CETPartnership

EUROPEAN PARTNERSHIP

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TRI 4: Efficient zero emission Heating and Cooling Solutions

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TRI4 Heating & Cooling

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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.

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What is the CETPartnership?

Clean

Energy

Transition

Partnership

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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.

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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 international relationships

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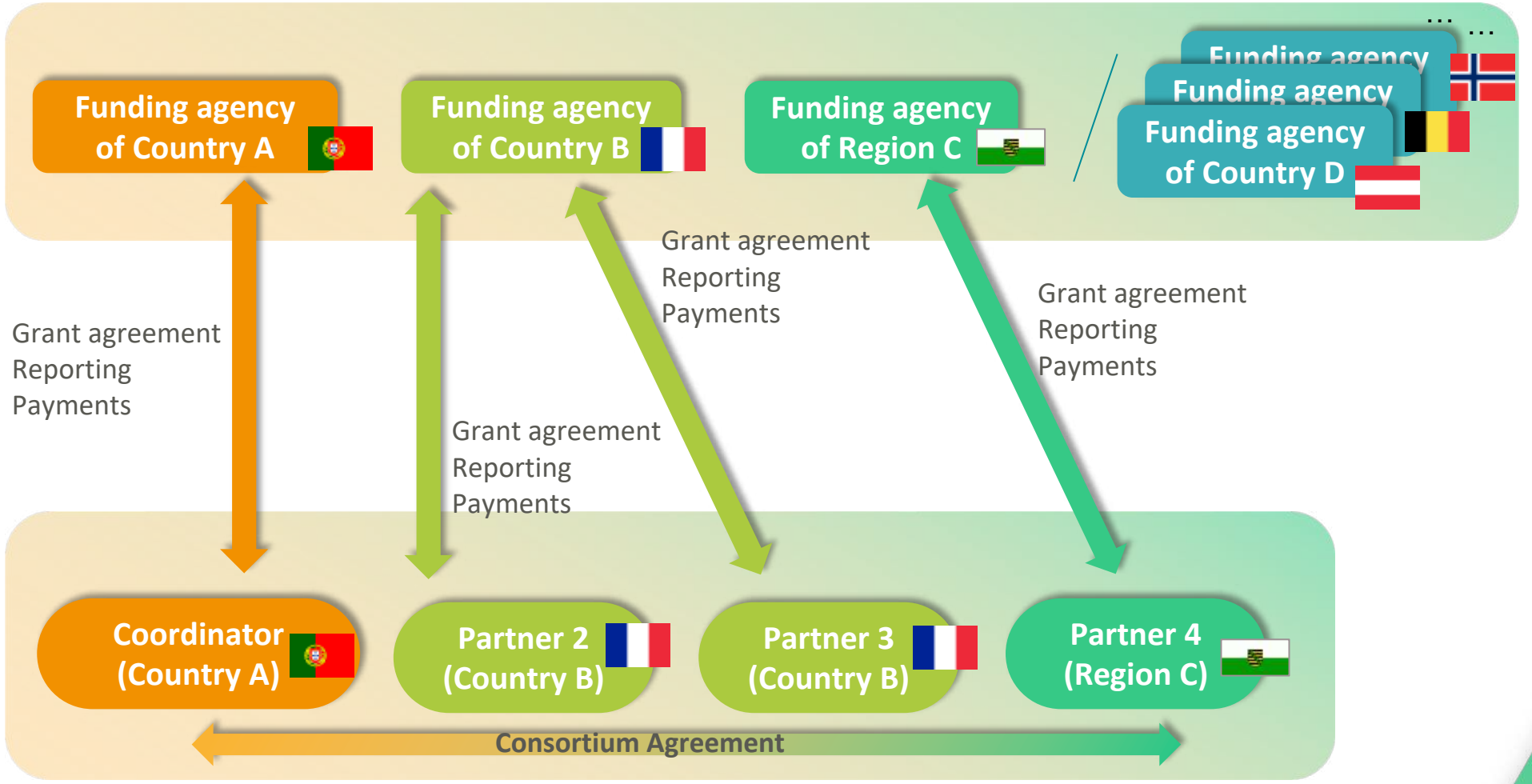
CETPartnership



Funded Project

How do we work?

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.

E-mail to TRI 4 office: tri4@cetpartnership.eu

Call Modules

Call Module
CM2023-01: Direct current (DC) technologies for power networks
CM2023-02: Energy system flexibility: renewables production, storage and system integration
CM2023-03 (A/B): Advanced renewable energy (RE) technologies for power production
CM2023-04: Carbon capture, utilisation, and storage (CCUS)
CM2023-05: Hydrogen and renewable fuels
CM2023-06: Heating and cooling technologies
CM2023-07: Geothermal energy technologies
CM2023-08: Integrated regional energy systems
CM2023-09: Integrated industrial energy systems
CM2023-10 (A/B): Clean energy integration in the built environment

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Modules #6 and #7 for TRI4 Heating & Cooling

- The TRI4H&C Call modules encourage **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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Call text 2023

DRAFT

2

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Two call modules

Heating and Cooling Technologies

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

#6

Geothermal Energy Technologies

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.

#7

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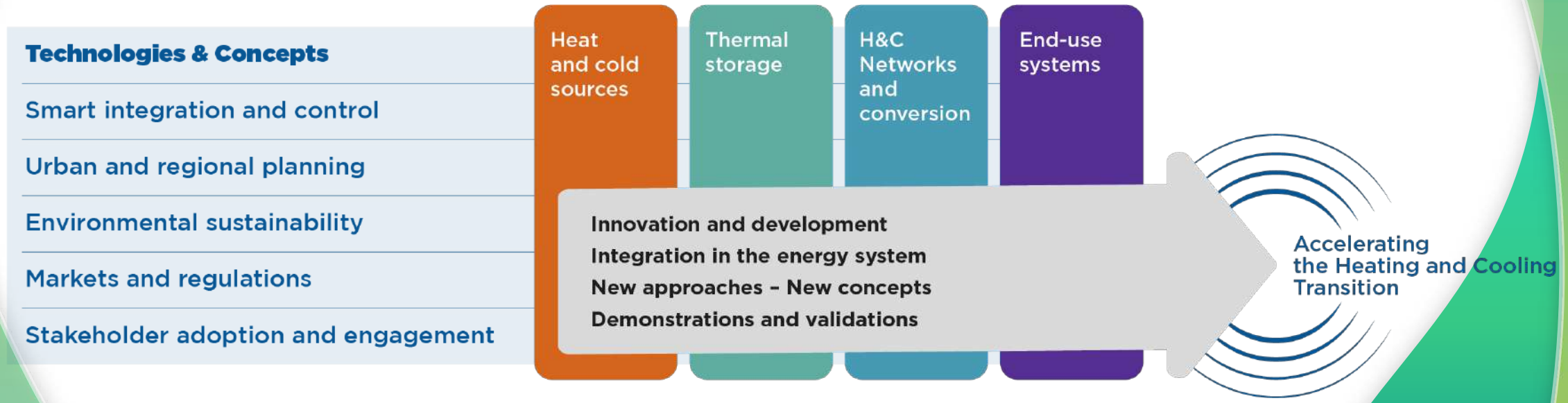
Heating and Cooling Technologies #6



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Heating and Cooling Technologies

- **Heat and cold sources**, Innovative approaches for solar thermal, local and regional excess resources, renewable cooling technologies, concentrated solar for (industrial) thermal energy purposes, ambient heat and cold from the air, surface water, sewers etc., biomass and organic waste and excess heat from industry.

- **Thermal storage,** new storage technologies and storage-related innovations aiming at, e.g. small-scale hour-to-day thermal storage in industry and the built environment, smart systems balancing supply and demand, excess power to thermal energy, seasonal thermal storage integrated into a building or DHC (District heating and cooling) system.

- **Heating and cooling networks, conversion**, and integration, including but not limited to innovations for more cost-efficient heating and/or cooling networks and their operation, retrofit of heating and/or cooling networks, conversion technologies such as heat pumping technologies, in the built environment and industry.

- **End-use systems:** innovative distribution systems within the end-user system (typically a building or a home) are relevant to the heating and/or cooling system because the temperature level matters.

#6

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Heating and Cooling Technologies

The **objective** of successful projects, developing technologies, methods, knowledge or innovations should be the following:

- For pilots and demos (aiming towards TRL7, 8 or 9 after project completion), the innovation must enable cost reduction and/or an increase in competitive market opportunities and/or environmental protection compared to state-of-the-art today. Innovations impacting societal acceptability, safety, and/or circularity are also within scope. Pilots and demos are realised in the operational environment, in 'real life'.
- For applied research and development (aiming towards TRL 5 or 6 after project completion), the project's output must enable significant cost reduction and/or a significant increase in competitive market opportunities and/or environmental protection and/or better tools and methodologies compared to state-of-the-art today. Innovations significantly impacting societal acceptability, knowledge development, experience sharing, safety, and/or circularity are also within scope. Such projects have a valid proof-of-concept before starting and typically develop the innovation in detail in a laboratory or similar environment.

#6

Heating and Cooling Technologies

This Call module 6 ‘Heating and Cooling Technologies’ complements various Call modules in the CETPartnership joint Call.

- PV/T is covered in Call module 3 (TRI2).
- Concentrated solar power is covered in Call module 3 (TRI2), while concentrated solar for thermal applications in the industry is covered by this Call module (6).
- Geothermal energy technologies are covered in Call module 7.
- Thermal storage *technologies* to be integrated into the built environment or industrial applications are covered in this Call module, whereas thermal storage technologies with a focus on subsurface utilisation are referred to in Call module 7.
- Projects focusing on integrating heating and cooling in regional or industrial energy systems or the built environment are referred to Call modules 8, 9, and 10, respectively.

- **In case of doubt - consult with your funding organisation.**

#6

Call Module 6: “Heating & Cooling Technologies“

Country	Funding agency
Belgium	Fonds Innoveren en Ondernemen (FIO)
Belgium	Service Public de Wallonie (SPW)
Cyprus	Research and Innovation Foundation (RIF)
Denmark	Energy Technology Development and Demonstration Programme (EUDP)
Denmark	Innovation Fund Denmark (IFD)
Estonia	Estonian Research Council (ETAg)
Estonia	Ministry of Economic Affairs and Communications (MKM)
Finland	Innovaatiorahoituskeskus Business Finland (BF)
France	Agence Nationale de la Recherche (ANR)
Germany	Forschungszentrum Jülich GmbH (BMWK) (FZJ (BMWK))
Germany	Saxon State Ministry for Science, Culture and Tourism (SMWK)
Hungary	National Research, Development and Innovation Office (NKFIH)
Iceland	The Icelandic Centre for Research (RANNIS)
Ireland	Sustainable Energy Authority of Ireland (SEAI)
Italy	Ministry of Economic Development (MIMIT)

Country	Funding agency
Malta	Malta Council for Science and Technology (MCST)
Netherlands	Netherlands Enterprise Agency (RVO)
Norway	The Research Council of Norway (RCN)
Poland	National Centre for Research and Development (NCBR)
Portugal	Fundação para a Ciência e a Tecnologia (FCT)
Spain	Agencia Estatal de Investigación (AEI)
Spain	Centre for the Development of Industrial Technology (CDTI)
Spain	Departamento de Desarrollo Económico, Sostenibilidad y Medio Ambiente. Eusko Jaurlaritza-Gobierno Vasco (EUSKADI)
Spain	Fundación para el Fomento en Asturias de la Investigación Científica Aplicada y la Tecnología (FICYT)
Sweden	Swedish Energy Agency (SWEA)
Switzerland	Swiss Federal Office of Energy (SFOE)
Türkiye	The Scientific and Technological Research Council of Türkiye (TUBITAK)
United Kingdom	Scottish Enterprise (SE)

28 funding agencies

Check updated list

https://cetpartnership.eu/funding-agencies-and-call-modules

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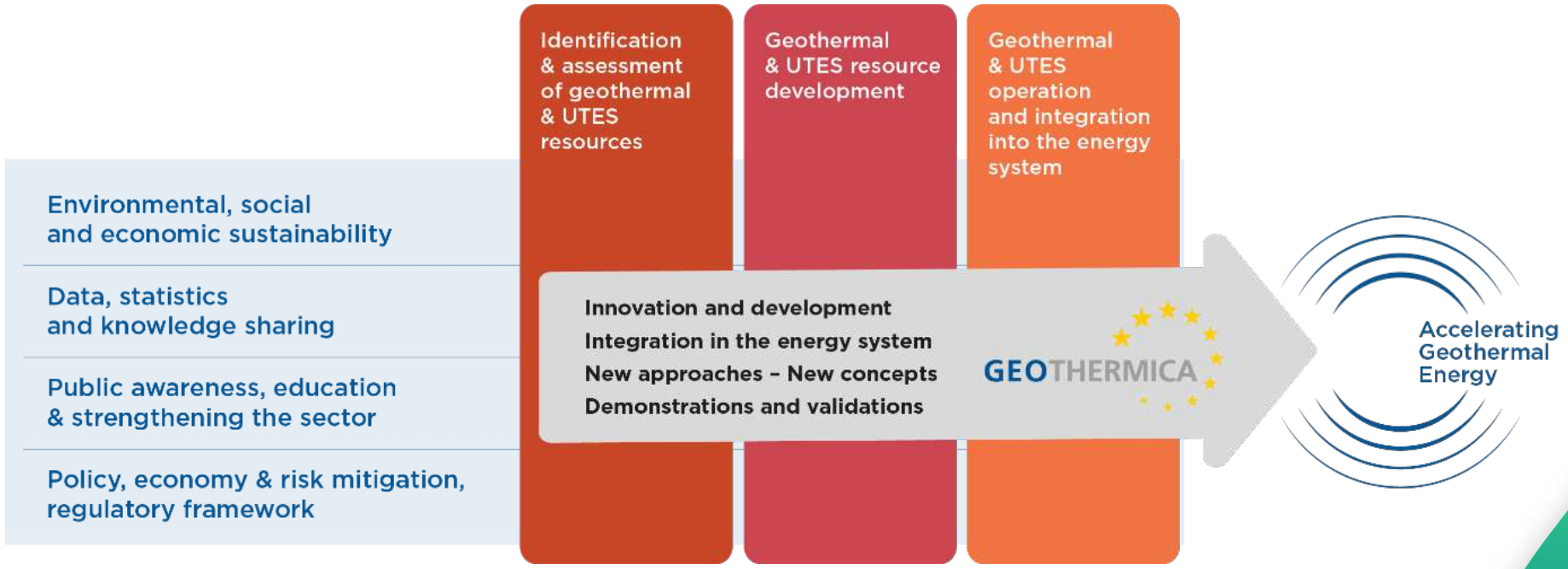
Geothermal Energy Technologies #7



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Geothermal Energy Technologies

- **Identifying and assessing geothermal and underground thermal energy storage (UTES) resources, reserves and reservoirs:** Innovative and improved prospecting and exploration techniques and modelling methods to identify and assess geothermal resources at all depth levels.

- **Geothermal & underground thermal energy storage (UTES) resource development:** New drilling and well completion technologies, reservoir optimisation, stimulation and innovative systems to manage induced seismicity.

- **Geothermal operation and integration into the energy system:** Innovative concepts with geothermal energy as part of the energy system; geothermal reservoirs for heating, cooling and storage; innovative power cycles; novel revenue streams from additional side benefits from geothermal utilisation (such as mineral extraction); innovative applications in the built environment and industry. For operation, novel approaches to improve well injectivity and reliability and availability of injection operations; novel equipment, materials and methods for lowering and optimising operating expenses; disruptive smart reservoir management technologies; and innovative approaches to managing induced seismicity during production.

#7

Geothermal Energy Technologies

The **objective** of successful projects, developing technologies, methods, knowledge or innovations, should be the following:

- For pilots and demos (aiming towards TRL7, 8 or 9 after project completion), the innovation must enable cost reduction and/or an increase in competitive market opportunities and/or environmental protection compared to state-of-the-art today. Innovations significantly impacting societal acceptability, safety, and/or circularity are also within scope. Pilots and demos are realised in the operational environment, in 'real life'.
- For applied research and development (aiming towards TRL 5 or 6 after project completion), the project's output must enable significant cost reduction and/or a significant increase in competitive market opportunities and/or environmental protection and/or better tools and methodologies compared to state-of-the-art today. Project output significantly impacting societal acceptability, knowledge development, experience sharing, safety, and/or circularity are also within scope. Such projects have a valid proof-of-concept before starting and typically develop the innovation in detail in a laboratory or similar environment.

#7

Geothermal Energy Technologies

This Call module 7 ‘Geothermal Energy Technologies’ complements various Call modules in the CETPartnership joint Call. In case of doubt where to best propose your project, consult with your funding organisation.

- Thermal storage with a focus on geological storage is covered in this Call module 7, while Call module 6 focuses more broadly on thermal storage technologies.

- Projects focusing on the *integration* of geothermal energy and thermal storage in regional or industrial energy systems or the built environment are referred to as Call modules 8, 9, and 10, respectively.

#7

Call Module 7 Geothermal energy Technologies

Country	Funding agency
Belgium	Fonds Innoveren en Ondernemen **(FIO)**
Belgium	Service Public de Wallonie (**SPW**)
Cyprus	Research and Innovation Foundation (RIF)
Denmark	Energy Technology Development and Demonstration Programme (**EUDP**)
Denmark	Innovation Fund Denmark (**IFD**)
Estonia	Estonian Research Council (**ETAg**)
Estonia	Ministry of Economic Affairs and Communications (**MKM**)
Finland	Innovaatiorahoituskeskus Business Finland (**BF**)
France	Agence Nationale de la Recherche (**ANR**)
Germany	Forschungszentrum Jülich GmbH (**BMWK**) (FZJ (BMWK))
Germany	Saxon State Ministry for Science, Culture and Tourism (**SMWK**)
Hungary	National Research, Development and Innovation Office (**NKFIH**)
Iceland	The Icelandic Centre for Research (**RANNIS**)
Ireland	Geological Survey Ireland (**GSI**)
Ireland	Sustainable Energy Authority of Ireland (SEAI)
Italy	Ministry of Economic Development (MIMIT)

Country	Funding agency
Malta	Malta Council for Science and Technology (MCST)
Netherlands	Netherlands Enterprise Agency (RVO)
Portugal	Fundação para a Ciência e a Tecnologia (FCT)
Spain	Centre for the Development of Industrial Technology (CDTI)
Spain	Departamento de Desarrollo Económico, Sostenibilidad y Medio Ambiente. Eusko Jaurlaritza-Gobierno Vasco (EUSKADI)
Spain	Fundación para el Fomento en Asturias de la Investigación Científica Aplicada y la Tecnología (FICYT)
Sweden	Swedish Energy Agency (SWEA)
Switzerland	Swiss Federal Office of Energy (SFOE)
Türkiye	The Scientific and Technological Research Council of Türkiye (TUBITAK)
United Kingdom	Scottish Enterprise (SE)

26 funding agencies

Check updated list
https://cetpartnership.eu/funding-agencies-and-call-modules

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Important notes

- Consult the matrix '**Call module** vs **Funding organisations**'

- Consult the 'National Annex' of the relevant funding organisation(s), to be published on Funding Agencies and Call Modules | CETPartnership

- You need to contact the contact point from the National Annex to discuss your project plan! (If you don't have a name, consult the 2022 Call text)
- And your colleagues at your partner organisations need to do the same!

- You will find the **Call modules**, the '**National Annexes'** and the **matrix in the Call text**, on the CETPartnership Website.

- Visit the national/regional webinar, if organised.

- **22 November 2023,** the final deadline for pre-proposal submission

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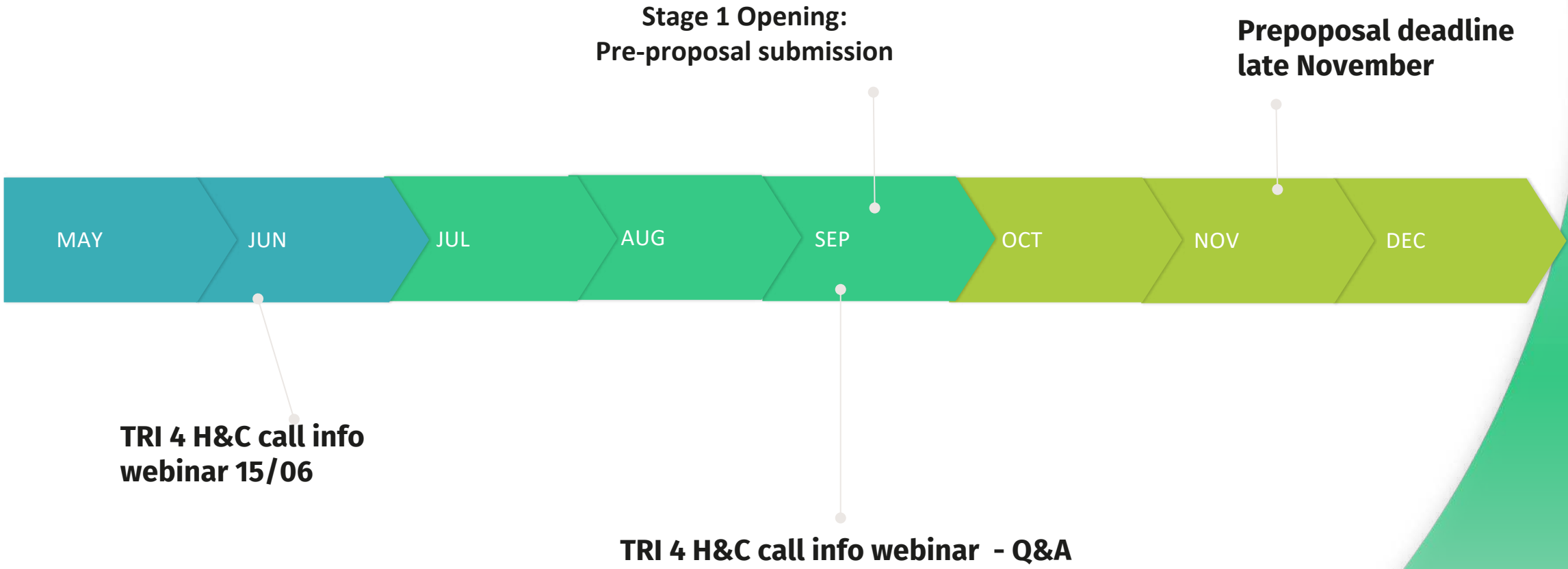
Timeline – related to call 2023

https://cetpartnership.eu/calls/joint-call-2023



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B2 Match and communication spread the word

3

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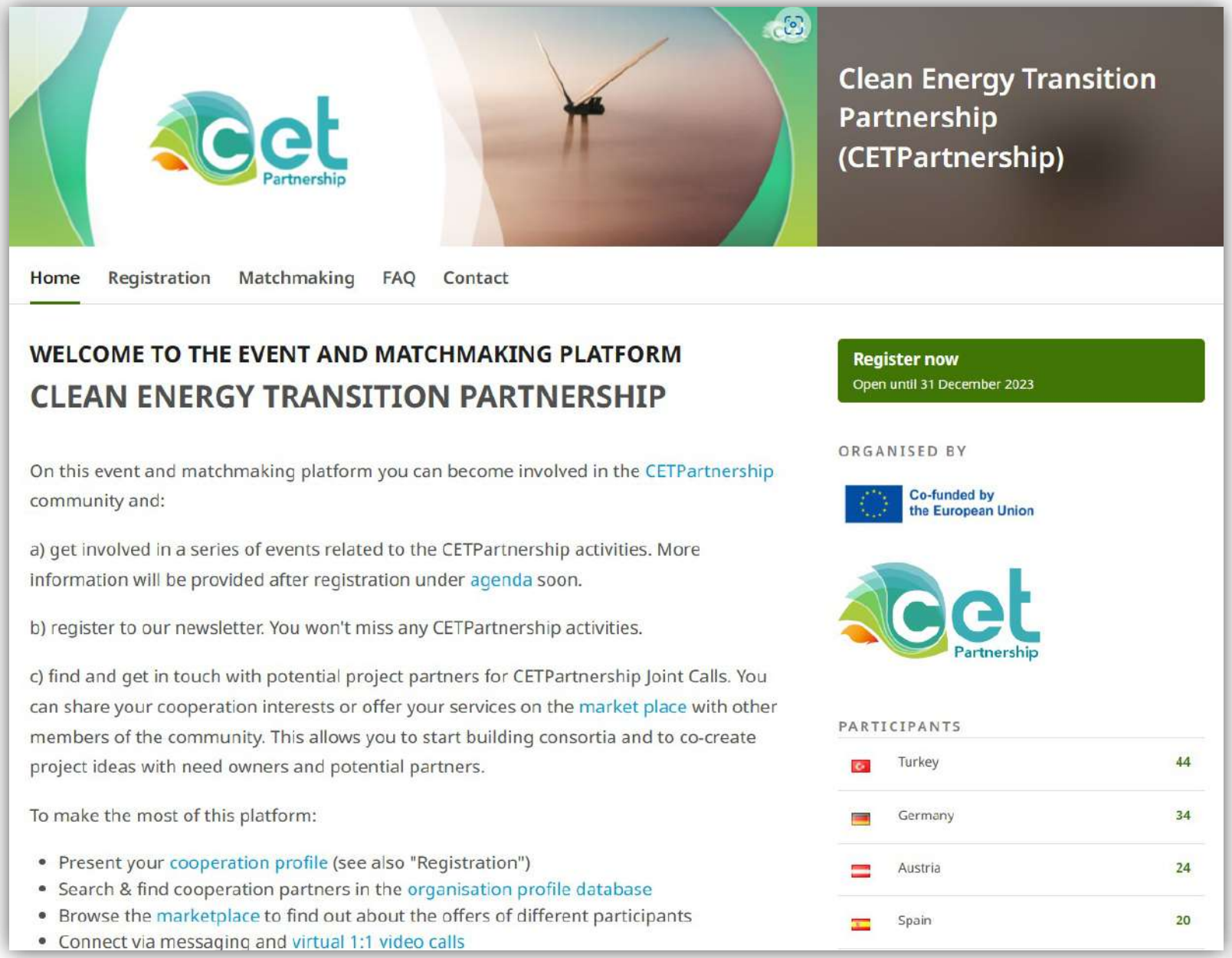

https://clean-energy-transition-partnership-2023.cetp.b2match.io/home

Q&A

Raise your hand if you have a question

Chat open for writing your questions.

4

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Stay tuned for call updates

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https://www.linkedin.com/company/cetpartnership/

https://www.youtube.com/@cetpartnership

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Thank You

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