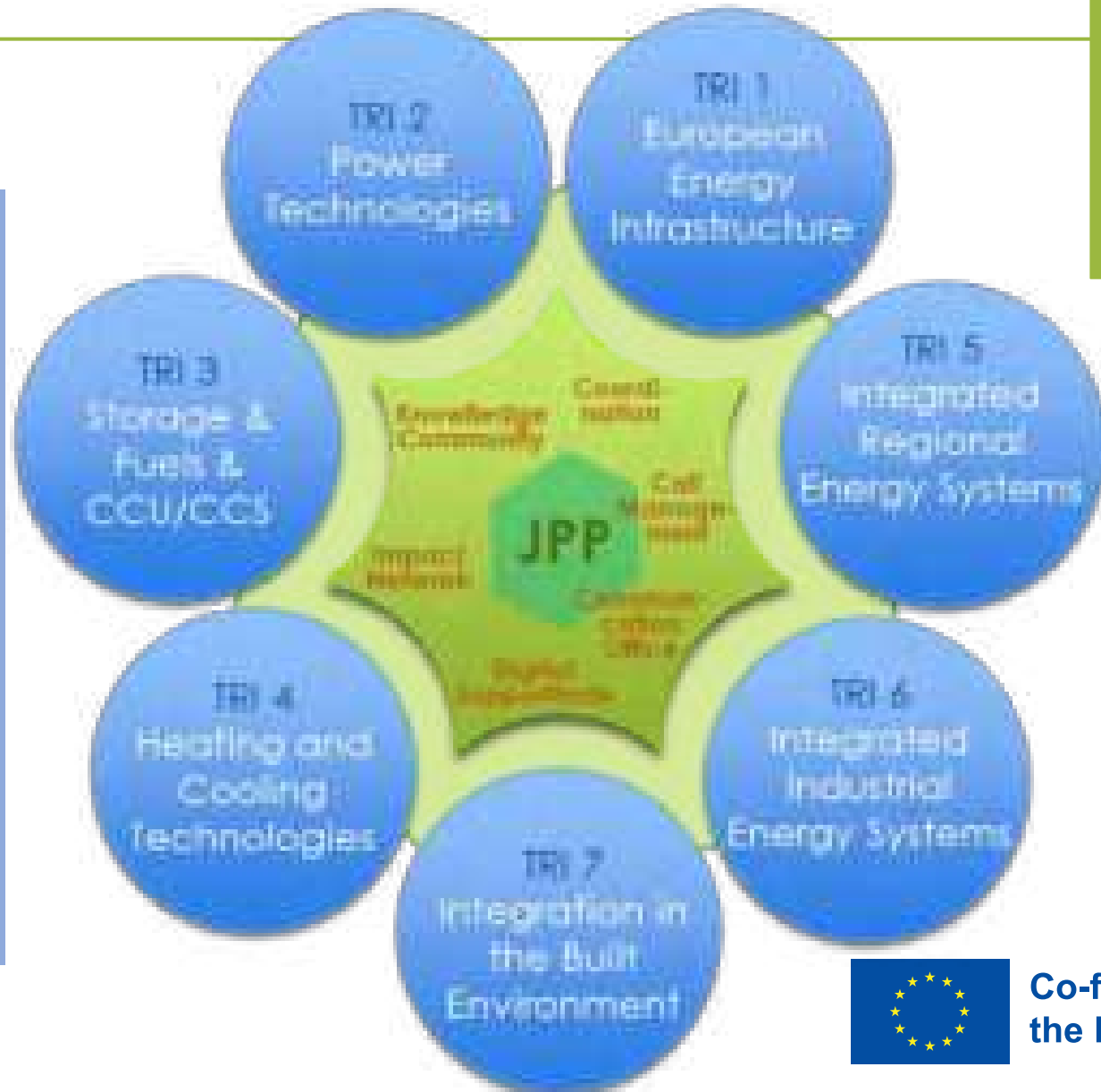
A Joint Programming Platform

7 Thematic Families
(Transition Initiatives)

1 Joint Call each year
(Varyity of Topics - Call Modules)

1 Knowledge Community
(incl. Crosscutting Aspects)

1 Impact Network
(From Project to Impact)



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What lies ahead



The CETPartnership will **foster transnational innovation ecosystems** from the very local and regional level, up to the transnational European level, thus overcoming a fragmented European landscape.

Moreover, it intends to reach out to collaboration with funding partners **beyond Europe**, in order to broaden the knowledge and experience bases and introduce European solutions and stakeholders to the global value chains.

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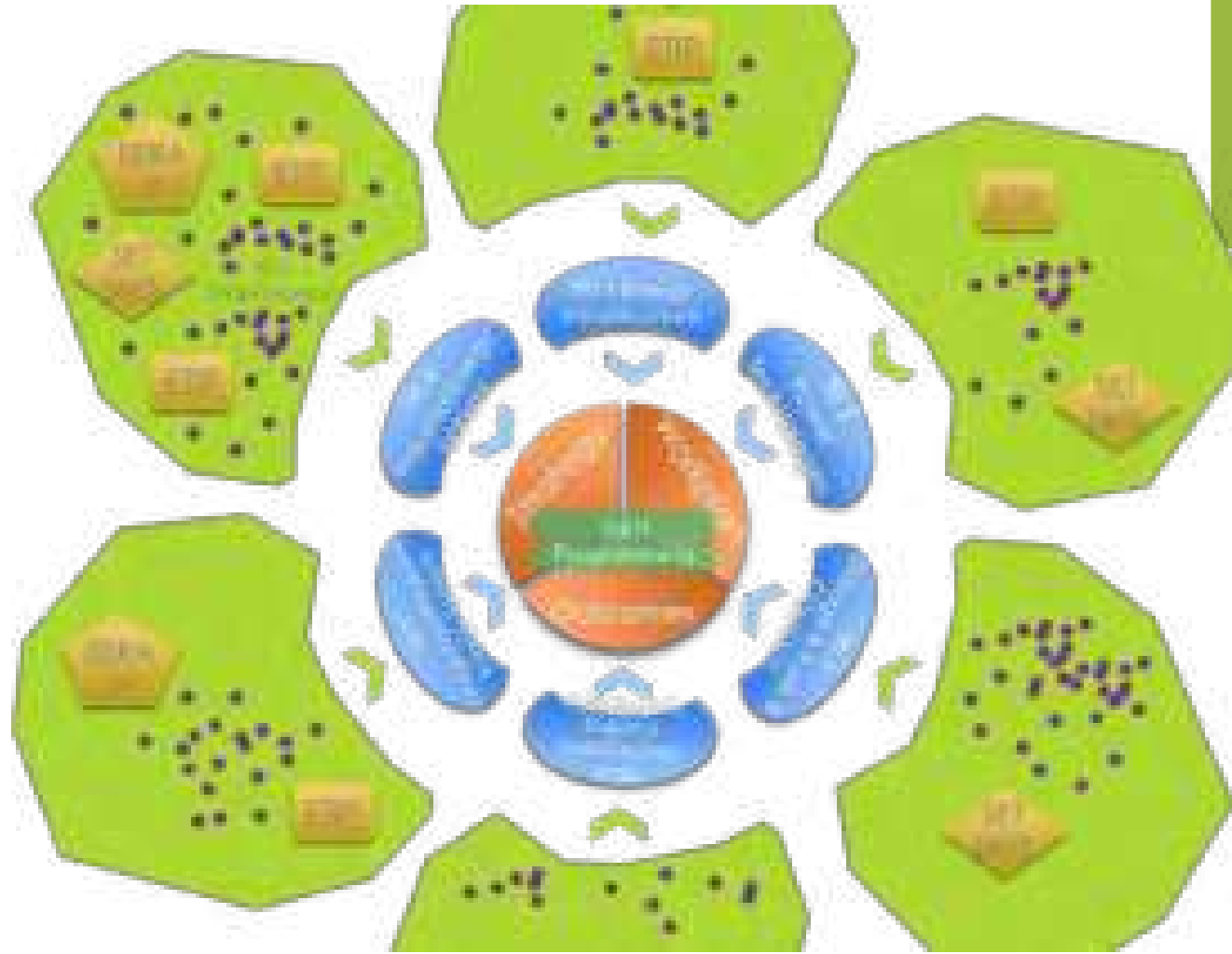
Linking ...

National & Regional
Innovation Stakeholders and
Need Owners

SET-Plan Initiatives

Other European Partnerships

Global RDI Networks



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Where does the CETPartnership come from?

- Builds on **15 years of transnational cooperation** in 9 energy relevant ERA-Nets
- Build up of **trust and established practices** in:
 - conducting joint calls,
 - monitoring progress,
 - sharing data, information and knowledge beyond the projects
 - deducing strategic knowledge,
 - maximising the impact of funded projects and their established European and international relationships



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**Based on an integrative
Strategic Research
and Innovation Agenda**



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5 (+9) SRIA Input Papers developed in 5 clusters:

- Renewable Technologies;
- Heating and Cooling Solutions;
- System Integration;
- Storage and Fuels
- Crosscutting Issues

More than 200 experts from

SET Plan Implementation Working Groups Bioenergy and Renewable Fuels, Concentrated Solar Power, Deep Geothermal, Energy Efficient Buildings, Energy Systems, Industry, Ocean Energy, Offshore Wind Energy, Smart Energy Consumers, Solar Photovoltaic

ERA-NETs ACT, BEST, Bioenergy, Concentrated Solar Power, Demo Wind, GEOTHERMICA, OCEANERA-NET, Smart Cities, Smart Energy Systems, Solar-ERA.NET who participated in the Stakeholder Dialogues, the Input Paper Editors of the

European Technology and Innovation Platforms (ETIPs)

European Energy Research Alliance (EERA)

Member States and Associated Countries



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Join the network by submitting a good project proposal !

Michael Hübner
Austrian Ministry of Climate Action
CETPartnership Coordinator

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TRIs and
call
modules

What is a TRI?



The Transition Initiatives (TRIs) are **thematic configurations** of CETPartnership funding partners in order to work together on a specific **Strategic Research and Innovation Agenda (SRIA)** Challenge.

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TRIs

The CETPartnership has established the following **7 TRIs** which address the seven CETPartnership RTDI Challenges as described in the Strategic Research and Innovation Agenda (SRIA). Each of the TRIs is led by one of the CETPartnership partners, known as the TRI Lead.



TRI 1: Integrated Net-zero-emissions Energy System

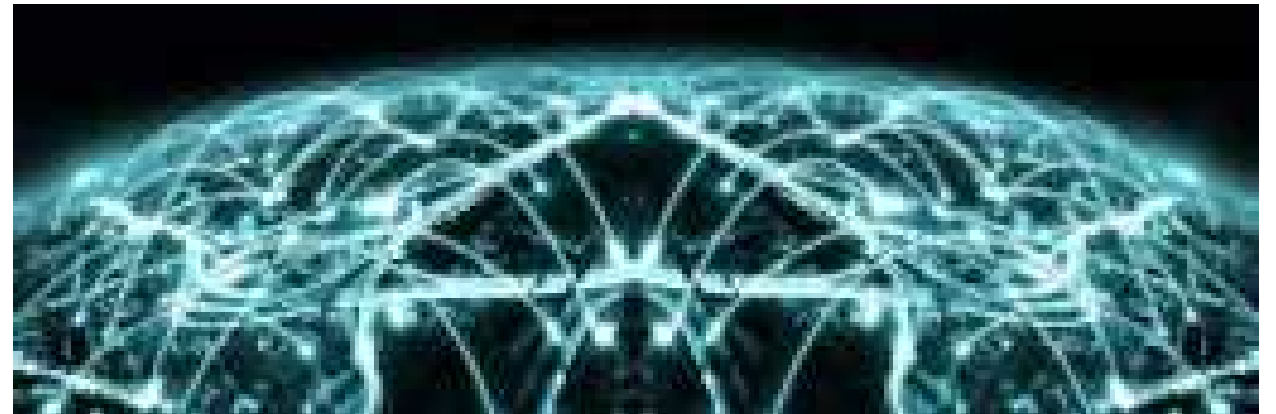
The main objective of TRI 1 is to **develop the optimised, integrated European net-zero emissions energy system**, where electricity distribution and transmission grids are seen as the “backbone” of the future low-carbon energy systems with a high level of integration among all energy carrier networks, by e.g. coupling electricity networks with gas, heating and cooling networks, supported by energy storage and power conversion processes.

TRI 1 Lead

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TRI 1 Office

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The objective of this Call Module is to foster the development and use of the tools, methods, and advanced modelling necessary to plan and operate future integrated energy systems enhancing inclusiveness, sustainability and resilience.

Expected outcomes



- tools for **planning under high uncertainty** conditions using stochastic and risk-management approaches and considering both external threats (climate change, cyberattacks, etc.) and internal threats (equipment failures, market disruptions etc.)



- frameworks to **connect bottom-up national modelling exercises to consistent European model results**, including cross-border energy flows, and selecting consistent transnational, transregional and beyond Europe scenarios



- tools based on **new computational technologies** (e.g. quantum computing) to address holistically an energy system with multi-vector integration



- modelling and simulation tools for **new market and regulation design** to ensure efficient operation of the integrated system and efficient investment decisions



- tools and **energy-economy models** to tackle the impacts of targeted transition policies on the rest of economy, in line with the **Just Transition Mechanism (JTM)** of the European Green Deal



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The objective of this Call Module is to develop, design, test and demonstrate advanced inclusive, sustainable and resilient technologies, systems, control mechanisms and solutions to efficiently manage high shares of renewables in the European system at distribution and transmission level by 2030 and a high level of seamless integration of different energy vectors and networks.

Expected outcomes



- **increase RES hosting capacity** of distribution systems, improving grid controllability and forecasting tools



- increase generators capability to ensure **network balancing** needs, through faster switch in/out and ramping up/down



- demonstrate the role of **large-scale and distributed energy storage** (electricity, thermal, synthetic liquids, hydrogen, etc.)



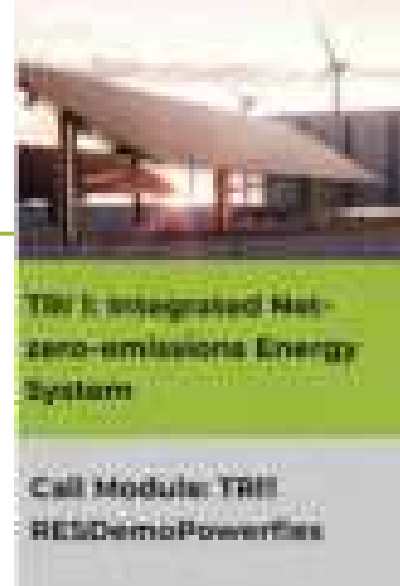
- develop and test solutions to **unlock industrial processes flexibility potential**



- quantify and optimize the impact of **EV interaction** with the grid



- demonstrate the ability of providing management of flexibility by **cross-energy vector coordination** including various P2X, X2P



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TRI 1
Presentation
event

To discover more about TRI 1 Call Modules



Join TRI 1 Presentation Event (online)

September 22nd

09.30-12.30 CET

Need-owners and experts will take part to the event and will provide information about the state of the art and the paths we need to take.

TRI 5: Integrated Regional Energy Systems

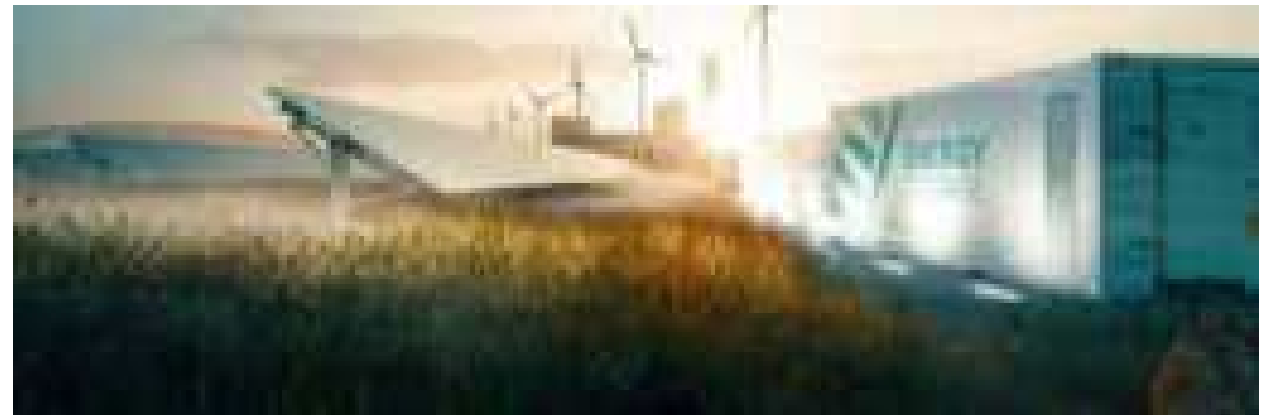
The main aim of TRI 5 is to **develop and validate integrated regional and local energy systems**, that make it possible to efficiently provide, host and utilize high shares of renewables, up to and beyond 100% in the dynamic local or regional supply by 2030. Such systems shall provide tailor-made solutions that meet the individual regional and local requirements and demand.

TRI 5 Lead

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TRI 5 Office

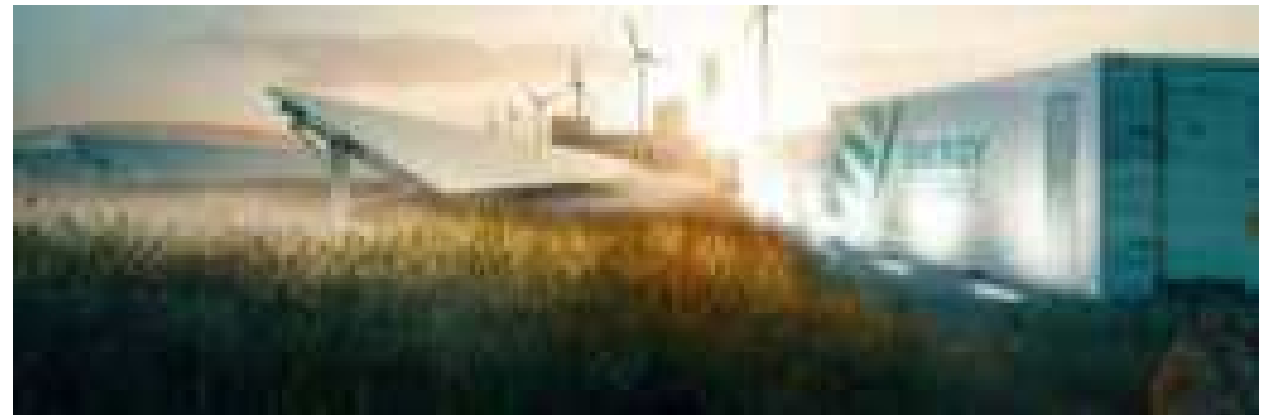
TRI5@CETPartnership.eu



TRI 5: Integrated Regional Energy Systems

The main aim of TRI 5 is to **develop and validate integrated regional and local energy systems**, that make it possible to efficiently provide, host and utilize high shares of renewables, up to and beyond 100% in the dynamic local or regional supply by 2030. Such systems shall provide tailor-made solutions that meet the individual regional and local requirements and demand.

By “region” we mean the cluster represented by assets and actors of the local economy and community that can contribute to the energy exchanges and flows.



Scope

TRI 5

A crucial corner stone for this call module is that relevant local and regional stakeholders (need owners) have a central role in the problem definitions and in the implementation of the project. The anticipated Innovation is required along the following three dimensions:

- Smart Energy Integration
- Cross Sectoral Integration
- Innovation Ecosystem and integration with local and regional development

Integrated approaches, involving cross-sectoral and interdisciplinary proposals

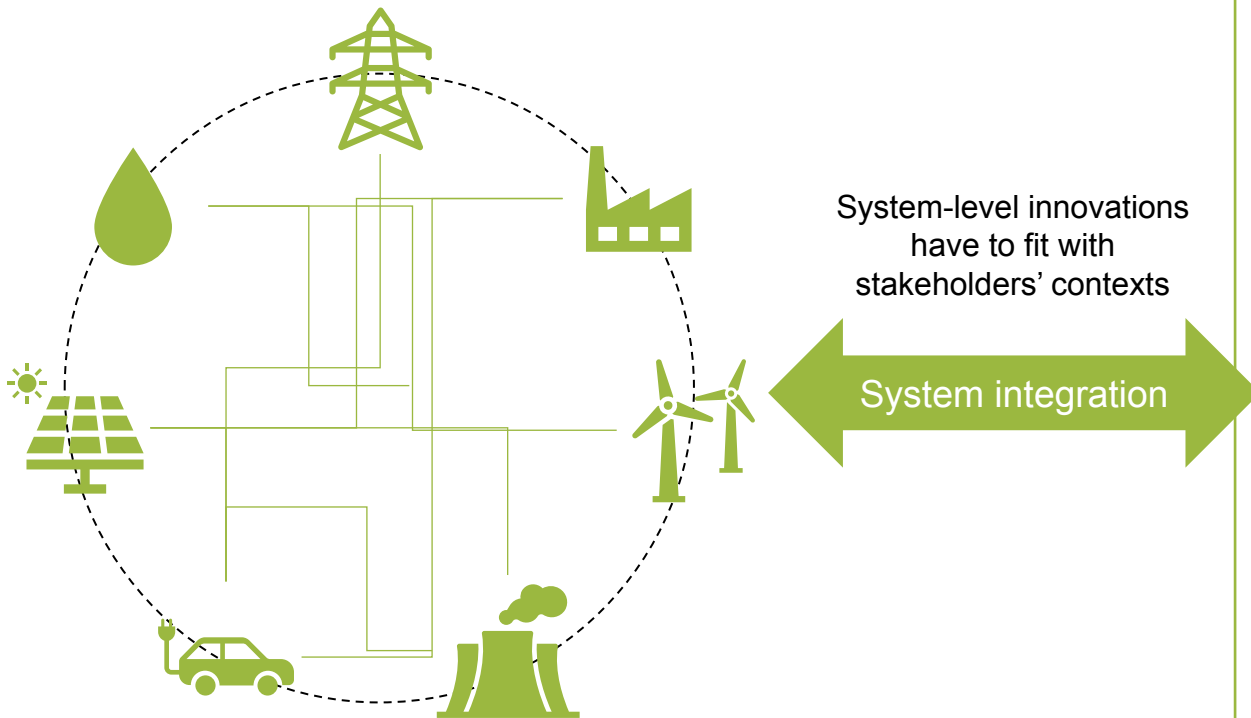
- The why's (Stakeholder/adoption) – overcoming: why do or don't we do it?
- The how's (Goods and Services, e.g. context as market and regulation)
- The what's/which's (Technology, infrastructure)

TRI5 relation to TRI1

TRI 5

TRI 1 – Integrated energy system

Energy system at the center
Top-down perspective on infrastructures and toolbox



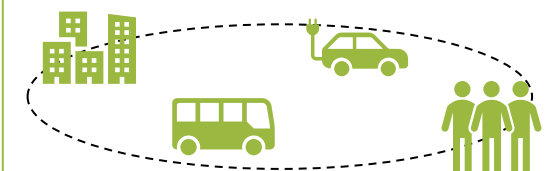
TRI 5 – Integrated local energy systems

Stakeholder challenges at the center
Bottom-up perspective on local dimension and assets

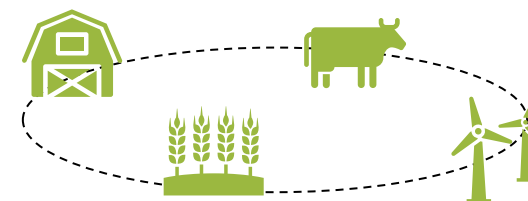
Industrial area



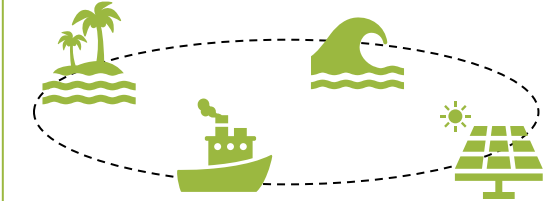
Urban area



Country area



Island



Objectives for the Joint Call Module

TRI 5

- To support development of model solutions with new innovations, knowledge and competence for integrated local and regional energy systems.
- To demonstrate how stakeholders, regulation and markets enables various technologies on different levels to work together in an integrated system.
- The development of regional and local energy systems should be orchestrated within a large framework to reach the maximum impact so that all relevant stakeholders of the local communities and regions such as municipalities, clusters, ecosystems and programs, SMEs, infrastructure providers and operators, crafts, etc., but also the global innovation ecosystems (cluster networks, start-ups networks, etc.) are involved



Expected Impact

TRI 5

- Successful projects in this module are expected to contribute both to specific regional and local energy- and climate objectives, at the same time having a larger energy system relevance. As such project results need to contribute to:
 - Replicable and scalable model solutions as well as tools and guidelines for replicable innovation processes, where innovation is on a system level
 - Demonstrating integration or coupling of different energy sectors
 - Solutions that stimulate decentralized and distributed ways to create local and regional value
 - Further innovation that is happening in an evolutionary and social process
 - More active engagement of diversified stakeholders in the local and regional context
 - Demonstrating to citizens the importance of regional energy infrastructure as a key enabler for the energy transition

Target Groups

We are looking for projects that are driven by the local and regional need owners and that collaborate in close connection with relevant research organizations as well as solution providers from public and private sector.

- Local and regional authorities, stakeholder groups, aggregators
- Need owning private and public companies, institutions and citizens, especially involving diversified stakeholders intending to implement innovative and cross sector integrated solutions
- Solution providers (technology product and system developers, service providers etc.)
- R&D institutes, local and regional innovation clusters, programs and ecosystems, technology transfer agencies, and so forth;
- The innovation supportive culture, which enables both firms and systems to evolve over time.

Projects should reflect in a balanced way the needs of the particular region of interest and cover as many areas of the target groups as possible. Furthermore, the consortium should be able to successfully and independently implement the outlined exploitation plan after the end of the project.

TRI 2: Enhanced zero emission Power Technologies

TRI 2's Mission is to **develop a pool of zero-emission power technologies and solutions based on Renewable Energy Sources** as the backbone of the future energy system, being able to deliver carbon-neutral electricity accessible to all and to contribute to the resilience of the system.

TRI 2 Lead

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TRI 2 Office

Rachele Nocera (MUR, IT)
TRI2@cetpartnership.eu



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TRI 2

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TRI 2 Call Modules

2.1: Advancing RE technologies for power production through cost reduction

2.2: Breakthrough R&D to increase RE power technologies efficiency

TRI 2 Contribution to CETPartnership objectives

- **Support breakthrough R&I related to the broad portfolio of renewable energy power technologies** that are at the core of the clean energy transition, with a focus on wind, ocean, marine and solar technologies, contributing to achieve the EU target of - 55% emissions by 2030, and minimizing the environmental and social impact
- Accelerate clean energy technology development and transition to widely decarbonized energy systems through demonstration and innovation in technology development, integration and system change
- Build an innovation ecosystem that fosters capacity building at all governance and actor levels, faster market diffusion, upscaling and replication and enabling of the clean energy transition

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Call Module 2.2

Advancing RE technologies for power production through cost reduction

TRI2 Call Module 2.1 scope

The call module addresses the strategic Challenge of **performance and technology development** (efficiency and cost) of **RES**

In principle, open to all the broad portfolio of RE zero-emission technologies in TRI2's scope, but specific focus is on power production technologies such as **onshore and offshore wind, ocean and other offshore renewables and floating RES, solar energy (PV and STE-CSP)**



TRI 2: Enhanced zero-emission Power Technologies

Call Module: TRI2
Advancing RE technologies for power production through cost reduction



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TRI2 Call Module 2.1 Objectives

The Call Module 2.1 addresses the technological, environmental, social and economic challenges required to accelerate renewable energy technologies development.

Projects must address **one or more of the following objectives:**

- Reduce the LCoE by decreasing the cost per unit of power (CAPEX = Euro per kW installed capacity)
- Demonstrate the reliability of a scale up or an increase of the power unit with a positive impact on LCoE

or

- Increase overall efficiency (at the system level) reducing the LCoE



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TRI2 Call Module 2.1 specific Objectives

Projects need to further address at least one of these objectives:

- Demonstrate the reliability of devices in real environmental conditions, also through de-risking strategies (e.g. digital twin approaches, intermediate scale prototypes in relevant conditions)
- Increase flexibility of applications and demonstrate the technology in different locations or in different weather conditions, including extreme weather and therefore increase the market dimension

Projects shall also take into due account the following cross-cutting dimensions):

- Reduce environmental impact and/or use of soil/surface/maritime space and/or demonstrate the possibility to efficiently couple with other renewable energy production
- Reduce/minimize the use of critical raw materials (CRM) in the whole life cycle and/or increase lifetime
- Enhance social acceptance



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TRI2 Call Module 2.1 Expected Impact

The main expected outcomes are the scale up of innovative RE technologies and the reduction of costs (CAPEX and LCoE); the diversification and increase of applications and an increased sustainability, so to support competitiveness, market uptake and deployment.

More specifically, projects shall contribute to:

- Reduce the cost of RE technologies both in terms of CAPEX and LCoE
- Scale-up or increase reliability and efficiency through technology development of (primarily) components or at system level
- De-risk innovative RE technology applications, e.g. through demonstration of applications in extreme conditions or widening application in different weather/geographical conditions
- Minimize environmental impacts and/or increase social acceptance and sustainability.



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TRI 2 Call Module 2.1 Primary Target R&D areas

- **Concentrated solar Power (CSP):** development of turbomachinery for the specific condition of CSP and use of more efficient medium and conversion technologies for energy storage in CSP; reduce component prices (receiver collectors) and increase high temperature performances for centralised plant
- **Photovoltaics:** development of efficient modules for PV; decrease cost of high-performance panels, foil modules; increase lifetime and reliability
- **Wind** (onshore and offshore): Novel wind turbine system design; optimization, scale up and increased lifetime of onshore and offshore wind turbines; technologies and systems for cost efficient repowering of existing wind farms.
- **Ocean Energy:** scale up and validation of ocean energy technologies (wave, tidal, OTEC) in real sea conditions; optimization of components and system
- **Offshore and inland water renewables** (including floating PV): demonstration of optimized plant design and/or foundation, connection and mooring for all offshore and inland water technologies; increase experience in real sea conditions of offshore renewable technologies, and develop solutions for coupling different RE sources in off shore and inland water basins.



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TRI 2 Call Module 2.1 specific requirements

Target groups

Consortia shall include RPOs (Universities, Research and Technology Organizations) and at least 1 industrial partner. The participation of industry is a requirement.

Participation of industry organizations and other relevant up-takers, in Advisory Boards or as Project Partners is an asset

Target TRL

Proposals shall target TRL 6 or above at the end. Activities with lower TRL levels may be included if they contribute to the higher TRL goal of the project

Additional project requirements

Projects are expected to request a grant close to 4 M€ (not prescriptive)



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Call Module 2.2

Breakthrough R&D to increase RE power technologies efficiency

TRI2 Call Module 2.2 Scope

The call module addresses the strategic Challenges of **performance and technology development** (efficiency and cost) of RES.

The call module is, in principle, open to all the broad portfolio of RE zero-emission technologies in TRI2's scope, but specific focus is on power production technologies such as onshore and offshore **wind, ocean and other offshore renewables, solar energy (PV and STE-CSP)**



TRI 2 Enhanced zero-emission Power Technologies

Call Module TRI2
Breakthrough R&D to increase RE power technologies efficiency



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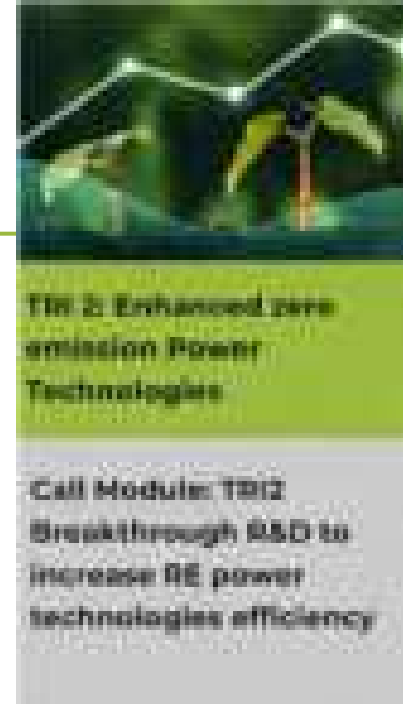
TRI2 Call Module 2.2 Objectives

Projects shall address **one or more of the following objectives**:

- Increase the conversion of energy to power and/or technology performance and/or lifetime by use of new materials,
- Develop innovative components ensuring higher efficiency
- Increase the efficiency and reliability of the energy transfer/conversion technology towards power production
- Develop modelling approaches and features able to increase system energy efficiency

Projects shall also address sustainability aspects as cross-cutting dimensions (cf. chapter 4.2):

- Reduce environmental impact (e. g. land use, effects on animal life) or significantly improve multiple use of occupied land surface / or maritime space
- Minimize the use of critical raw materials (CRM) and apply circularity-by-design approaches

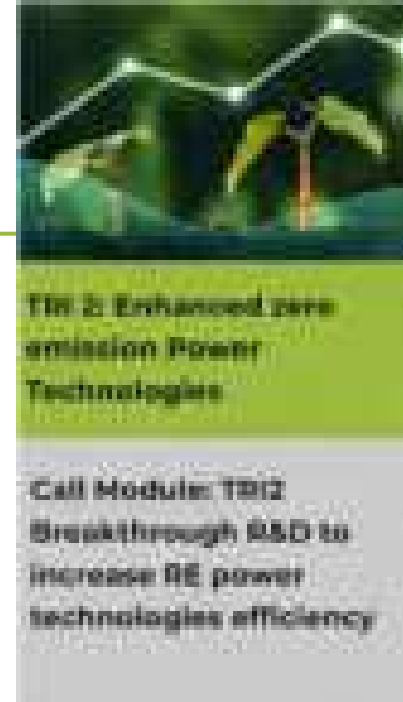


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TRI2 Call Module 2.2 Expected Impact

The main expected outcomes and impacts are:

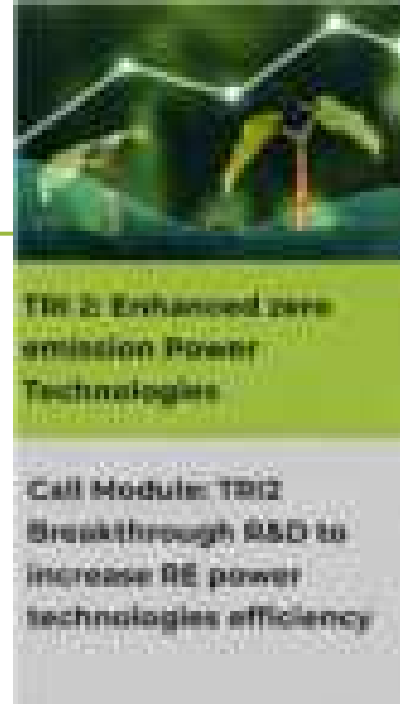
- the development and validation in relevant environment of breakthrough innovative solutions for increasing the overall efficiency and reliability of renewable power production and the conversion to power of different renewable sources by innovative solutions, at a component or system level, that can strengthen the EU leadership in enhanced renewable technologies
- minimizing the environmental impact by decreasing the consumption of scarce resources, e.g.: critical raw material or soil/surface use; and contributing to social acceptance
- accelerating time to market by contributing to overcome the barriers in the first part of the technology death valley thanks to strong transnational collaboration in the framework of the CETPartnership



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TRI2 Call Module 2.2 Primary Target R&D areas

- **CSP:** development of components and conversion systems for high efficiency CSP plant
- **PV:** development of cell based on new materials: hybrid tandem, thin film tandem or other breakthrough technologies for use in different applications
- **Ocean Energy:** development of novel ocean energy devices (PTO, components, subsystems); development of other ocean energy technologies (OTEC / Salinity gradient)
- **Wind** (onshore and offshore): Improving the understanding of atmospheric and wind power plant flow physics for designing novel wind turbine systems
- **Offshore renewables:** development of wind or PV floating systems; design of innovative solutions for coupling different RE sources.



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TRI 2 Call Module 2.2 specific requirements

Target groups

Call Module 2.1 targets consortia comprising complementary RPOs (Universities, Research and Technology Organizations).

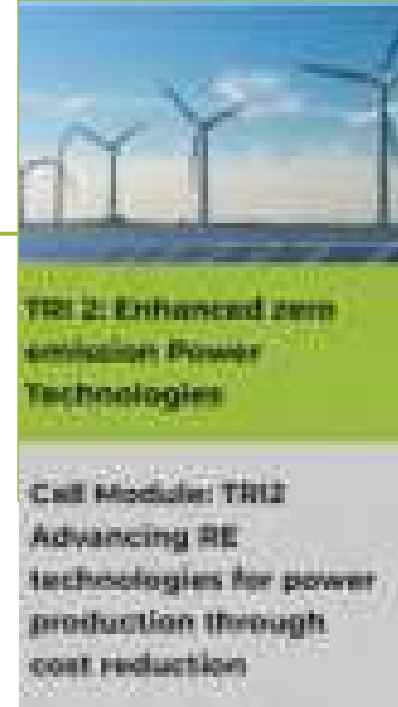
Participation of industry, of industry associations and other relevant stakeholders, as well as regional/local governments, NGOs and/or Consumer Associations in Advisory Boards or as Project Partners is an asset

Target TRL

Call Module 2.1 supports projects aiming at achieving Technology Readiness Level (TRL) 4 or above

Additional project requirements

Projects are expected to request a grant of indicatively 1.5 M€ (not prescriptive)



TRI 7: Integration in the Built Environment

TRI 7 mission is to **provide solutions and technologies for existing and new buildings to become an active element in the energy system**, with enhanced capability to produce, store and efficiently use energy in the residential and non-residential sector, comprising public and commercial buildings, service and mobility infrastructure buildings, etc.

TRI 7 Lead

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TRI 7: Integration in the Built Environment

TRI 7 should become a main link between TRIs focused on technology, real users and policy makers. The TRI will put in place solutions coming from other TRIs and generate own solutions for specific building technologies. Participation in knowledge co-creation, impact networks and call definition with these TRIs will be part of the daily work.

- ▶ Integrate renewable energy conversion technologies for power, heat and cold in buildings. Connect the buildings in networks. Integrate energy storage, zero emission fuel, and activate building parts as energy storage. (Measures contribution to CO2 reduction, and renovation of building rates).
- ▶ Digitalization for planning, construction phase, commissioning, operation and disposal. Methods of building performance assessment.
- ▶ Application and demonstration of outstanding concepts for transfer intensification. Organise experimental facilities and low regulation zones. Power-to-X , sharing infrastructures, novel concepts.
- ▶ Integrated approach, societal, economy, architectural, urban planning and transport sector issues. Synergies with widespread of energy communities, positive energy districts and climate neutral cities policies. New markets for active windows, façade elements, roof tiles, sun-shading units, etc.

TRI 7: Integration in the Built Environment

Approach

Challenges covered by the SRIA

2 Call modules per expected TRLs at the end of the project

- ▶ 1 - RIA (Research and Innovation Action) TRL 3-6: R&I in clean energy integration in the built environment
- ▶ 2 - IDA (Innovation and Demonstration Action) TRL 5-9: Solutions to energy transition in the built environment

Integration in the built environment / focus on application

Inclusive regarding areas 1 and 2 + Cross cutting issues

Different building contexts

- ▶ Existing and new buildings
- ▶ Residential (urban, rural, isolated) and non-residential buildings (large public and private buildings, commercial malls, service and mobility infrastructures, logistics platforms such as ports airports , railway terminals, roads, large parking areas).
- ▶ Old, historical and special buildings.
- ▶ Different climate and geographical areas

TRI 7: Integration in the Built Environment

1 - R&I in clean energy integration in the built environment

2 – Solutions to energy transition in the built environment

Identify the foreseen application(s)

Prove and evaluate the application(s)

Technical content / scope

- ▶ Two challenges (developments in integration, storage and conversion of renewable energy in the built environment and digitalization in all the building life cycle) and cross cutting issues.
- ▶ Proposals shall cover solutions for one or several points in the two proposed challenges. The challenges are non-exclusive. Solutions can address parts of one challenge or parts of both challenges.
- ▶ All the proposals shall analyse the cross-cutting issues, identify which are applicable and elaborate the inclusion of those in the proposal.

TRI 7: Integration in the Built Environment

Technical content / scope

- ▶ **Challenge 1** - Integrate renewable energy conversion technologies for power, heat and cold in buildings. Connect the buildings in networks. Integrate energy storage, zero emission fuel, and activate building parts as energy storage. (Measures contribution to CO2 reduction, and renovation of building rates)
 - ▶ PV integration in buildings (including semi-fabricates): module installation, structural, thermal and functional integration, aesthetics solutions, power management, safety, operations and management, maintenance, decommissioning
 - ▶ Integration of solar thermal in buildings and nZEB/Passive-house concepts, combination with other solutions in hybrid products and the use of enablers of sector coupling including improvements at component level.
 - ▶ Integration/use of Biomass and bio-derived energy vectors (even the generation of biomass within the building skin ...
 - ▶ Solutions for optimization and integration/use of local thermal resources like geothermal resources or excess/waste industrial heat in buildings
 - ▶ Integration of new methods for the energy exchange with the electrical grid, including in-building energy generation, storage and active-buildings concept

TRI 7: Integration in the Built Environment

Technical content / scope

- ▶ **Challenge 1** - Integrate renewable energy conversion technologies for power, heat and cold in buildings. Connect the buildings in networks. Integrate energy storage, zero emission fuel, and activate building parts as energy storage. (Measures contribution to CO2 reduction, and renovation of building rates)
 - ▶ Active facades: solar thermal, BIPV, hybrid PV, switchable windows, switchable thermal insulation and their system integration
 - ▶ Seamless integration of renewable energy technologies in the urban environment, building integrated PV, several types of storage solutions, CHP technologies on fossil-free gaseous fuels (H or synthetic gases, thermochemical Solar fuels, electrochemical Solar fuels) for historic integration districts or hard-to-retrofit buildings in the energy systems.
 - ▶ Create climate-neutral buildings or building environment blocks that generate integrated electric and thermal energy systems, with increased use of local renewables, as well as generate local support (citizens and professional stakeholders) to reach sustainability in the long term.
 - ▶ Include not conventional low temperature sources (data centres)

TRI 7: Integration in the Built Environment

Technical content / scope

- ▶ **Challenge 1** - Integrate renewable energy conversion technologies for power, heat and cold in buildings. Connect the buildings in networks. Integrate energy storage, zero emission fuel, and activate building parts as energy storage. (Measures contribution to CO2 reduction, and renovation of building rates)
 - ▶ Decentralized storage tanks in buildings for thermal flexibility.
 - ▶ technologies for non-residential air-conditioning and ventilation
 - ▶ “Sector coupling “by means of combined heat and power plants, fuel cell heating and powering, heat pumps, Power-to-X etc.
 - ▶ Large building (malls, terminals, parking area, building services) energy production and storage systems integration for efficient energy production and uses.
 - ▶ Grid-serving operation; Tapping the flexibility potential of buildings
 - ▶ Integration of electricity and heat storages; integration of mobility concepts
 - ▶ Building-to-Building energy and active buildings concepts. Aggregation of energy services and energy traceability

TRI 7: Integration in the Built Environment

Technical content / scope

- ▶ **Challenge 2** - Digitalization for planning, construction phase, commissioning and operation. Methods of building performance assessment. (Measure carbon-neutral building stock).
 - ▶ Smart decision tools to evaluate the optimal technology choices in energy generation and management
 - ▶ Active management of energy consumption and production in buildings and energy flows between buildings and the energy system (span across energy vectors, increase flexibility and reduce peak loads)
 - ▶ Flexible energy planning tools and standardized packages for policy making regarding energy choices taking into account local factors, sector coupling, etc.
 - ▶ Development of solar cadastres to assess the generation potential of solar energy from the scale of single buildings to energy districts and metropolitan/regional areas. The cadastre might also be linked to a database of suitable technologies to be ranked according to the specifications of the installation site..

TRI 7: Integration in the Built Environment

Technical content / scope

- ▶ **Challenge 2** - Digitalization for planning, construction phase, commissioning and operation. Methods of building performance assessment. (Measure carbon-neutral building stock).
 - ▶ Digitalization of in-building energy management by considering internal energy production and storage as well energy traceability for building-to-building energy flows and active buildings by smart contracts (span across energy vectors, increase flexibility and reduce peak loads).
 - ▶ Flexible energy planning tools and standardized packages for policy making regarding energy choices taking into account local factors, sector coupling, etc. Regulatory sand-boxes for testing proof concepts for the next generation energy market.
 - ▶ Development of solar cadastres to assess the generation potential of solar energy from the scale of single buildings to energy districts and metropolitan/regional areas. The cadastre might also be linked to a database of suitable technologies to be ranked according to the specifications of the installation site.

TRI 7: Integration in the Built Environment

Technical content / scope

- ▶ **Challenge 2** - Digitalization for planning, construction phase, commissioning and operation. Methods of building performance assessment. (Measure carbon-neutral building stock).
- ▶ Digitalisation in district heating and cooling networks: large scale collection data located throughout the DHC production, transport, distribution and users chain, machine learning for optimal control of the network and support the analytics intended to maximize use of RES and residual heat to reduce the operational costs.
- ▶ Built infrastructure as part of a local/regional decentralised energy system with consumer, prosumer and energy communities.
- ▶ Contribution to open platforms for sharing data and models in support of the energy transition for research-based knowledge.

TRI 7: Integration in the Built Environment

Technical content / scope

- ▶ **Challenge 2** - Digitalization for planning, construction phase, commissioning and operation. Methods of building performance assessment. (Measure carbon-neutral building stock).
 - ▶ Building Information Modelling (BIM) from the cradle to the grave including life cycle analysis. Offer circular-oriented services at different levels of the Construction and Demolition Waste (CDW) supply/value chain. Against the background of rising ecological pressure and threatening scarcity of primary raw materials, demolition has a fundamental role to play in the circular economy (CE) and global decarbonization of the Construction sector, as a source of valuable CDW-originated materials and components that can be effectively recycled or reused into new built structures
 - ▶ Open source, standardized open interfaces for easy data exchange; big data and open databases
 - ▶ Smart tools for Smart Homes + smart buildings with the aim that buildings become active elements in the power supply system (and maybe also in a heat network – if present)

TRI 7: Integration in the Built Environment

Technical content / scope

► Cross cutting issues

- Integrated approach considering societal, economy, architectural, urban planning and transport sector issues.
- Synergies with widespread of energy communities, positive energy districts and climate neutral cities policies.
- Needs of users have to be taken account for: issues of acceptance, participatory approaches to support the complex transformation processes, new ways of living and working, demography, urban-suburban relationships and sustainable mobility etc. Furthermore, the impact on rent pricing, affordable construction prices, comfort or also user data privacy have to be considered.
- Safety and security (cybersecurity, privacy, data protection, data rights) by design intended to generate trust in society and must be included in the proposals
- Need of adaptation to meet urban planning regulations and specifically preserve cultural heritage landscape (e.g. building, complex of buildings)
- Increase the smartness of various building systems (heating, ventilation, lighting, information,...) and evaluate it through objective indexes (Smart Readiness Indicator (SRI),..).

TRI 7: Integration in the Built Environment

Technical content / scope

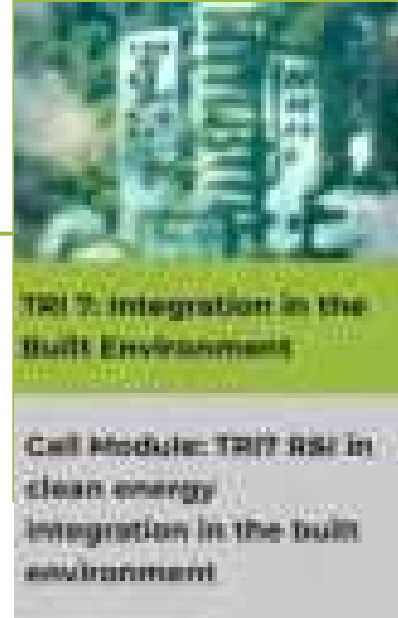
► Cross cutting issues

- Indoor Environmental Quality (IEQ)— indoor air quality (temperature, humidity, CO2, Radon,...), lighting, noise, ergonomics—and their effects on occupants or residents comfort must be taken into account. Strategies for addressing IEQ include those that protect human health, improve quality of life, and reduce stress and potential injuries. Contribute to co-create and reinforce local regional stakeholder innovation ecosystems.
- Contribute to co-create and reinforce local regional stakeholder innovation ecosystems
- Contribute to SRL (System Readiness Level) - TRL assessment framework
- Contribution to networks of energy transition demonstration site and activities.
- Solutions have to consider different economies of scale and climate context.
- Standardisation of solutions, components and modules taking into account EU regulations.
- Knowledge diffusion (specifically for historical and special buildings where the EU market is crucial)

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Objectives

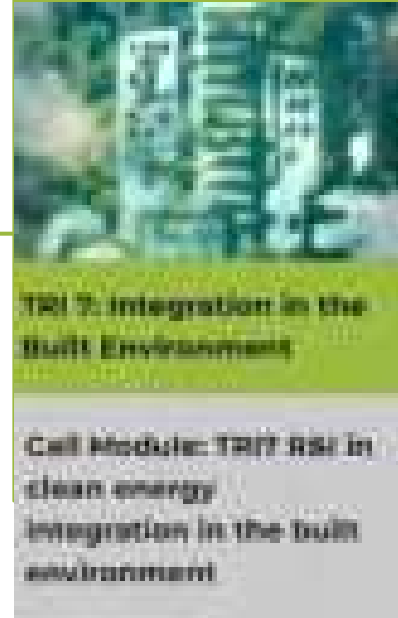
- ▶ Develop capabilities for integration of energy technologies and digitalization.
- ▶ Results intended to become building blocks and elements for the building supply chain with capabilities in energy conversion, storage or harvesting.
- ▶ Integration schemas should be part of the solutions.
- ▶ Interfaces of non-homogeneous components and interoperability among them are key points to be considered by design. Digitalisation and tools solutions are supporting design, implementation, performance assessment and validation



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Expected Impact

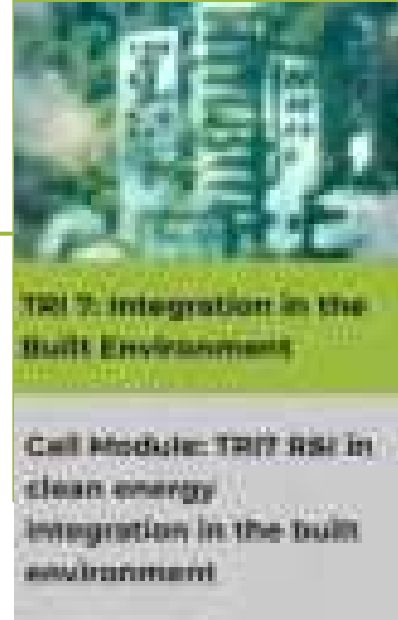
- ▶ At scientific and technological level to provide validated solutions ready to be included in new research and innovation processes intended to improvements and/or base for new developments. Valuable infrastructures in this environment should be visible and accessible to the RDTI community.
- ▶ At industrial stakeholders' level, participation of need-owners from the energy, building and installer industry is expected. Their participation should provide requirements in the projects intended to reinforce local industry and drive developments to affordable solutions.
- ▶ It is expected to yield improved access and higher use of research results, innovation and knowledge. Presented solutions should drive new technologies towards commercial readiness by reinforcing connection with multipliers (architects, civil engineers, craftsmen, engineering offices, manufacturers), creating high-quality new knowledge and skills in the complete built environment.



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Expected Impact

- ▶ Proof methods of building energy performance assessment will support transition to carbon-neutral housing stock.
- ▶ The prospect of standardized solutions, components and modules will benefit from larger markets and contribute to the efficient use of the funding. The increase of utilisation and sharing of research infrastructures is foreseen to mobilise innovation community.
- ▶ A wide EU and international market supported by the diffusion of knowledge is the base of efficient responses in the integration of zero emission energy in existing, historical and special buildings as well as in mobility infrastructure.
- ▶ In addition to the dissemination and experience sharing within the CETP Knowledge Community, the projects are invited to participate in the activities and events organised by other partnership programs like Built4People.



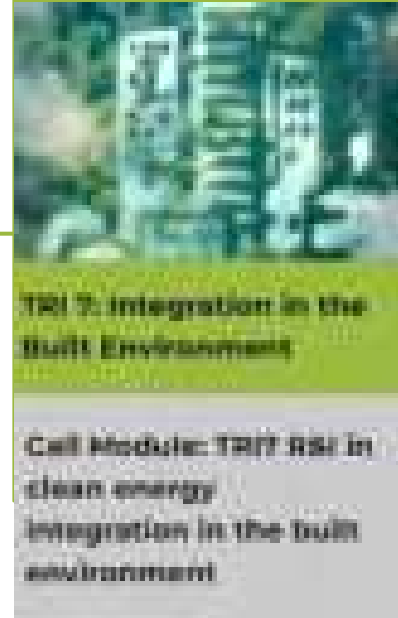
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Target groups

- ▶ It is expected that project consortia including RDTI community (academia, RDI centres), laboratories and test facilities and industry (energy, installers, building industry, etc) will submit proposals.
- ▶ Multipliers, energy, building and installer industry can participate as partners or need-owners at this level. Need-owner can contribute providing requirements and as observers in test and formal validation processes

Indicative targeted TRL

- ▶ Projects applying to this Call module are expected to achieve TRL 3-6. In the same project, different technologies can reach different TRLs



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Additional project requirements

The projects shall include a perspective for technological transfer including:

- ▶ Verification and Validation Plan
- ▶ Data management plan
- ▶ Results management and exploitation plan

At the pre-proposal stage, a clear mention of the corresponding planning should appear in the 3 sections, a) excellence, supporting project goals, b) impact, as part of the expected outcome and impact and c) Implementation, identifying deliverables in the work plan.

At the proposal stage, an outline of the plans and references to the content should be included. Specifically, the versions/deliverables over the project implementation shall be included in the Implementation section

The Call Module aims to support projects with an expected requested grant (but not limited to) in the range of 0,5 to 5 M€



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Objectives

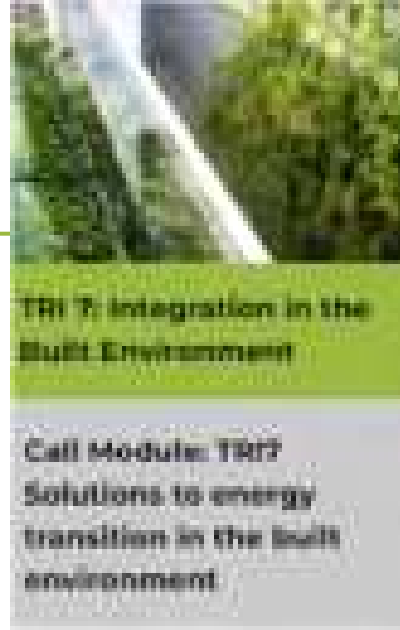
- ▶ The projects will cover the challenges for massive integration of clean energy technologies in buildings identified in the SRIA. Proposals should demonstrate capabilities for integration of energy technologies and digitalization.
- ▶ The Call module should provide integrated energy solutions covering the complexity of the energy system of high importance for the building sector. Pilot projects including demonstration and validation of implementable solutions should be part of the portfolio.
- ▶ Multipliers (architects, building owners, civil engineers, craftsmen, engineering offices, manufacturers, municipalities, the public sector, etc.) should become part of the projects to lead new technologies towards commercial readiness.
- ▶ A good set of approaches for cross-cutting dimensions inclusion shall be obtained from this call. The same applies to IPRs where suitable frameworks should be established in the projects.
- ▶ In addition to the dissemination and experience sharing within the CETP Knowledge Community, the projects are invited to participate in the activities and events organised by other partnership programs like Built4People.



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Expected Impact

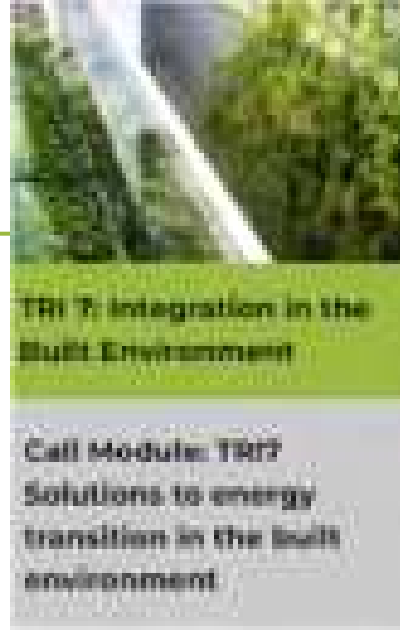
- ▶ At scientific and technological level, the portfolio of projects will provide validated solutions ready to be included in new research and innovation processes intended to improvements and/or base for new developments. Valuable infrastructures in this environment should be visible and accessible to the RDI community.
- ▶ At industrial stakeholders' level, participation of need-owners from the energy, building and installer industry is expected. Their participation should provide requirements in the projects intended to reinforce local industry and drive developments to affordable solutions.
- ▶ At societal level, participation of regional/local authorities representing need-owners will improve trust in society. It is critical to include policy makers in the built environment where regulations are crucial. Regional/local authorities can play a very important role in impact creation.
- ▶ It is expected to yield improved access and higher use of research results, innovation, services and knowledge. Presented solutions should drive new technologies towards commercial readiness by reinforcing connection with multipliers (architects, civil engineers, craftsmen, engineering offices, manufacturers), creating high-quality new knowledge and skills in the complete built environment.



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Expected Impact

- ▶ Proof methods of building energy performance assessment will support transition to carbon-neutral housing stock.
- ▶ The prospect of standardized solutions, components and modules will benefit from larger markets and contribute to the efficient use of the funding. The increase of utilisation and sharing of research infrastructures is foreseen to mobilise innovation community.
- ▶ Particular solutions shall contribute to the European target to renovate 25 Mio building units by 2030.
- ▶ Collaboration among national programs support fast-track development of energy integration in buildings and guarantee economies of scale while also considering different climate context. The prospects of standardized solutions, components and modules will benefit from larger markets and contribute to the efficient use of member state funding. Furthermore, the diffusion of knowledge is the base of efficient responses in the integration of zero emission energy in existing, historical and special buildings as well as in mobility infrastructure (port, airport, railway station) where the possibility of a wide UE and international market is crucial.



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Target groups

- ▶ It is expected that project consortia including RDTI community (academia and RDI centres), laboratories and test facilities, industry in several fields and end-users (platforms or specific users) will submit proposals.
- ▶ Large projects (budget > 2M€ and/or more than 10 partners) should include the use of infrastructures for tests and contribution of regional/local authorities or installers in the proposal (as partners or with a specific role in outputs' deployments).
- ▶ Part of the industry and end-users will act as need-owners in the project participating as partners or committed to support deployments and validation. Multipliers, energy, building, equipment manufacturer and installer industry participate as partners. Need-owners can contribute providing requirements and as observers in test and formal validation processes.

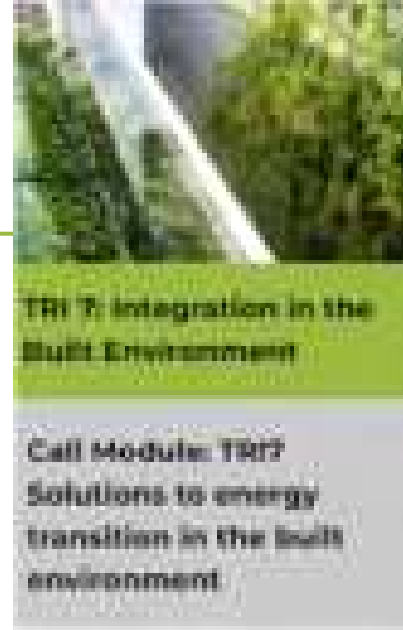
Indicative targeted TRL

- ▶ Projects applying to this Call module are expected to achieve TRL 5-9. In the same project, different technologies can reach different TRLs.

EUROPEAN PARTNERSHIP



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Additional project requirements

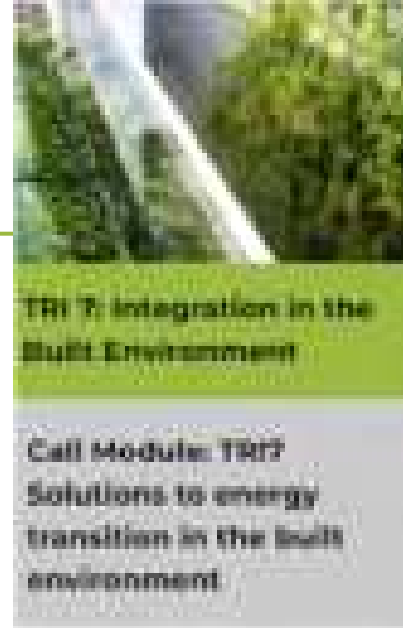
The projects shall include a perspective for technological transfer to the marketplace including:

- ▶ Validation and Qualification Plan
- ▶ Data management plan
- ▶ Business model plan

At the pre-proposal stage, a clear mention of the corresponding planning should appear in the 3 sections, a) excellence, supporting project goals, b) impact ,as part of the expected outcome and impact and c) Implementation, identifying deliverables in the work plan.

At the proposal stage, an outline of the plans and references to the content should be included. Specifically, the versions/deliverables over the project implementation shall be included in the Implementation section.

The Call Module aims to support projects with an expected requested grant (but not limited to) in the range of 1 to 5 MEUR





CETPartnership Joint Call 2022 Info Day 1
Coffee Break
We will be back at 12:10



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TRI 4

TRI 4: Efficient zero emission Heating and Cooling Solutions

The Transition Initiative Heating & Cooling (TRI4H&C) will contribute to Challenge 4 “Efficient zero-emission Heating and Cooling Solutions”, formulated in the SRIA of the CETP. The overarching goals of this initiative are the **provision of enhanced and improved heating and cooling technologies and systems** for all major parts of Europe by 2030 and to enable 100% climate-neutral heating and cooling by 2050.

TRI 4 Lead

Gerdi Breembroek (RVO, NL)
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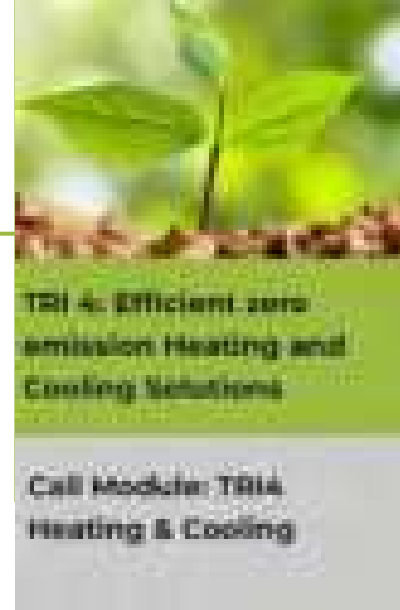
TRI 4 Office

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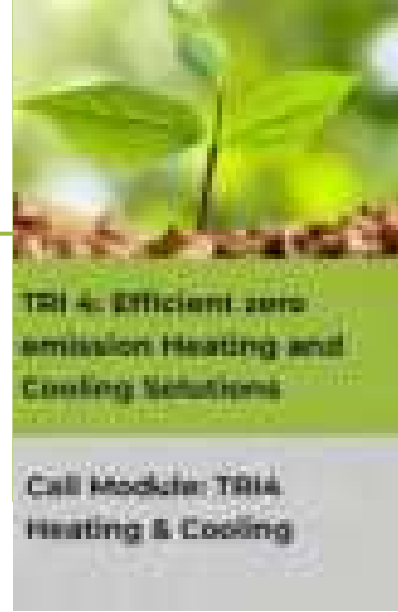


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- **Climate-neutral resources** for heating and/or cooling, including subsurface (shallow and deep geothermal, solar thermal, and other sources of renewable heating and cooling) and utilisation of local and regional excess resources, for application in the built environment or for industrial or other processes or a combination.
- **A resource-efficient and sustainable distribution, storage and utilisation of heating and/or cooling.** This includes short time and seasonal thermal storage options, innovations for heating and cooling networks, and conversion technologies such as heat pumps to distribute the heating and cooling and adjust the temperature level where needed for application in the built environment and industrial and/or other processes.
- **Integration of heating and/or cooling in the local and regional energy systems,** including aspects of sector coupling, intelligent integration and control tools that shall leverage synergies and utilise flexibilities in locally and regionally available energy sources



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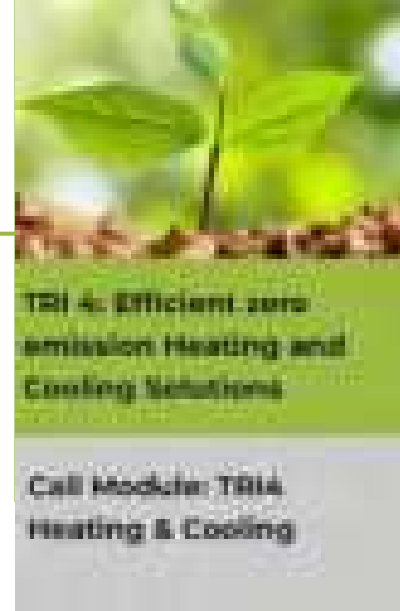
Objectives

Projects need to focus on innovations that provide significantly enhanced and improved heating and cooling technologies and systems for all major parts of Europe by 2030, enabling 100% climate-neutral heating and cooling by 2050.

Successful projects will

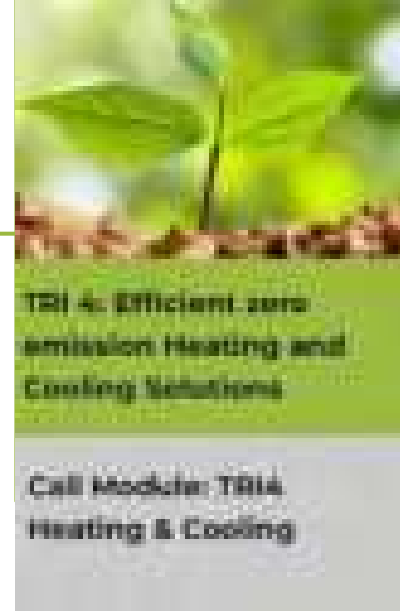
- enable cost reduction and/or
- increase competitive market opportunities and environmental protection and/or
- develop tools and methodologies and/or
- significantly impact societal acceptability, safety, and/or circularity

Bring TRL level to 4-9 at end of project – 'significant' progress for TRL4-6



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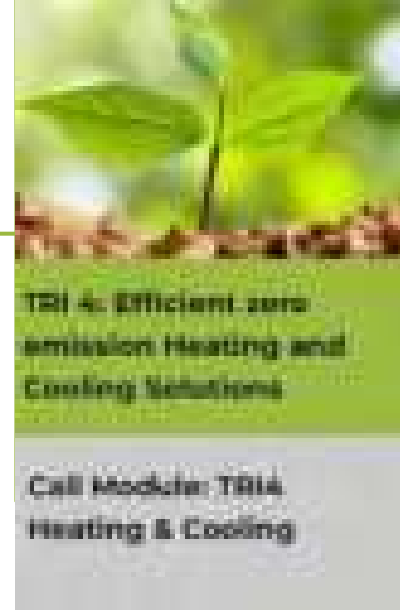
- The TRI4H&C Call module encourages **innovative entrepreneurs** in small, middle-sized, and large companies, **research organisations, and academia to propose**. In a small number of partner countries, local and regional governments are also eligible for funding.
- **Broad geographic spectrum encouraged.** Each project consortium must demonstrate the alignment with the respective Funding Partners' national interest and demonstrate the applicants' competence to undertake the project's specified themes.
- Projects are strongly encouraged to involve **"need-owner(s)" and relevant stakeholders** from the national/regional innovation ecosystem in all project phases to maximise market acceptance and uptake of the technologies and solutions that the projects develop



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Additional project requirements

- Expected budget request from projects **€1.5-4 million**
- Projects need to have a **project management work package**
- Projects need to establish their **own webpage** where they publish project updates and results
- Project proposals should **include industrial partners**, as far as possible and sensible



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TRI 3

TRI 3: Enabling Climate Neutrality with Storage Technologies, Renewable Fuels and CCU/CCS

The main aim of TRI 3 is to **provide technological cleaner solutions for storage technologies, hydrogen and renewable fuels, CCS** (Carbon Capture and Storage) **and CCU** (Carbon Capture and Utilisation), promoting RD&D and innovation projects until 2030, to achieve the European goal of climate neutrality by 2050.

Two call modules: 3.1. **CCU/CCS - technologies** 3.2. **Hydrogen and renewable fuels**

TRI 3 Lead

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TRI 3 Office

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Call module 3.2: Hydrogen and renewable fuels – the scope

This call module responds to the international focus on renewable fuels to achieve a carbon neutral society.

Renewable fuels are environmentally friendly energy carriers and offer flexibility options required to achieve a sustainable energy system. Important for a net-zero energy system is the cost-effective provision of hydrogen from various sources, thermo-, photo- and electrochemical solar fuels, as well as the supply of advanced biofuels from sustainable biomass.

- **Hydrogen** plays a key role in any industrial society, since hydrogen can be used directly as a fuel and for many essential chemical processes, as an input to produce e-fuels, biofuels and other hydrogen carriers like ammonia, or to power gas turbines.
- **Biomass** can be used to produce different kinds of fuels. Hydrogen production with BECCS is attractive as it would deliver negative emissions.
- The use of **renewable ammonia** is also expected to increase not only for fertiliser but also for e-fuels.



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Call module 3.2: Hydrogen and renewable fuels – objectives

- The objective of the call module is to facilitate the development and adoption of technologies for effective production, transport, storage and end-use of hydrogen and renewable fuels, including security of supply and safety aspects.
- The ambition of the call module is to accelerate the time to market for hydrogen and renewable fuel technologies. This will require industrial involvement in research and innovation activities.



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Call module 3.2: Hydrogen and renewable fuels – expected impacts

- Projects are expected to have a significant bearing on accelerating the development and use of hydrogen and renewable fuel technologies and provide results showing significant CO₂ reduction by 2030.

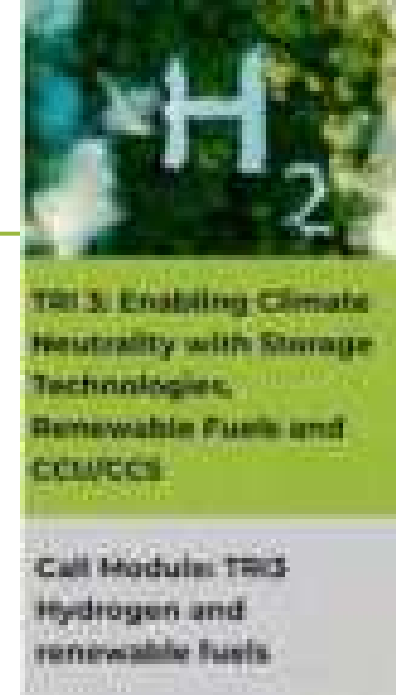


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Call module 3.2: Hydrogen and renewable fuels – R&D targets

This call module will focus on the development and demonstration of innovative and cost-, energy and carbon-/resource-efficient technologies for hydrogen and renewable fuels along the whole value chain:

- Production of hydrogen and renewable fuels including conversion into synthetic fuels. Hydrogen production may differ with respect to available resources and system requirements.
- Transport
- Storage
- End use



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Call module 3.2: Hydrogen and renewable fuels – Requirements

- The consortia are required to demonstrate the interest of industry partner(s) by actively involving them in the project.
- Projects focusing on developing new pilot and demonstration facilities are required to illustrate the potential for upscaling to industrial size either in a demo phase or early commercial phase.
- Projects are required to consider cross-cutting dimensions as parts of the project relevant to the development and uptake of the technologies, and to involve appropriate stakeholders, either are project partners or observers.
- Projects are valued if addressing one or several of the research and innovations activities in the SET-Plan Implementation Plan.



Summing up for Hydrogen and Renewable fuels

Focus on **cost- and energy efficient technologies** for:

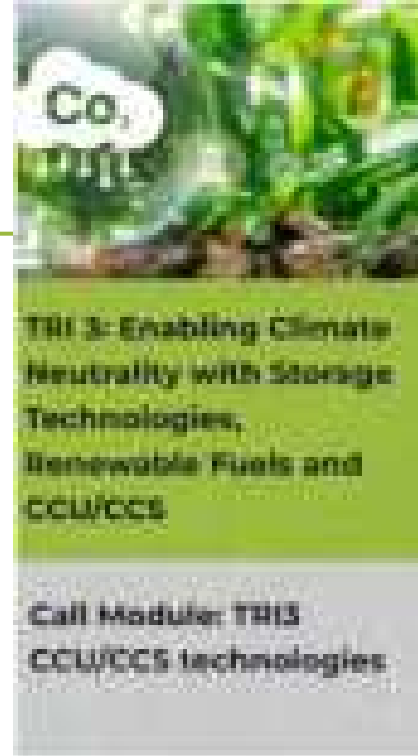
- **Hydrogen**
 - **Renewable Fuels**
-
- Support projects aiming to **TRL5 or above**
 - **Industry-involvement and crosscutting issues addressed**
 - The Call Module aims to support projects with an expected requested grant (but not limited to) in the range of **1 to 5 MEUR**.



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Call module 3.1: CCU/CCS technologies – the scope

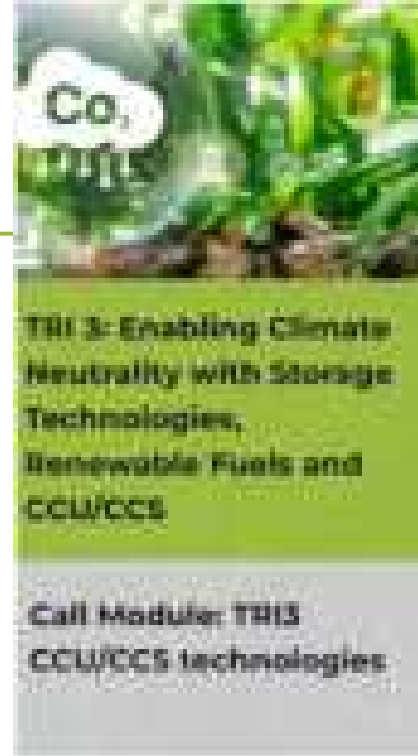
- The CCU/CCS call module intends to fund projects that have a significant bearing on accelerating the technologies and provide results showing significant CO₂ reduction by 2030 and demonstrate a contribution to the climate and clean transition.
- The CCU/CCS call module is seeking innovative projects that range from smaller research projects to new or major expansions/upgrades of existing pilot and demonstration facility sites or projects.
- The call module addresses the technological, as well as the environmental, social, and economic challenges required to accelerate CCUS. However, project addressing only the environmental, social, and economic issues are not eligible for funding.



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Call module 3.1: CCU/CCS technologies – objectives

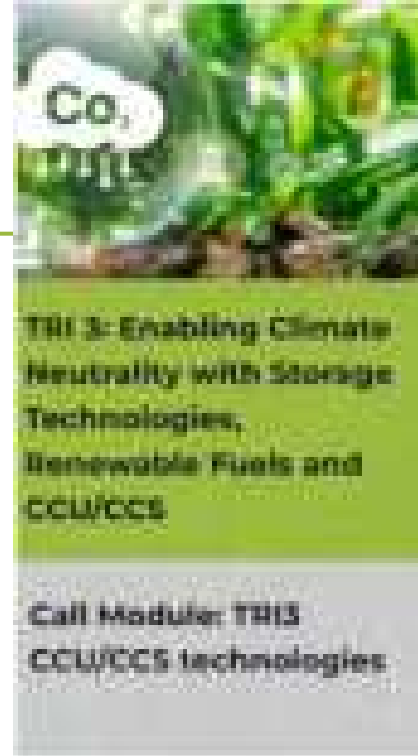
- Successful projects will facilitate the emergence of CCU/CCS primary in the industrial sectors, but also covers the energy sector.
- The ambition of the call is to accelerate the time to market for CCU/CCS technologies which will require industrial involvement in research and innovation activities, especially in energy intensive and heavy industry sectors, which will benefit from implementing CCU/CCS technologies mostly.



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Call module 3.1: CCU/CCS technologies – expected impact

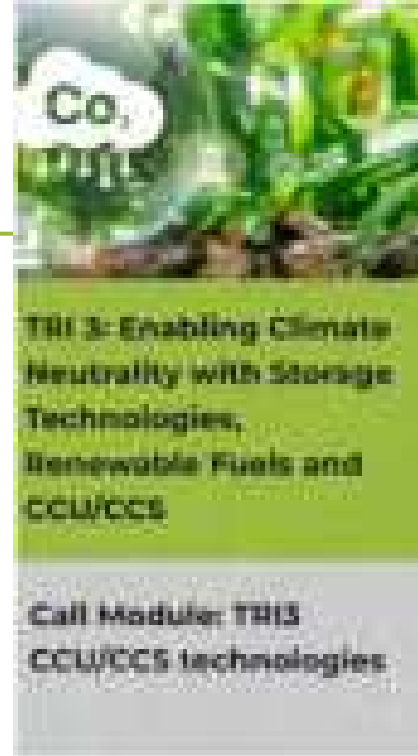
- Projects funded under this call module are expected to have a significant bearing on accelerating CCU/CCS technologies and provide results showing significant overall CO₂ reduction by 2030.



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Call module 3.1: CCU/CCS technologies – R&D targets

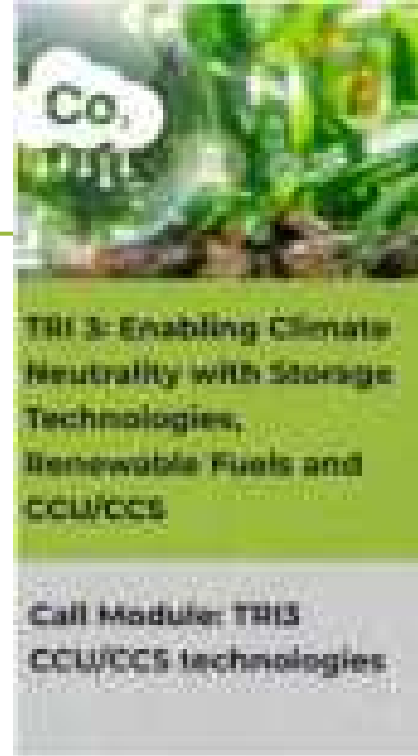
- CO₂-capture from energy intensive or heavy industry sectors (waste to energy, cement, steel and other metals, others), power, maritime transport, and hydrogen production.
- Advancing lower cost capture technologies and technologies that can effectively handle flue gases with lower CO₂ concentration.
- CO₂-storage sites, elements that are needed for characterisation and management of large-scale permanent storage of CO₂ (e.g. reservoir integrity, monitoring, capacity estimation, modelling)
- Enabling CCUS technologies of significant importance and relevance for the industry
- Transport and injection of CO₂ (pipelines, ships, non-pipeline transport, temporary storage, well integrity and well technology)
- Negative emission technologies (NETs), Carbon Dioxide Removal (CDR) technologies or Direct Air Capture technologies (DAC) with storage or use of CO₂, and Bioenergy with CCS (BECCS)



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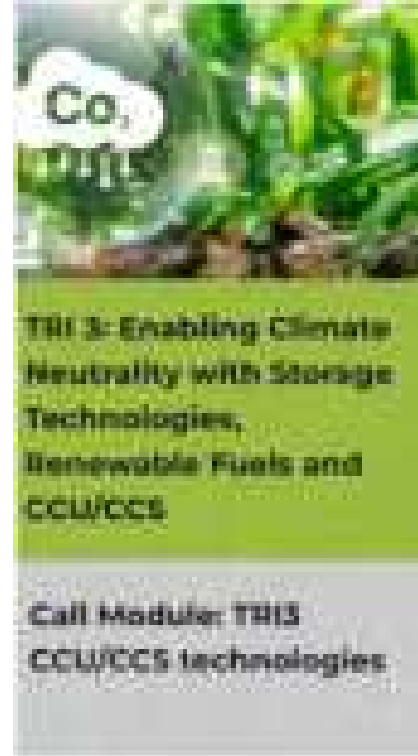
Call module 3.1: CCU/CCS technologies – specific requirements

- Projects must address one or several of the research and innovations activities in the SET-Plan Implementation Plan and/or the Priority Research Directions (PRDs) identified at the Mission Innovation CCUS.
- The consortia are required to demonstrate the interest of industry partner(s) by actively involving them in the project.
- Projects focusing on developing new pilot and demonstration facilities are required to illustrate the potential for upscaling to industrial size either in a demo phase or early commercial phase.
- In addition to providing technological solutions, projects are required to address cross-cutting dimensions (e.g., digitalisation, social aspects, public acceptance, or environmental impact indicators).
- Where relevant, CO₂ utilisation projects should include documentation to show that the project processes result in reductions of CO₂ emissions. Further information is provided in a number of the relevant funding partners' national/regional requirements.



Summing up for CCU/CCS

- CO₂-capture
 - CO₂-storage
 - Enabling CCU/CCS technology
 - Transport and injection
 - Negative emission
-
- Projects should aim at **TRL5 or higher** – smaller parts at lower TRL are allowed
 - Projects should provide significant results to the CCUS domain by 2030 (show significant CO₂ reduction)
 - Comply to **SET Plan implementation** and/or **MI Research targets**
 - The Call Module aims to support projects with an expected requested grant (but not limited to) in the range of **1 to 5 MEUR**.



TRI 6: Integrated Industrial Energy Systems

TRI 6 aims at **developing and demonstrating a set of technical solutions for integrated industrial energy systems that enables efficient carbon-neutral industrial production** sites and takes industrial energy systems into development as part of the entire energy system. It focuses specifically on integrated solutions across industries, across energy sectors and across public and private sectors.

TRI 6 Lead

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TRI 6 Office

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TRI 6

► Objective

To develop and demonstrate a set of technical solutions for integrated industrial energy systems that enables efficient carbon-neutral industrial production sites and takes industrial energy systems into development as part of the entire energy system

► Target groups

- Companies such as industrial companies, suppliers of technology and services
- Research institutes
- Universities and colleges (social science, humanities, technology, economic and science disciplines)
- Municipal companies and other public sector organizations.

The main industries that are considered include iron & steel, cement, pulp & paper, chemical, and food and beverage industries.

► Focus is on process industry and their emissions

► Target TRL: 3-7





CETPartnership Joint Call 2022 Info Day 1
Lunch Break
We will be back at 13:30



Joint
Call
2022



CETPartnership

Joint call
2022
Call
Modules

Joint Call 2022 Thematic structure

The CETPartnership Joint Call 2022, to be officially launched in **September 2022**, will be structured into **thematic modules**.

Each Transition Initiative (TRI) has developed **Call modules** based on their strategic topics and content, allowing them to cover the whole spectrum of their specific SRIA challenges.

[Joint Call 2022 | CETPartnership](#)



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Joint Call 2022 Timeline

Joint Call 2022 opens for pre-proposal submission	14 September 2022
CEI Pre-proposal form call info Doc 2 issued	October 2022
Deadline for submitting pre-proposals	23 November 2022, 14:00 CET
Communication to applications selected for full proposal stage	January 2023
Deadline for submitting full proposals	28 March 2023, 14:00 CET
Projects selected for funding	June 2023
Tentative start of funded projects	September 2023

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Joint Call
2022
Submission
of proposals

General issues

- Two-step procedure – submission of a pre-proposal followed by an invitation to submit a full-proposal
- Submission through [CETPartnership Application System](#) online only
 - Choose one Call Module per proposal
 - Project Coordinator Invite Project Partners through the submission system
 - Insert information about participants, budget etc. directly in the system
 - Upload project description in English as pdf
- Additional documents and/or local proposal submission may be requested by some Funding Partners
- Deadline pre-proposal **23 November, 14.00 CET**



CETPartnership

Joint Call
2022
Funding

Joint call - joint funding

- Totally over 140M€
- Approximately 45 national/regional Funding Partners provide funding in the 2022 call
- EC is the single biggest financing organisation
- Funding Partners provide funding for entities based in their country/region. Funding arrangements will be made directly between the project partners and the national/regional Funding Partner to which they have applied.
- Budget allocation from Funding Partners can differ between Call Modules. Applicants must check Funding Partners' participation in Annex C to the call text!



CETPartnership

Joint Call
2022
Project
proposals

Eligibility criteria

- At least three independent legal entities from three different countries participating in the CETPartnership Joint Call 2022, of which at least two must be EU Member States or Horizon Europe Associated Countries.
- The total effort of one partner cannot exceed 60% of the total project efforts.
- The total effort of partners from one country/region cannot exceed 75% of the total project efforts. *Efforts = person months*
- Project consortia must also fulfill the Call module specific requirements.
- Applicants must be eligible for funding according to their Funding Partner's national/regional requirements. Please consult the national/regional requirements (Annex B).



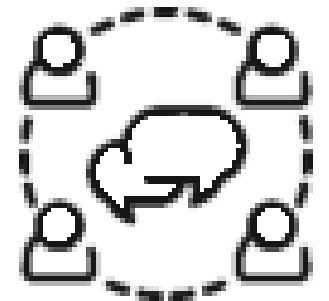
CETPartnership

Joint Call
2022
Project
Proposals

Main project requirement

Project consortia

- Consortia may consist of **partners from organisations such as universities, companies, industry organisations, local/regional governments, research organisations and NGOs**. Some Call modules specify additional requirements or restrictions regarding the types of partners to be included
- Project consortia must include **one project Coordinator** who is responsible for coordination of the project. Other consortia members are Partners, whereof there are two categories:
 - **partners eligible for direct funding by the Funding Partners** participating in the CETPartnership Joint Call 2022, or
 - **fully self-financed** partners from any country/region who bring their own secured budget.



CETPartnership

Joint Call
2022
Project
Proposals

Main project requirement

Project duration

- Projects are required to start before 15 December 2023.
- The maximum project duration must not exceed 36 months.
- National/regional limits regarding the duration of projects may apply.

Gender Equality Plan

- Having a GEP at organisational level is an eligibility criterion for funding in the CET Partnership calls following the GEP requirements in Horizon Europe.

Open access

- Open access as required within Horizon Europe will be assessed as part of the project proposal's methodology under the Excellence Award Criterion.



CETPartnership

Joint Call
2022
Project
Proposals

Main project requirement

Technological Readiness Level (TRL)

- Most projects are expected to aim for solutions meeting medium to high technology readiness levels (TRL 6-8), combining technologies, marked related solutions and stakeholder involvement.
- In selected areas, concepts, and technologies may target a lower TRL level (3-6) on the basis of specific R&I needs as detailed in the related Call Module(s).

Cross cutting dimensions

- Cross-cutting dimensions, beyond technology and resources, need to be considered to ensure robust transition pathways that are driven by a multidisciplinary perspective.
- The call text offers a framework (*the three-layer research model*) to approach cross-cutting dimensions and multidisciplinary aspects.



CETPartnership

Joint Call
2022
Project
Proposals

Main project requirement

Knowledge Community Standard Work Package

- Project proposals must include a work package considering project synergies with, and contributions to the CETPartnership Knowledge Community.

The CETPartnership Knowledge Community aims to:

- Develop and present state-of-the-art knowledge and lead discussions in the field of Clean Energy Transition while being a hub and voice for all information related to national/regional CETPartnership RDI players.
- Enable knowledge exchange between all CETPartnership funded projects and with national and international experts to leverage synergies
- Projects must actively utilise the CETPartnership Knowledge Community for increased knowledge-sharing and dissemination of results



CETPartnership

Joint Call
2022
Call
Procedure

Timeline for call procedure

14 September 2022
The call opens
• Call text is published

23 November 2022
Step 1 (Pre-proposal)
• Expert evaluation
• General eligibility check
• National/regional eligibility check

20 mars 2023
Step 2 (Full proposal)
• Expert evaluation
• General eligibility check
• National/regional eligibility check

June 2023
Decision
Communication
with
national/regional
Funding Partner



CETPartnership

Joint Call
2022
Call
Procedure

Pre-proposal – deadline 23 November 2022

- Eligibility check according to both general and national/regional requirements
- Evaluation will be done by three experts per proposal and result in one ranking list per Call module.
- The cut-off for being invited to second stage (or considered for funding at full proposal stage) is a score at or above 10 and none of the criteria scoring below 3.
- Decision of invitation to full proposal will be based on the expert evaluation result and the national/regional eligibility check.



CETPartnership

Joint Call
2022
Call
Procedure

Full proposal – deadline 20 March 2023

- The full proposal may not differ substantially from the pre-proposal.
- Changes must be communicated to the involved project partners and the relevant Funding Partner(s).
- Avoid changes in the consortium composition, except if an ineligible partner can be replaced by a partner from undersubscribed countries/regions (must be approved by the relevant Funding agency)
- Eligibility check according to both general and national/regional requirements
- Evaluation will be done by three experts per proposal and result in one ranking list per Call module
- Expert panel meetings resulting in a ranking list of proposals above cut-off
- Decision of funding is based on ranking list and available budget

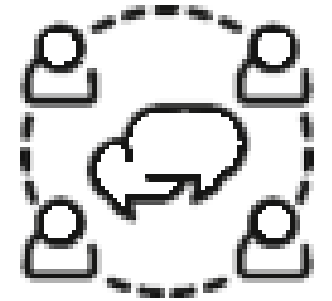


CETPartnership

Joint Call
2022
Call
Procedure

How to apply

- Submission through the online [CETPartnership Application System](#) only
- Choice of listed Call Modules, only one per proposal
- Partners are invited by the project Coordinator through the submission system
- PIC and NACE codes needed for all organisations
- Administrative info about participants, addresses, budget etc is inserted directly in the submission system form
- Project description must be written in English and uploaded as pdf
- Do No Significant Harm (DNSH) assessment
- Ethics self-assessment in full proposal only



CETPartnership

Joint Call
2022
Evaluation
Criteria

- **Excellence (Score 0-5)**
- **Impact(Score 0-5)**
- **Quality and efficiency of the implementation (Score 0-5)**

Excellence

- Clarity and pertinence of **the project's objectives** and the extent to which the proposed work has an appropriate level of ambition for its TRL level, and goes beyond the state-of-the-art.
- Soundness of the proposed **methodology**, including the underlying concepts, models, assumptions, interdisciplinary approaches, appropriate consideration of the **gender dimension** in research and innovation content, and the quality of **open science practices** including sharing and management of research and innovation outputs and engagement of citizens, civil society and end users where appropriate.



CETPartnership

Joint Call
2022
Evaluation
Criteria

Impact

- Scale and significance of the **outcomes and impacts** and the credibility of the **pathways** to achieve the expected outcomes and impacts specified in the CETPartnership Call module.
- Suitability and quality of the **measures to maximize expected outcomes and impacts**, as set out in the dissemination and exploitation plan, including communication activities, including the added value of the transnational collaboration.
- The extent to which the project is showing relevance to the energy transition through **appropriate involvement of end-users, need-owners and/or the private sector**.



CETPartnership

Joint Call
2022
Evaluation
Criteria

Quality and efficiency of the implementation

- Quality and effectiveness of the **work plan**, assessment of risks, and appropriateness of the effort assigned to work packages and the resources overall
- Capacity and role of each **participant**, and extent to which the **consortium** as a whole brings together the necessary expertise



CETPartnership

Calls

Preliminary Call Module vs Funding matrix (II)

Estimated Total Budget: +140 M€

Organisation	Acronym	region	Funding	TRI1 PowerPlan ningTools	TRI1 RESDemPo werflex	TRI2 Advancing RE technologies for power production through cost reduction	TRI2 Breakthrough R&D to increase RE power technologies efficiency	TRI3 Enabling Climate Neutrality with Storage Technologies, Renewable Fuels and CCU/CCS	TRI3 Enabling Climate Neutrality with renewable fuels and hydrogen	TRI4 Heating & Cooling	TRI5 Integrated Regional Energy Systems for a Resilient, Secure, and Renewable Energy Supply	TRI6 Industrial energy systems	TRI7 R&I in clean energy integration in the built environment	TRI7 Solutions to energy transition in the built environment
Ministry of Economic Development	MISE	Italy	16 000 000 €		x	x		x		x	x	x		x
Ministero dell'Università e della Ricerca	MUR	Italy	4 200 000 €	x			x		x				x	
Latvian Council of Science	LZP	Latvia	400 000 €	x	x	x	x	x	x	x	x	x	x	x
Ministry of Energy of the Republic of Lithuania	ENMIN	Lithuania	1 400 000 €		1 000 000 €				400 000 €		(x)			
Malta Council for Science and Technology	MCST	Malta	500 000 €	x	x	x	x	x	x	x	x	x	x	x
Dutch Research Council	NWO	The Netherlands	2 000 000 €			x	x							
Netherlands Enterprise Agency	RVO	The Netherlands	8 000 000 €		x	x		x	x	x	x	x		x
The Research Council of Norway	RCN	Norway	12 000 000 €	x	x	x	x	6 000 000 €	3 000 000 €	x				
National Centre for Research and Development	NCBR	Poland	3 000 000 €	x	x	x	x				x	x		
Fundação para a Ciência e a Tecnologia	FCT	Portugal	500 000 €	x	x	x	x	x	x	x	x	x	x	x
Executive Agency for Higher Education, Research, Development and Innovation Funding	UEFISCDI	Romania	1 000 000 €					x	x	x	x			
Agencia Estatal de Investigación	AEI	Spain	2 000 000 €	x	x	x	x	x	x	x	x	x	x	x
The Centre for the Development of Industrial Technology	CDTI	Spain	1 500 000 €	x	x	x	x	x	x	x	x	x	x	x
Fundación para el fomento en Asturias de la Investigación Científica Aplicada y la Tecnología	FICYT	Spain/Asturias	300 000 €	x	x	x	x	x	x	x	x	x	x	x
Departamento de Desarrollo Económico, Sostenibilidad y Medio Ambiente. Eusko Jaurlaritz-Gobierno Vasco	EUSKADI	Spain/Basque	1 000 000 €			x	x					x		
Ente Vasco de la Energía	EVE	Spain/Basque	1 000 000 €			x	x							
Regional Development Agency of Cantabria	SODERCAN	Spain/Cantabria	150 000 €	x	x	x	x	x	x	x	x	x	x	x
Swedish Energy Agency	SWEA	Sweden	7 000 000 €	x	x	x	x	x	x	x	x	x	x	x
Federal Department of the Environment, Transport, Energy and Communications	DETEC-SFOE	Switzerland	10 000 000 €		x	x		x		x		x		
Swiss National Science Foundation	SNSF	Switzerland	550 000 €								x		x	(x)
The Scientific and Technological Research Council of Turkey	TUBITAK	Turkey	2 000 000 €	x	x	x	x	x	x	x	x	x	x	x
Scottish Enterprise	SCOTENT	UK/Scotland	7 105 377 €				x	x	x	x		x	x	x
Department of Energy	DoE	USA	5 000 000 €					4 000 000 €	1 000 000 €					
TOTAL			143 043 948 €											

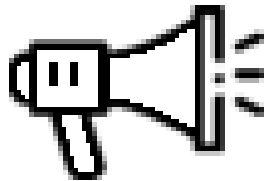
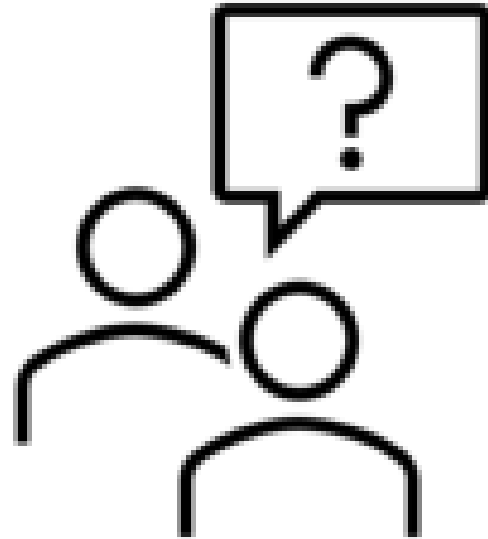
EUROPEAN PARTNERSHIP



Co-funded by the European Union

CETPartnership

Q&A



More information and link to match making and Electronic Submission system at

<https://cetpartnership.eu>





CETPartnership Matchmaking Platform How it works



CETPartnership

B2match

Registration

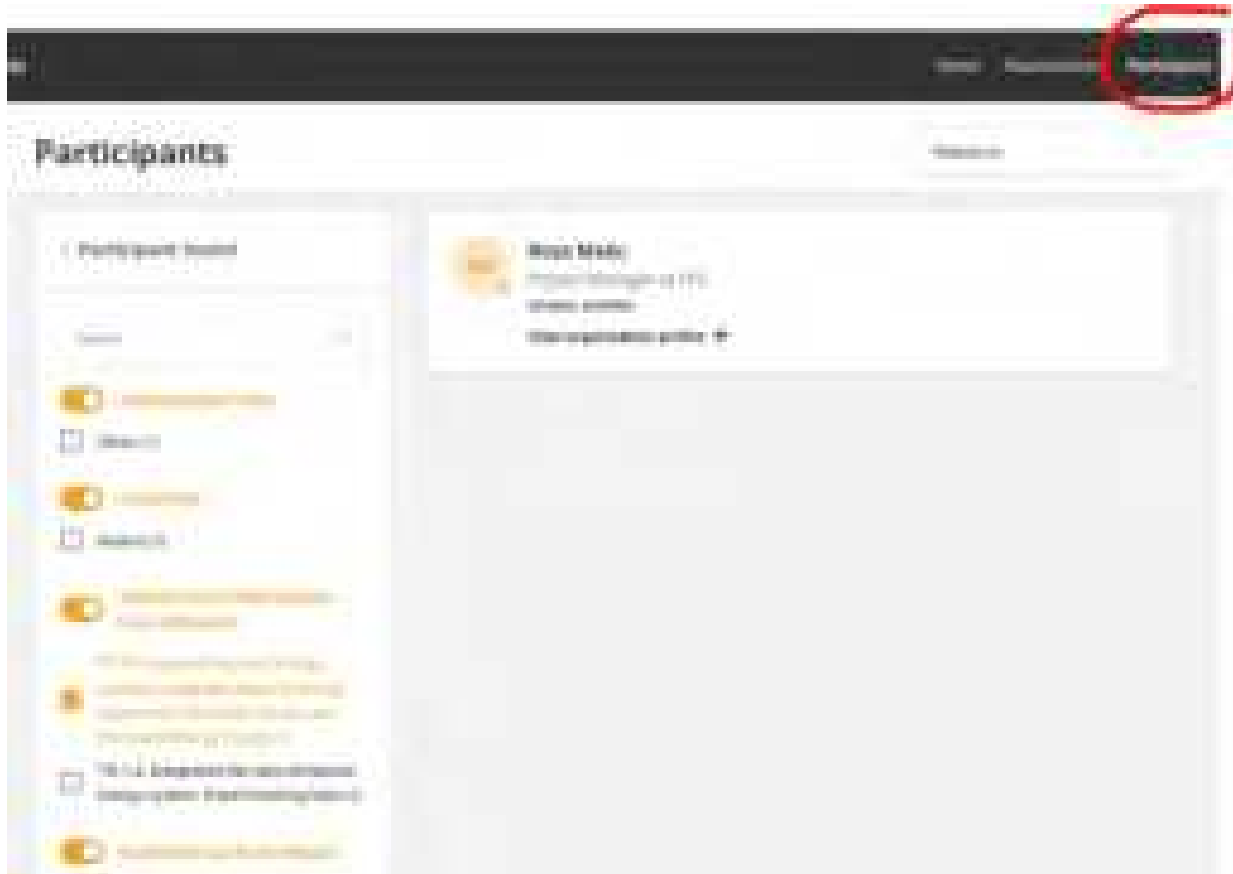
- To use the CETPartnership matchmaking platform, please register [here](#)
 - When you first register for our event your profile will be activated automatically
 - BUT: organisers will have rights to **deactivate** your profile if you do not provide enough infos
- Please create a **strong profile** that will raise your visibility to others on this platform

Your profile should contain the following:

- A **photo**, a **logo** of your organisation, a **short and clear description** of your activities and interests.
- Please add at least **one cooperation profile in the Marketplace**

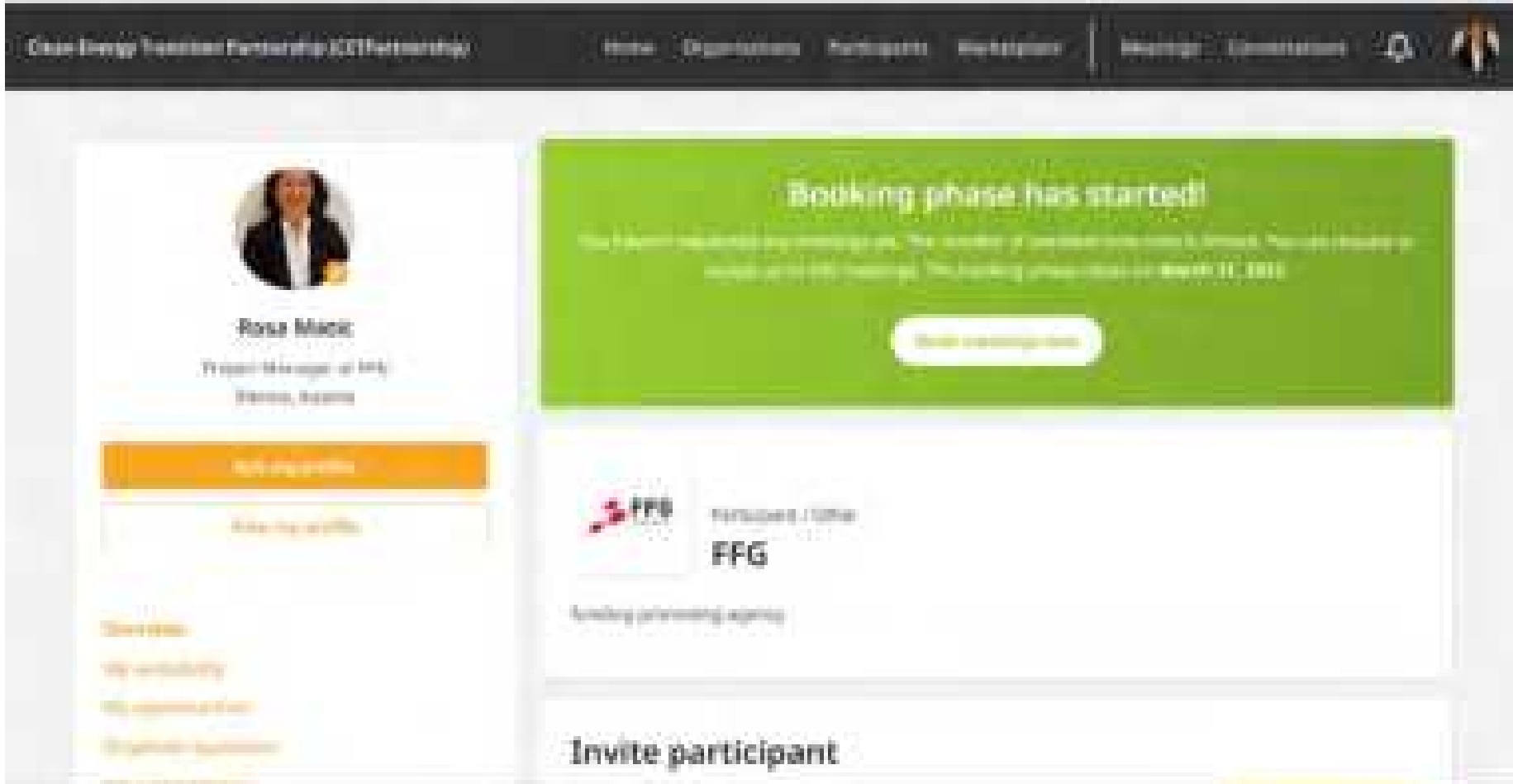


See who is on the platform



- Go to **"Participants"** (see register on top when you are 'logged on' in the matchmaking platform)
- You can browse through the **Participants list**. Filtering options may help you find e.g. suitable partners for the CETPartnership call module of your interest.

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Your Profile

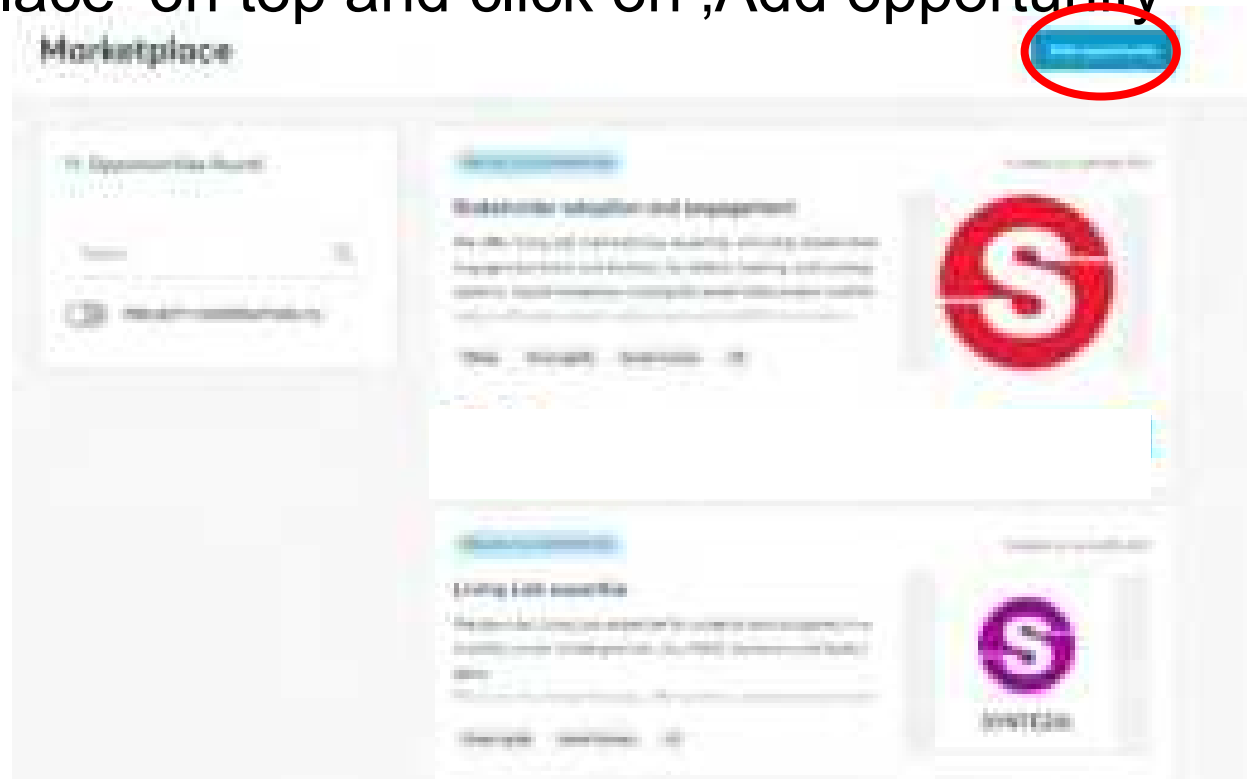


CETPartnership

B2match

Matchmaking platform Marketplace

- The **Marketplace** gives everyone the opportunity to make concrete offers as an organisation and to find their match quickly and easily
- Go to ,Marketplace‘ on top and click on ,Add opportunity‘

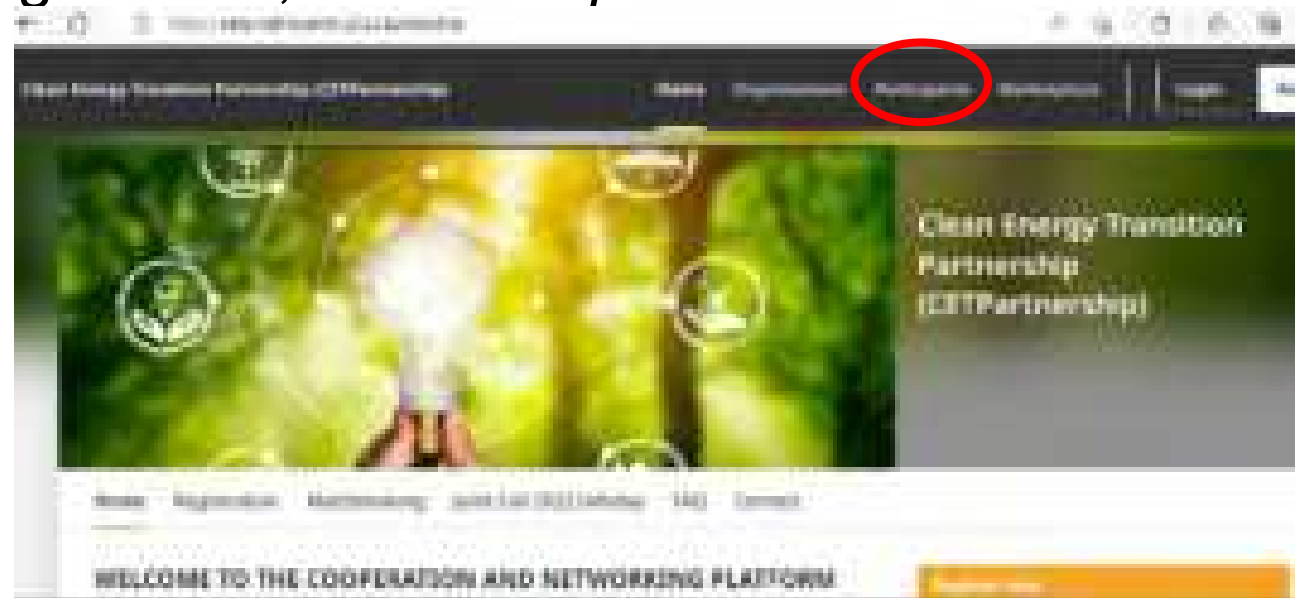


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Info Day

How to schedule 1:1 meetings

1. Go to **Participants** (see top menu when you are logged on in the matchmaking platform)
2. Click on the name of the participant you would like to meet
3. Send a request for a 1:1 meeting via the *Send a request* button
4. Choose specific date & time
5. Wait for the other participant to accept your request



CETPartnership

B2match

Manage to schedule 1:1 meetings

1. Manage your pending meeting requests via **'Meetings'** (see top menu when you are logged on)
2. The meeting itself will be carried out via the included meeting tool (no Zoom, Webex etc. required)

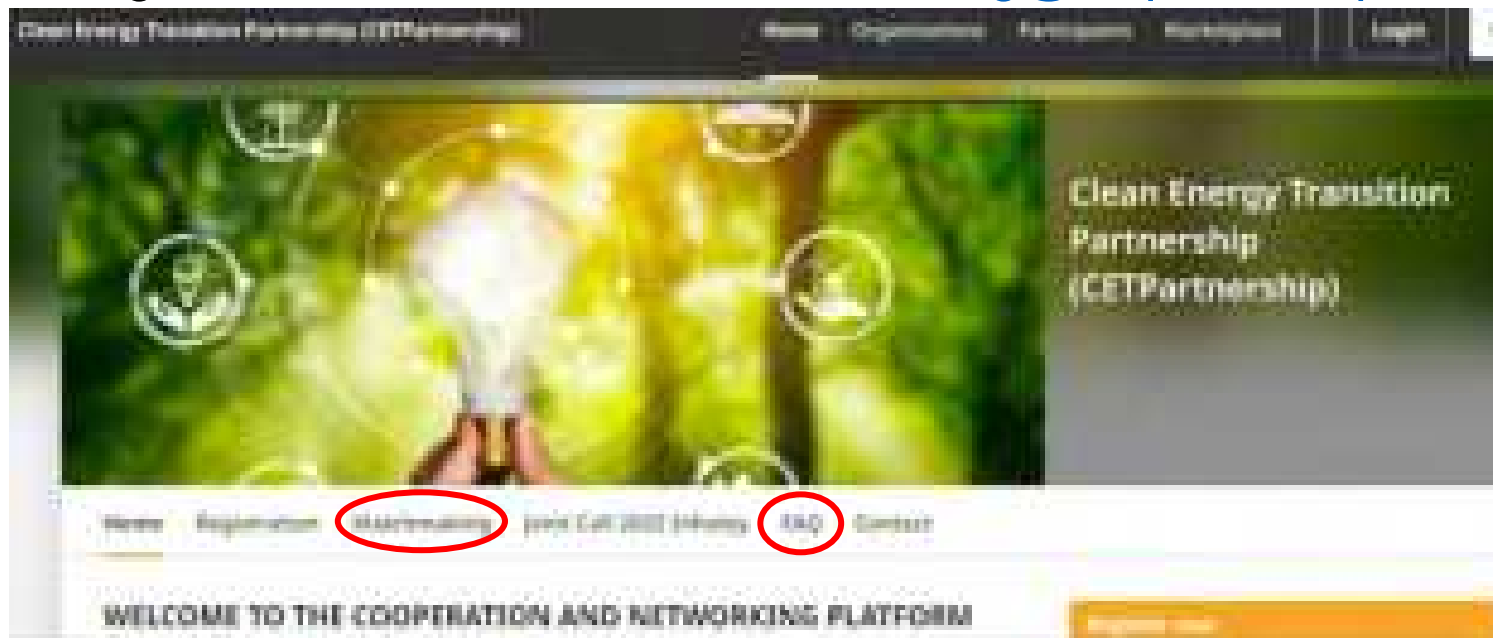


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B2match

Further information

- Please find more information directly on the matchmaking website
 - ‚Matchmaking‘
 - ‚FAQ‘
- Or get in contact with us E: matchmaking@cetpartnership.eu



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Thank You