CETPartnership Joint Call 2023

Information till svenska sökanden

Swedish Energy Agency

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Mötesmetodik

- Mötet spelas in och kommer att läggas upp på hemsidan
- Stäng av din mikrofon när du inte pratar
- Frågor kan ställas när som helst under presentationen. Skriv frågor i chatten.
- Presentera dig gärna när du får ordet och sätt gärna på kameran

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Agenda

12.00	Allmän information om utlysningen och CETPartnership
12.20	Information om utlysningsområden (Call Modules)
13.00 - 13:30	Frågestund

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A transnational initiative for clean energy

The CETPartnership enables more than **50 national and regional RTDI programme owners** and managers from **30 European and non-European countries** to align their research and innovation priorities, pool national budgets and launch Joint Calls annually until 2027.

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The CETPartnership in a nutshell

WHAT

Aims to empower the **clean energy transition** and contribute to the EU's goal of becoming the first **climate-neutral continent by 2050.**

HOW

by pooling **national and regional RDTI funding** for a broad variety of technologies and system solutions required to make the transition. **--- Annual Joint Calls**

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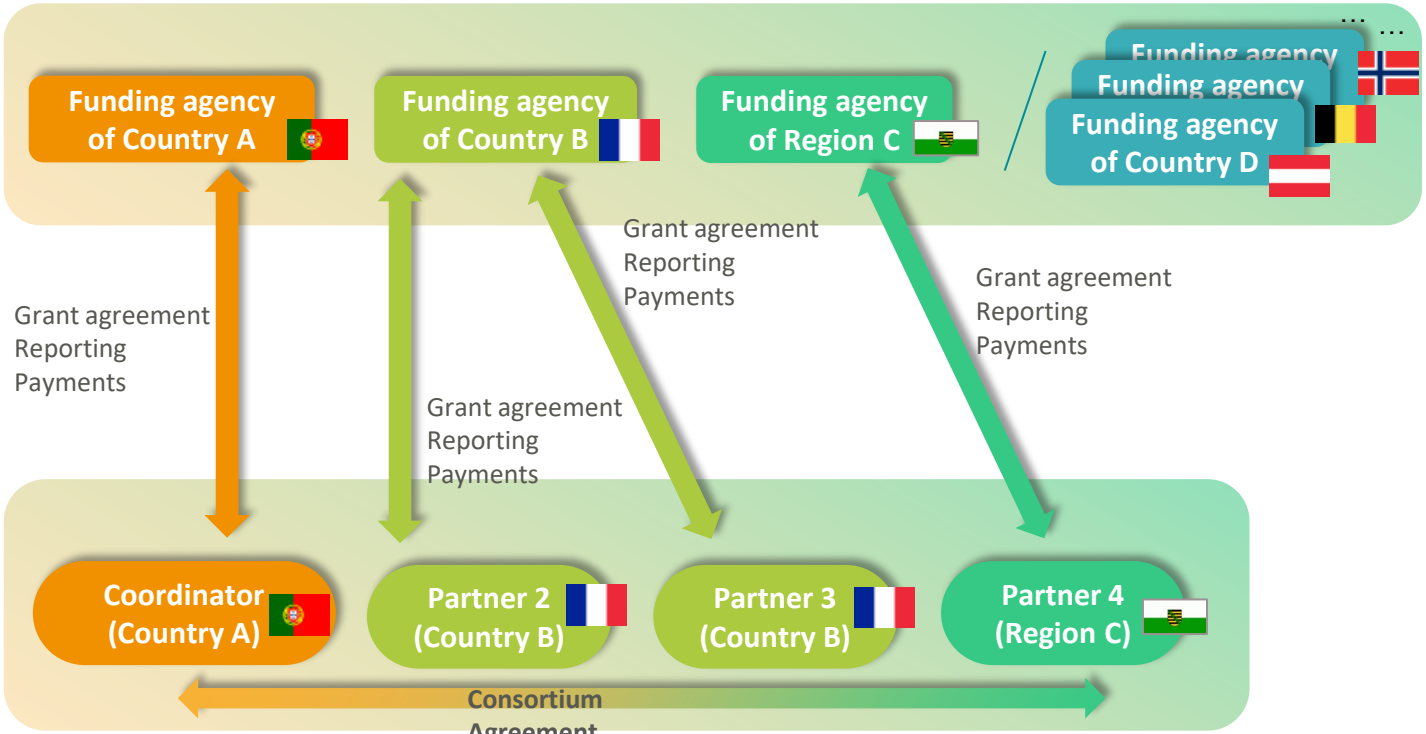
CETPartnership



Funded Project

Where do we come from?

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The CETPartnership builds on energy ERA-Nets

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

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Annual Joint Calls

The CETPartnership is organized in 7 **Transition Initiatives (TRIs)**, teams of CETPartnership members that work together on a specific thematic challenge.

Each TRI defines the scope of one or more **Call Modules**. Call Modules are the topics of each annual Joint Call.

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CETPartnership Joint Call 2023

General information about the call

The CETPartnership Joint Call 2023 has two parts:

International Part (2-stages)

Stage 1

Submission of a **pre-proposal**: a project consortium chooses one Call Module for the pre-proposal. If the pre-proposal is selected, the project consortium is invited to submit a full proposal.

Stage 2

Submission of a **full proposal**, only if the pre-proposal is invited to participate in Stage 2.

National/Regional Part

All project partners will be evaluated according to national/regional eligibility criteria and requirements.

Some Funding Agencies require submission of a proposal on national/regional level. See the respective national/regional requirements for more information.

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Process för ansökning – Joint Call 2023

Från ansökan till projekt

- Ansökningar steg 1 (höst)
- Ansökningar steg 2 (vår)
- Utvärdering/Urval CETP (sommar)
- Nationell ansökan och beslut steg 3 (sommar/höst)

General information about the call

Call Calendar

Stage 1 Opening for pre-proposal submission	20/09/2023
Stage 1 Closing	22/11/2023, 14:00 CET
Stage 2 Opening for full-proposal submission	25/01/2024
Stage 2 Closing	27/03/2024, 14:00 CET
Funding decision communicated	June 2024
Project start (tentative)	September 2024
Application to national/regional Funding Agencies	Consult specific Funding Agency Annex.

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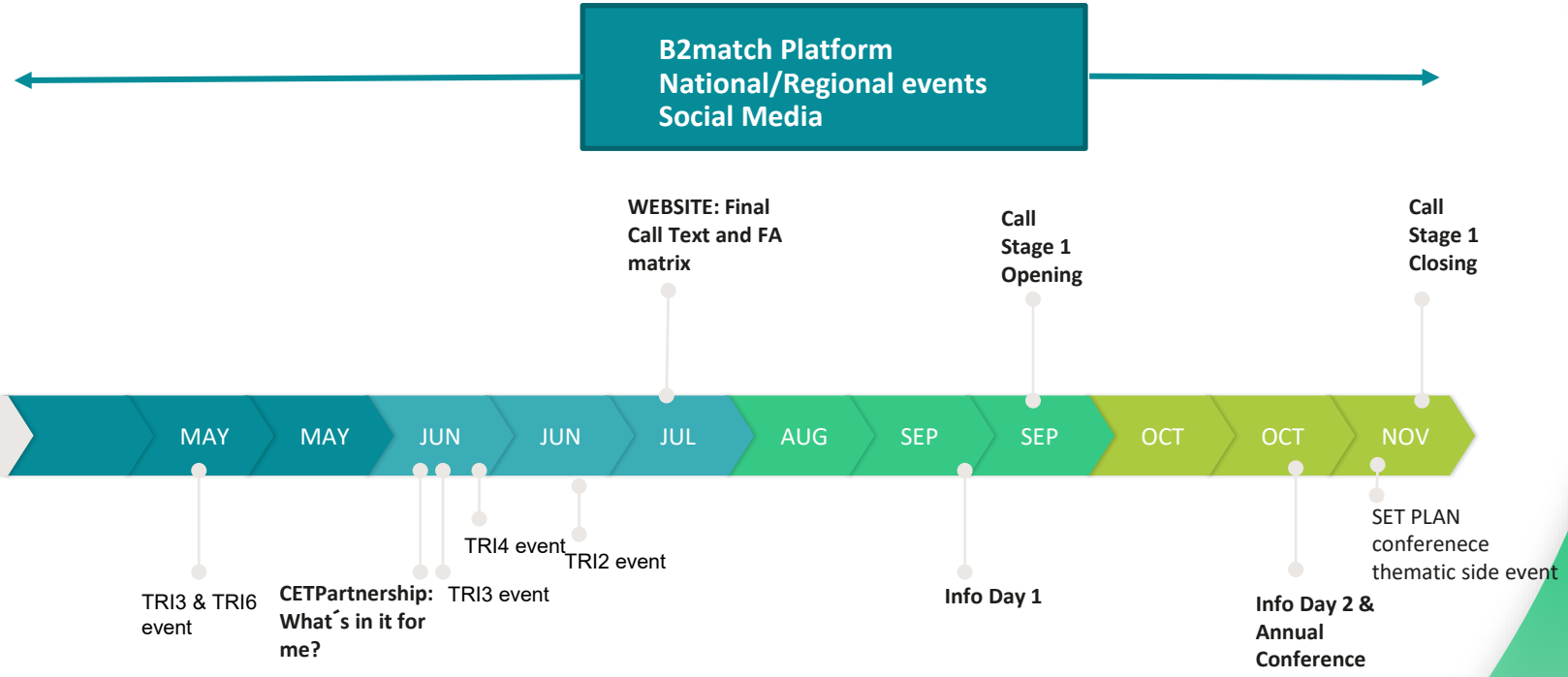
Joint Call 2023 promotion timeline



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EVENTS
PROJECT MATCHMAKING
NEWSLETTER

bit.ly/CETPartnershipMatchmaking

EUROPEAN PARTNERSHIP

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CETPartnership Joint Call 2023
Call Modules

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CETPartnership Joint Call 2023 Call Modules

No.	Title	Contact
CM2023-01	Direct current (DC) technologies for power networks	TRI1@cetpartnership.eu
CM2023-02	Energy system flexibility: renewables production, storage and system integration	TRI1@cetpartnership.eu TRI2@cetpartnership.eu
CM2023-03A/3B	Advanced renewable energy (RE) technologies for power production	TRI2@cetpartnership.eu
CM2023-04	Carbon capture, utilisation, and storage (CCUS)	TRI3@cetpartnership.eu
CM2023-05	Hydrogen and renewable fuels	TRI3@cetpartnership.eu
CM2023-06	Heating and cooling technologies	TRI4@cetpartnership.eu
CM2023-07	Geothermal energy technologies	TRI4@cetpartnership.eu
CM2023-08	Integrated regional energy systems	TRI5@cetpartnership.eu
CM2023-09	Integrated industrial energy systems	TRI6@cetpartnership.eu
CM2023-010A/10B	Clean energy integration in the built environment	TRI7@cetpartnership.eu

Integrated Net-zero-emissions Energy System
Call topics 1 and 2

Leading Expert

Michele de Nigris, RSE, IT

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CM2023-01 – DC technologies for power networks

Call module developed through a **co-creation approach** involving all **TRI 1** Partners and relevant stakeholders

ETIP SNET PLAN. INNOVATE. ENGAGE.

ETIP Wind EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON WIND ENERGY

IWG HVDC

IWG 4

Target groups	Need owners / potential applicants • Offshore wind farms/energy islands • Grid operators (TSO, DSO and industrial/residential DC grids) • Industry and SMEs in the fields of components, systems and devices for energy systems as well as software (services) • Universities and research institutes
TRL	TRL jump of 1-2 classes
Budget	Budget of 10 M€: 2-3 projects shall be funded with 2 - 4 M€ each. Projects addressing planning and markets are expected in the range of 1 - 2 M€

Domain

HVDC, MVDC and LVDC deployment

Offshore, onshore, for energy island integration, pure DC and hybrid AC/DC grids, industrial/residential DC grids

Objective

Accelerate deployment through the development of **enabling and supporting tools**

Call main focus

Operation, control and protection

- Grid operation and control principles for multi-terminal and hybrid networks, DC distribution concepts and applications
- LVDC applications for distributed RES/EV integration and industrial processes

Verification, test and maintenance

Standardized test and validation methods for scaling, de-risk and protection

Planning and markets

Coordination and integration of meshed energy islands and hybrid HVDC, MVDC, AC/DC grids

CETPartnership and Mission Innovation GPFM Joint Call Module

CM2023-02 Energy system flexibility: renewables production, storage and system integration

Call module developed with

- Mission Innovation **Green Powered Future Mission**
- **TRI 1** and **TRI 2** experts and Partners

This Call Module brings **the contribution of CETPartnership at a global level** and gives a **global dimension to funded projects**, which will benefit from work and exchange with project partners from different world regions

Target groups	Private/regulated sector actors such as • system operators • SMEs and spin-off companies • Research Technology Organisations (RTOs)
TRL	Start from TRL ≥3 Achieve TRL 5-6
Budget	A contribution ranging from 0.5 to 1.5 M€ would allow to co-fund sound project proposals

Domain

11 GPFM Innovation Priorities clustered into 5 R&I themes:

1. Large-scale renewable generation and system flexibility and reliability
2. Energy storage technologies and systems for flexibility services
3. System integration and flexible operations
4. Innovative flexibility sources and flexibility markets
5. Energy data management and security

Objective

Address key aspects to accelerate the uptake of highly innovative replicable and scalable solutions, preferably built on top of existing initiatives or assets

Call main focus

R&D projects dedicated to technological development, system integration, digitalization, standardisation relevant to the Innovation Priority themes of the Module Domain

Enhanced zero emission Power Technologies
Call topics 2 and 3

Leading expert

Francesco Basile, University of Bologna, IT

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CM2023-03A/03B: Advance renewable energy (RE) technologies for power production (3A/3B)

Objectives of the Call Module

Addressing key aspects in view of accelerating the development and the uptake of zero emission power technology in the Green Deal perspective:

- Contributes to the relevant SET Plan Implementation Plans objectives (on Ocean Energy; PV; CSP, Wind, and Bioenergy)
- Complements Horizon Europe calls covering R&I areas/topics underfunded with respect to the investment needed
- Addresses sustainability aspects
- Addresses integration/hybridization/coupling of different RE technologies for power production and different energy carriers

Scope of the Call Module

The Call Module calls for both research-oriented (ROA/3A) and innovation oriented projects (IOA/3B) addressing one of the following scopes:

- A new generation of cost-competitive, scalable and transferrable RE technologies for power production with higher efficiency, enhanced performances, lifetime, reliability and sustainability
- Integration of different RE power production technologies
- Integration/coupling/hybridization (co-generation of power and other energy carriers)

Expected impact

- Increase the energy conversion efficiency
- Increase technology performance and/or lifetime
- Develop innovative technologies / components
- Decrease investment cost and LCoE
- Demonstrate the feasibility of scaling up
- Demonstrate the technology in different geophysical/weather conditions
- Reduce environmental impact or improve multiple use of occupied land surface / or maritime space
- Minimize the use of critical raw materials and apply circularity-by-design approaches

Project consortia

- Universities, Research and technology developers
- Private companies: SMEs and spin-offs; large companies
- Technology integrators, system integrators
- Site planner and integrators

TRL

ROA: research and innovation action (final TRL≥ 4)

IOA: Innovation action (final TRL≥ 6)

tri2@cetpartnership.eu

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CM2023-03A/03B: Advance renewable energy (RE) technologies for power production: technology areas

tri2@cetpartnership.eu

- **BIOENERGY FOR POWER GENERATION:** High efficiency biomass (co)generation of power; Integrated CHP systems
- **CONCENTRATED SOLAR POWER / THERMAL (CSP/STE):** Line-focus solar power plants technology; Central Receiver power plants technology; Turbo-machinery for specific conditions of solar thermal power plants
- **OCEAN ENERGY:** Dry-testing of power take-off for wave energy devices; Tidal blades; Connection systems
- **OFFSHORE RENEWABLES** (marine renewables, floating wind/PV, etc.): New materials / novel applications of existing materials for moorings, foundations and components; Mooring and connections; Site-specific marine observation, modelling and forecasting
- **SOLAR PHOTOVOLTAICS:** Advanced PV Technologies **(**Perovskite / Silicon Tandem-Solar cells and modules /Thin film cells); Improvement of Lifetime, Reliability and Sustainability; Digitalization for O&M; New Applications through Integration of PV
- **WIND ENERGY (OFFSHORE AND ONSHORE):** Next generation of wind turbine technology; Atmospheric modelling; Digital twins for turbines; O&M solutions/digital solutions; Landscape integration
- **HYBRID-RES SOLUTIONS:** Site integration optimization of different RES; Integration with storage; Hybrid systems

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Enabling Climate Neutrality with Storage Technologies, Renewable Fuels and CCU/CCS Call topics 4 and 5

Leading Expert

Aage Stangenland, RCN,NO

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CM2023-04: Carbon capture, utilisation and storage (CCUS)

Objectives

Facilitate the emergence of CO_2 Capture, Utilisation and Storage (CCUS) technologies via funding of transnational projects

Scope

Selected projects will support the emergence of CCUS primarily in the industrial sectors and the energy sector:

- CO_2 capture from energy intensive or heavy industry
- Advancing lower cost CO_2 capture technologies
- CO_2-storage sites
- Enabling CCUS technologies
- Transport and injection of CO_2
- Reuse of existing energy assets for CCUS
- Negative emission technologies (NETs)

Expected impact

Funded projects will have a significant contribution to the green transition by accelerating development and deployment of CCUS technologies.

All projects must advance the state-of-the art for CCUS technologies and contribute new knowledge and new competence that brings CCUS closer to commercialisation.

Project consortia	In addition to standard CETP criteria of eligible partners from at least three CETP-countries, consortia submitting applications within CCU/CCS must demonstrate the interest of industry partner(s) by actively involving them in the project as formal partners.
TRL	Projects should aim at TRL 5-9. Parts of projects (e.g. one WP or a certain task) may address lower TRL.

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CM2023-04: Carbon capture, utilisation and storage (CCUS)

What we expect from new projects

- Funded projects will have a significant contribution to the green transition by accelerating development and deployment of CCUS technologies.
- All projects must advance the state-of-the art for CCUS technologies and contribute new knowledge and new competence that brings CCUS closer to commercialisation.
- Only projects ending at TRL 5 or higher will be eligible for funding.
- Industry partners must be actively involved in as formal partners.

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CM2023-05: Hydrogen and renewable fuels

tri3@cetpartnership.eu

Objectives

Technological development, demonstration, and deployment of renewable and synthetic fuels production, including hydrogen and energy storage.

Scope

International projects targeting technological solutions for end users, with innovative projects which can contribute, support, and provide results to future or already existing pilot and demonstration installations:

- Hydrogen technologies
- Renewable fuels, including renewable ammonia
- End-use applications
- Cross-cutting issues

Expected impact

Supported projects are expected to have a significant impact on promoting the deployment of new and cost-efficient technologies with a significant contribution to the green transition to be important contributions to climate neutrality by 2050.

Project consortia	Research organisations, higher education institutions and industry (small and large private companies). Public and private organisations, associations and NGOs are also welcome to be involved.
TRL	Projects should aim at TRL 5-9. Parts of projects (e.g. one WP or a certain task) may address lower TRL.

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TRI 3.2 – Hydrogen and renewable fuels

Aim

- Facilitate the development and adoption of technologies for effective production, transport, storage and end-use of hydrogen and renewable fuels, including security aspects.
- 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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Efficient zero emission Heating and Cooling Solutions
Call topics 6 and 7

Leading Expert

Gerdi Breembroek, RVO, NL

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CM2023-06: Heating and cooling technologies

tri4@cetpartnership.eu

Objectives

- Provide enhanced and improved heating and cooling technologies and systems for all major parts or climate zones of Europe by 2030 to enable 100% climate-neutral heating and cooling by 2050

- Geothermal energy: module 7
- Relaunch 2022

Scope

Research and innovation for the geothermal production chain:

- Heat and cold sources
- Thermal storage
- Heating and cooling networks and conversion
- End-use systems

Expected impact

- Cost reduction and/or
- Increase in competitive market opportunities and/or
- Increase in environmental protection
- Innovations impacting societal acceptability, safety, and/or circularity are also within scope.

Consortia	Private sector and research organisations

TRL	4-8

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CM2023-07: Geothermal energy technologies

tri4@cetpartnership.eu

Objectives

- Enable a broad range of geothermal energy-related innovation, development, and research projects, for heating and cooling, power generation, underground thermal energy storage (UTES), and the co-production of geothermal minerals.
- Relaunch GEOTHERMICA-2

Scope

Technological solutions, for all end users including industry

- Identification and assessment
- Resource development
- Operation and integration in the energy system

Expected impact

- Cost reduction and/or
- Increase in competitive market opportunities and/or
- Increase in environmental protection
- Innovations impacting societal acceptability, safety, and/or circularity are also within scope.

Consortia	Private sector and research organisations

TRL	4-8

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Integrated Regional Energy Systems
Call topic 8

Leading Expert

Kristina Starborg, SWEA, SE

Leading Expert

Tina Ringenson, SWEA, SE

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the European Union

CM2023-08 Integrated regional energy systems

tri5@cetpartnership.eu

Objectives

- Applying Projects should focus on regionally anchored ecosystems with **need owners of the region** and bring them together at European level.
- The projects should coordinate and **link research** and **innovation activities** with **testbeds**, e.g. living labs and **demonstration projects**.
- The transnational cooperation of these ecosystems will help **foster a deeper understanding** of the different **infrastructural** and **socio-economic** contexts.

Scope

- Projects should be "**regional**" rather than "local"
- the participation of **regional need owning entities**
- connection to local/regional **climate** and **energy plans** or **existing roadmaps** and **implementation plans** is desired
- Solutions shall contribute to **interoperability** in developing **harmonized business processes** for scalable solutions.

Expected impact

- **Knowledge building** and the **transfer of solutions** to other **regions with similar conditions** gain larger markets for solution providers
- **more efficient use of local resources** and speed up the co-transition of regional energy systems.
- Scaling up in this context means that there is a **high potential for replicability** of the solution in similar environments across Europe.

Project consortia	• encourage consortia to further develop already **existing regional initiatives** by adding new aspects • connect to ongoing or recently finished **demonstration projects** • cooperate on **existing test infrastructure** and **knowledge**
TRL	**5-9** Activities with TRL levels 3-5 may be included if they contribute to the higher project goal

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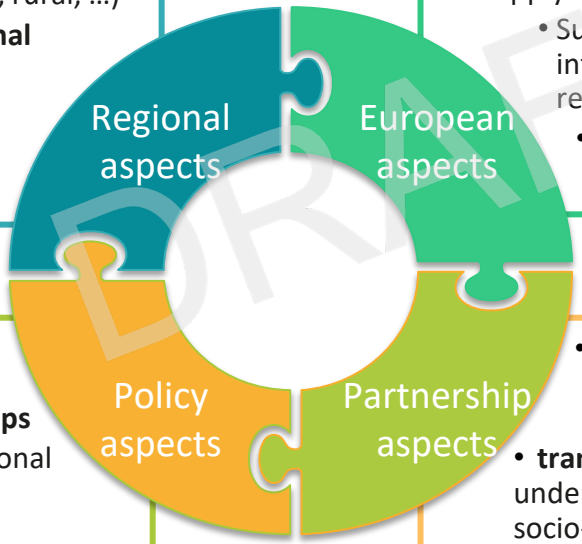
Characteristics of local / regional Energy Transition Ecosystems

- located in a **geographical** context
- has specific characteristics (urban, rural, …)
- Connect to already **existing regional initiatives** by adding either new aspects or new partners



- Enabling a secure, resilient regional energy supply for a **specific regional context**
  - Sustainable use local and regional infrastructures and local and global resources
    - Use of **cross sector synergies**, e.g. heat, industry or transport

- Refer to existing local/regional climate, energy- and implementation **plans** or **roadmaps**
- meeting the individual local/ regional requirements in terms of generation, demand and goals

- Forum for corporation where **need owners** and related **stakeholders** meet
- **transnational** collaboration for more understanding of infrastructural and socio- economic contexts

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Integrated Industrial Energy Systems
Call topic 9

Leading Expert

Fredrik Backman, SWEA, SE

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CM2023-09: Integrated industrial energy systems

tri6@cetpartnership.eu

Objectives	Scope	Expected impact
Support and link R & I between different actors with focus on existing needs/problems within industry.	International projects targeting industrial systems solutions for end users.	Many technologies are developed and ready for use (or close to) but integrating these technologies into industrial processes on a system level is lacking (Changed processes).

Project consortia	Research organisation, higher education institutions and industry (small and large private companies). Public and private organisations, associations and NGOs are also welcome to be involved.
TRL	Projects should aim at TRL 3-7. Parts of projects (e.g. one WP or a certain task) may address lower TRL.

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CM2023-09: Integrated industrial energy systems

tri6@cetpartnership.eu

1 Call module with industrial process focus:

The module will support the challenges in REPowerEU plan by focusing on topics that contribute to one or more of the following areas in line with the plan:

- Energy and resource efficiency.

- Substituting fossil fuels as an energy source in industrial processes thereby accelerating Europe's clean energy transition.

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Integration in the Built Environment
Call topic 10

Leading Expert

Stefan Nowak, NET Nowak Energy, CH

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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.

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CM2023-10A/10B Clean energy integration in the built environment

tri7@cetpartnership.eu

Objectives

Two call modules (ROA / IOA)

- To develop and enable the inte-gration of new efficient energy solutions for/in buildings/the built environment, covering generation, use, storage, grids and mobility.
- To focus on the physical, technical, aesthetical and digital integration of clean energy conversion techno-logies for power, heat and cold.

Scope

To transform buildings / the built environment from a passive towards an active role in the future energy landscape, along two challenges:

- Integration of renewable energy conversion technologies for power, heat and cold
- Digitalization of planning, con-structing, commissioning and operation

Expected impact

Based on the projects and their results:

- Validated solutions that can be taken to the next level (research and innovation activities)
- Adoption of proven solutions by the building community (e.g. architects, engineers, installers, building industry as well as regulators and standards)

Project consortia	Energy, building and construction research (public and private research organisations, higher education institutions, etc.) and private industry (SMEs, large companies, etc.)
TRL	**ROA:** research and innovation action (final TRL≥ 4) **IOA**: Innovation action (final TRL≥ 6)

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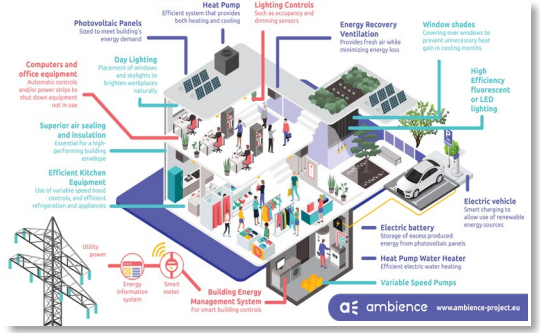
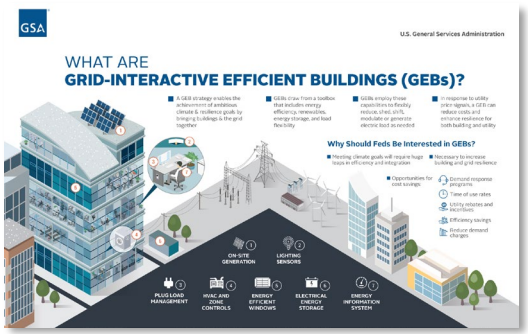
Identifying the focus of TRI 7





Individual Technologies

Integration in Buildings

Areal Concepts

TRI 7: Focus on the Interface - Emphasis on Integration

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Focus of TRI 7

- Interface between individual technologies and the system
- Addressing the **building / built environment related perspective**
- Identification of the **integration aspect**
- Physical, technical, aesthetical and/or digital integration
- Generation, Use and Storage (electricity, heat, cold)
- Network issues (electricity, heat, cold)
- Smart operation and management
- Role of Digitalization

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Building typologies

- Existing and new buildings
- Residential and non-residential, public and private buildings
- Old, historical and special buildings
- Service, mobility and logistics infrastructure

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Frågor?

CETPartnership@energimyndigheten.se

Tack så mycket!

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State Aid rules and funding rates

Art. 25c of the GBER: CASE 2-the synergy case > R&I projects within a co-fund, trans-national framework (ie. ERA-Nets, EU Partnerships)

- **1. NOTIFICATION:** State aid granted to projects in a EU co-fund scheme (minimum 3 participating MSs or 2 Ms and 1 AC) are compatible with the internal market and shall not be notified to the Commission
- **2. ELIGIBILE ACTVITIES**: Eligible activities can be the same eligible under Horizon Europe excluding activities beyond experimental development >
  - our interpretation is that projects shall range up to TRL 7 (system prototype demonstration in operational environment)
  - doubts on eligibility of TRL 8 (system complete and qualified)
  - NOT eligible activities at TRL 9 (system proven in operational environment)

State Aid rules and funding rates

- **3. COST CATEGORIES** can be aligned to Horizon Europe > eligible HE cost categories are slightly different from the ones eligible under the general case (Art. 25) > the implication is that at the national level we can use the same budget table as in Horizon Europe, and we can recognize **overheads as 25% flat rate** calculated on all direct costs and excluding subcontracting.
- **4. FUNDING RATES:** *Funding rate can be aligned to Horizon Europe:* meaning 100% for RIA and 100% or 70% for IA (for companies. […]*The total public funding provided shall not exceed the funding rate established for the research and development project or feasibility study following the selection, ranking and evaluation under the Horizon 2020 or Horizon Europe programme rules.*
- **5. APPLICATION USE-CASE:** This **applies only for co-fund actions**, where the Commission supports projects with at least 30% co-fund.

State Aid rules and funding rates

Issues to discuss and clarify are related to:

- Cost categories > can we align the cost categories to HE?
- Funding rates > can we support public organisations up 100% (RIA/IA) and up to 70% private companies (in the case of IA)?
- TRL: what is the max TRL we shall stick to?