EUROPEAN PARTNERSHIP

CETPartnership Joint Call 2023

27 September 2023

History of changes	
Date	Changes
2023-09-20	Initial version
2023-09-27	Addition of contact information for ANR/France Update of Canada/ERA Call Module participation

Contents

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1. Clean Energy Transition Partnership (CETPartnership)

1.1. Scope

The Clean Energy Transition Partnership (CETPartnership) aims at accelerating the clean energy transition to achieve the goal of climate neutrality by 2050. It is a multilateral and strategic partnership of national and regional research, development and innovation (RDI) funding programmes in EU Member States and Associated Countries, co-funded by the European Commission through Horizon Europe (HE).

The CETPartnership's goals are:

- Building a transnational transformative joint programming platform
- Developing and demonstrating technologies and solutions for the energy system transition
- Building innovation ecosystems that support capacity building at all levels

The CETPartnership supports the implementation of the European Strategic Energy Technology Plan (SET Plan)[1] and builds on existing SET Plan initiatives (ERA-Nets, IWGs, ETIPs, etc.). The partnership intends to contribute to the achievement of the EU decarbonisation targets set in A Clean Planet for all[2] and lastly in the Fit-for-55[3] package and to support the implementation of the EU energy and climate strategy such as the EU strategy for energy system integration[4], the EU strategy on hydrogen[5], the EU strategy on offshore renewable energy[6] and the REPowerEU Plan[7]. On a global level, the CETPartnership Joint Call 2023 (Call) is part of Mission Innovation (MI)[8] call series, i.e. MICall23. As such, some of the call topics are directly prepared in collaboration with MI missions, and all topics of the call is open for applications that directly and/or indirectly contribute to the work of MI missions.

Read more about the CETPartnership on the website[9] and in the CETPartnership Strategic Research and Innovation Agenda (SRIA)[10].

[1] https://energy.ec.europa.eu/topics/research-and-technology/strategic-energy-technology-plan_en

[2] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0773

[3] https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/

[4] COM(2020) 299 final, https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM:2020:299:FIN

[5] COM/2020/301, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0301

[6] COM(2020) 741 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2020:741:FIN

[7] COM/2022/230 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:230:FIN

[8] http://mission-innovation.net/

[9] https://cetpartnership.eu/

[10] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

1.2. Transition Initiatives (TRIs)

The CETPartnership includes seven Transition Initiatives (TRIs) addressing a broad range of RDI challenges from discrete technologies to integrated systems for the clean energy transition, as well as several cross-cutting dimensions, as shown in Figure 1.1 and Table 1.1.

CETPartnership	
System integration	**Enable technologies**
TRI1 Net-zero emissions energy system	**TRI2 Power technologies**
TRI5 Regional energy systems	**TRI3 Storage technologies, renewable fuels and CCU/CCS**
TRI6 Industrial energy systems	
TRI7 Built environment	**TRI4 Heating and cooling**

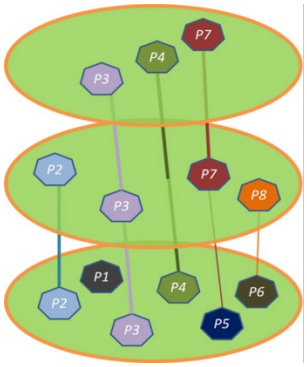
FIGURE 1.1. CETPARTNERSHIP TRANSITION INITIATIVES (TRIS)

TABLE 1.1. AIMS OF TRANSITION INITIATIVES (TRIS)

TRI1: Net-zero emissions energy system To develop optimised, integrated net-zero emissions energy systems, with electricity distribution and transmission grids as the "backbone" and with a high level of integration among all energy carrier networks, supported by energy storage and power conversion processes.
TRI2: Power technologies 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.
TRI3: Storage technologies, hydrogen, renewable fuels and CCU/CCS To provide cleaner technological solutions for storage technologies, hydrogen, renewable fuels, CCU (Carbon Capture and Utilisation) and CCS (Carbon Capture and Storage) contributing to significant CO_2 reduction by 2030 and the climate neutrality by 2050.
TRI4: Heating and cooling To provide 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.
TRI5: Regional energy systems To develop and validate integrated regional and local energy systems that efficiently enable a secure, resilient and CO_2-free regional energy supply for a specific regional context (up to and beyond 100% in the dynamic regional or local supply by 2030) and provide tailor-made solutions for individual regional and bring them together at European level.
TRI6: Industrial energy systems To develop and demonstrate a set of technical solutions for integrated industrial energy systems that enables efficient carbon-neutral industrial production sites as parts of the entire energy system.
TRI7: Built environment 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.

The CETPartnership supports a paradigm shift with an integrated approach to innovation considering not only technological aspects (Technology), but also business aspects (Market) and social and political aspects (Stakeholders). This implies a cross-sectoral and interdisciplinary approach, including aspects such as system integration of technologies, products, services, tools, business processes, market structures, regulatory regimes, policies as well as security, privacy and resilience. Such an approach to foster innovation is structured and facilitated by the framework of the Three-layer Research Model, which can be used in project design (mandatory in some part of the Call). Read more about the model

on the CETPartnership website [11].



1. Stakeholders: overcoming; This layer comprises a diverse group of entities ranging from individual end users, communities, energy industry and social sciences, education, politics, governance, etc.

2. Market: structuring; this layer includes all financial and business aspects, the energy market structures, the regulatory framework, sandboxes, socio-economic research and the business model.

3. Technology: enabling; this layer covers all the technological aspects related to energy technologies, hard & software, prototypes, incremental improvement or breakthrough, interoperability, etc.

FIGURE 1.2: THREE LAYER RESEARCH MODEL

1.3. CETPartnership Knowledge Community

The CETPartnership Knowledge Community is an integral part of the CETPartnership and aims to leverage exchange and co-create knowledge between RDI stakeholders, all CETPartnership funded projects and other national, transnational and international CETPartnership activities. It is intended to act as an information platform, to develop and present state-of-the-art knowledge, to lead discussions and to strengthen multilateral collaboration between research, industry, policy and society in the field of the clean energy transition. Through strategic knowledge management, outcomes of RDI will provide an evidence and fact base for policymaking in support of the clean energy transition in domains of innovation, market entry and diffusion as well as regulation and procurement.

The CETPartnership Knowledge Community will implement innovative monitoring and transfer activities and generate synergies for knowledge co-creation in working groups, in the thematic challenges addressed by TRIs and in the cross-cutting dimensions according to the CETPartnership SRIA [12]. It will be organised by the CETPartnership Knowledge Community Management (KCM) using the CETPartnership Digital Collaboration Platform. The CETPartnership Knowledge Community will also relate to the CETPartnership Impact Network partners that can contribute to dissemination and exploitation of knowledge.

[11] https://cetpartnership.eu/tri/5

[12] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

2. Definitions

Project participants may belong to legal entities of any organisation type such as:

- Secondary and higher education establishments
- Research organisations (excluding education)
- Private for-profit companies
- Public bodies (excluding research and education)
- Other entities

A project consortium must be built to submit a proposal to the Call and may consist of the following **Project Consortium Partners**:

- A **Coordinator**: A legal entity participating with funding from the Call and responsible for coordinating and managing the project. The Coordinator cannot be changed after the deadline for pre-proposal submission and before the funding decision in the Call process.
- **Beneficiary Partners**: All Project Consortium Partners participating with funding from the Call (including the Coordinator)
- **Self-financed Partner(s)**: Project Consortium Partner(s) participating from any country with their costs declared but without applying for funding in the Call. Each Self-financed Partner must submit a Letter of Commitment in Stage 2 of the Call process (see **Subsection 6.2.1**).

All the Project Consortium Partners must be listed in the proposals and sign a Consortium Agreement at project start (see **Section 7.2**).

Except for the Project Consortium Partners, (an) **Associated Project Partner(s)** may participate from any country, without declaring their costs or applying for funding in the Call.

The call process includes two stages:

- a **pre-proposal** stage (Stage 1)
- a **full proposal** stage (Stage 2)

The term **proposal** refers to both the pre-proposal and the full proposal.

3. Call overview

The CETPartnership Joint Call 2023 is the second annual co-funded call under the CETPartnership and is open for participants from all over the world. To cover different topics and RDI approaches, the Call is structured into 12 **Call Modules**, aimed at different energy technologies and/or systems (see **Table 2.1** and **Chapter 8**). The Call Modules address different research-oriented approach (**ROA**) and innovation-oriented approach (**IOA**) (see **Section 4.4**) on different Technology Readiness Levels (TRLs) [13] (see **Section 4.5**) and are thus complementing and completing each other.

TABLE 2.1. 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	Advanced renewable energy technologies for power production	TRI2@cetpartnership.eu
CM2023-03B		
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
CM2023-10A	Clean energy integration in the built environment	TRI7@cetpartnership.eu
CM2023-10B		

Around 47 national/regional Funding Organisations (as defined in **Table 2.2**) participate with funding for proposals to different Call Modules (see **Annex B** and **Annex C**). The Funding Organisations allocate their budget to fund Beneficiary Partners based in their country/region and decide their budget allocation among different Call Modules at different times in the Call process. The total Call budget is over €121 million and additional funding from EC (so called top-up). The funding from EU will be used to top-up possibly exhausted budgets of the national/regional Funding Organisations from EU Member States and HE Associated Countries to fund projects.

TABLE 2.2. FUNDING ORGANISATIONS

Country	Region	Organisation name	Acronym
Austria		Austrian Research Promotion Agency	FFG
Belgium	**Flanders**	Fonds Innoveren en Ondernemen	FIO
	Wallonia	Service public de Wallonie	SPW
Canada	**Alberta**	Emissions Reduction Alberta	ERA
Cyprus		Research and Innovation Foundation	RIF
Czech Republic		Technology Agency of the Czech Republic	TA CR
Denmark		Energy Technology Development and Demonstration Programme	EUDP
		Innovation Fund Denmark	IFD

[13] Definition in Horizon Europe Work Programme 2023-2024 13. General Annexes, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-13-general-annexes_horizon-2023-2024_en.pdf

Estonia		Estonian Research Council	ETAG
		Ministry of Economic Affairs and Communications	MKM
Finland		Innovaatiorahoituskeskus Business Finland	BF
France	**(Federal)**	Agence Nationale de la Recherche	ANR
		Agence de la transition écologique	ADEME
	Pays de la Loire	Pays de la Loire Region Council	RPL
Germany	**(Federal)**	Projektträger Jülich/Forschungszentrum Jülich GmbH (BMWK)	PtJ (BMWK)
	North Rhine-Westphalia	Projektträger Jülich/Forschungszentrum Jülich GmbH (MWIKE)	PtJ (MWIKE)
	Saxony	Saxon State Ministry for Science, Culture and Tourism	SMWK
Greece		General Secretariat for Research and Innovation	GSRI
Hungary		National Research, Development and Innovation Office	NKFIH
Iceland		The Icelandic Centre for Research	RANNIS
India		Department of Science & Technology, Ministry of Science & Technology, Goverment of India	DST
Ireland		Geological Survey Ireland	GSI
		Sustainable Energy Authority of Ireland	SEAI
Israel		Ministry of Energy	MoE
Italy		Ministry of Economic Development	MIMIT
		Ministero dell'Università e della Ricerca	MUR
Latvia		Latvian Council of Science	LZP
Malta		Malta Council for Science and Technology	MCST
The Netherlands		Dutch Research Council	NWO
		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
Romania		Executive Agency for Higher Education, Research, Development and Innovation Funding	UEFISCDI
Spain	**(Federal)**	Agencia Estatal de Investigación	AEI
		Centre for the Development of Technology and Innovation.	CDTI
	Asturias	Fundación para el fomento en Asturias de la Investigacion Cientifica Aplicada y la Tecnologia	FICYT
	Basque	Departmento de Desarrollo Económico, Sostenibilidad y Medio Ambiente. Eusko Jaurlaritza-Gobierno Vasco	EUSKADI
		Ente Vasco de la Energía	EVE
	Cantabria	Regional Development Agency of Cantabria	SODERCAN
Sweden		Swedish Energy Agency	SWEA
Switzerland		Federal Department of the Environment, Transport, Energy and Communications	DETEC
		Swiss National Science Foundation	SNSF
Tunisia		Ministry of Higher Education and Scientific Research	MHESR
Türkiye		The Scientific and Technological Research Council of Türkiye	TUBITAK
The United	**Scotland**	Scottish Enterprise	SE

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Kingdom		
The United States of America	Department of Energy	DOE

The Call is performed in two stages; a pre-proposal stage (Stage 1) and a full proposal stage (Stage 2), see **Table 2.3** and **Chapter 6**. A project consortium chooses one Call Module for their pre-proposal (Stage 1). If the pre-proposal is selected in Stage 1, the project consortium is invited to submit a full proposal (Stage 2). If the proposal is selected in Stage 2, the eligible project costs can be funded by the relevant Funding Organisations.

TABLE 2.3. CALL TIMELINE

Opening for pre-proposal submission (Stage 1)	20 September 2023
Deadline for pre-proposal submission	22 November 2023, 14:00 CET
Opening for full proposal submission (Stage 2)	25 January 2024
Deadline for full proposal submission	27 March 2024, 14:00 CET
Funding decision communicated	End of June 2024
Project start	1 September–15 December 2024

In both Stage 1 and 2, the proposals will be checked according to eligibility criteria and requirements set for the Call in general (see **Chapter 4**), Call Modules (see also **Chapter 8**) and Funding Organisations (see also **Annex B**) and will be evaluated according to evaluation criteria (see **Chapter 5**), ranked per Call Module and selected according to available funding. Proposals must pass both Stage 1 and 2 to be considered for funding in the Call.

For a proposal to be considered for selection, at least three independent legal entities (i.e. at least one Coordinator and two other Beneficiary Partners) must have been deemed eligible by relevant Funding Organisations from at least three different countries participating in the Call, according to their national/regional requirements. Of these three entities, at least two must be from EU Member States or HE Associated Countries (see **Section 4.2**). Project Consortium Partners in EU/EEA countries can be funded according to the EU/EEA State aid rules. Project Consortium Partners outside EU Member States and HE Associated Countries may be eligible for funding from the CETPartnership Associated Partners [14] or Non-associated Partners [15].

All Project Consortium Partners are encouraged to check carefully all eligibility criteria and requirements. Different Call Modules and Funding Organisations may support different organisation and RDI types, TRLs etc. Some Funding Organisations require submission of additional information from applicable Project Consortium Partners. In this case, the Funding Organisations have own submission procedure such as deadlines, portals and templates (see **Annex B**).

GENERAL QUESTIONS ABOUT THE CALL should be addressed to the CETPartnership Call Management (**Call Management**) (callmanagement@cetpartnership.eu).

QUESTIONS ABOUT THE CALL MODULES should be addressed to respective Call Module contacts, see **Table 2.1**.

[14] The CETPartnership Associated Partners are Funding Organisations that participate in the CETPartnership Consortium from non-EU Member States/HE Associated Countries.

[15] The CETPartnership Non-Associated Partners are Funding Organisations that do not participate in the CETPartnership Consortium but have signed a funding commitment to the Call.

QUESTIONS ABOUT THE NATIONAL/REGIONAL REQUIREMENTS should be addressed to respective Funding Organisations, see **Annex B**.

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4. Eligibility criteria and guidelines

The Call includes the following eligibility criteria and requirements:

- Transnational eligibility criteria, applicable for all project consortia applying to the Call
- Call Module requirements, applicable for project consortia applying to Call Modules with specific requirements, see also Chapter 8
- National/regional requirements, applicable for Project Consortium Partners applying for funding from Funding Organisations in the Call, see also Annex B

TABLE 4.1. SUMMARY OF TRANSNATIONAL ELIGIBILITY CRITERIA

1	The proposal must be written in English and submitted on the CETPartnership Submission Platform before the deadlines, following mandatory proposal templates.
2	A project consortium must be built of at least three independent legal entities (i.e. at least one Coordinator and two other Beneficiary Partners) applying and deemed eligible for funding by relevant national/regional Funding Organisations from at least three different countries participating in the Call. Of these three entities, at least two must be from EU Member States or HE Associated Countries.
3	The total effort of one Project Consortium Partner in the project consortium can be maximum 60% of the total project efforts (measured in person months).
4	The total effort of Project Consortium Partners from one country/region in the project consortium can be maximum 75% of the total project efforts (measured in person months).
5	The following individuals are ineligible for proposal submission: CETPartnership Governing Board members, CETPartnership General Assembly members and researchers from the Funding Organisations in the Call. [16]
6	The project must start before 15 December 2024.
7	The project must finish in 36 months from the start of the project.
8	The proposals must include a work package called Reporting and Knowledge Community in their work plan.

Below, eligibility criteria and requirements are described in lists (➢) and guidelines and recommendations in texts.

4.1. Proposal submission

- A proposal must be written in English and submitted on the CETPartnership Submission Platform [17] before the deadlines, following mandatory proposal templates with instructions regarding the total page number, the page margins, and the font type and size. The mandatory proposal templates are available for download on the start page of the Submission Platform. To be considered for selection, submission of a pre-proposal is mandatory for each project consortium, and submission of a full proposal is mandatory for each invited project consortium. Resubmission or revision of the proposal will be denied after the submission deadline unless it is requested by the Call Management. (**TRANSNATIONAL ELIGIBILITY CRITERION 1**)

[16] Legal entities who are able to provide written proof that their organisational structure is completely separated from those of the Funding Organisation participating in the Call may under these exceptional circumstances submit their proposal to the Call.

[17] https://cetp-submission.mur.gov.it/

- Some national/regional Funding Organisations additionally require submission on national/regional level; see respective national/regional requirements in **Annex B**.

4.2. Project consortia

- A project consortium must be built of at least three independent legal entities (i.e. at least one Coordinator and two Beneficiary Partners) applying and deemed eligible for funding by relevant national/regional Funding Organisations (see requirements in **Annex B**) from at least three different countries participating in the Call. Of these three entities, at least two must be from EU Member States or HE Associated Countries[18]. (**TRANSNATIONAL ELIGIBILITY CRITERION 2**)
- The total effort of one Project Consortium Partner in the project consortium can be maximum 60% of the total project efforts (measured in person months). (**TRANSNATIONAL ELIGIBILITY CRITERION 3**)
- The total effort of Project Consortium Partners from one country/region in the project consortium can be maximum 75% of the total project efforts (measured in person months). (**TRANSNATIONAL ELIGIBILITY CRITERION 4**)
- The following individuals are ineligible for proposal submission: CETPartnership Governing Board members, CETPartnership General Assembly members or researchers from the Funding Organisations in the Call. Legal entities who are able to provide written proof that their organisational structure is completely separated from those of the Funding Organisation participating in the Call may under these exceptional circumstances submit their proposal to the Call. (**TRANSNATIONAL ELIGIBILITY CRITERION 5**)
- Specific Call Module requirements may apply regarding the project consortia; see **Project consortia** in respective Call Modules in **Chapter 8**.
- Specific National/regional requirements may apply regarding the project consortia; see respective national/regional requirements in **Annex B**.

Any Self-financed Partner can participate in a project consortium fulfilling **TRANSNATIONAL ELIGIBILITY CRITERION 2**. Each Self-financed Partner is expected to enclose a Letter of Commitment with the full proposal (see **Subsection 6.2.1**).

No individual involved in a proposal can act as an evaluator in the Call.

4.3. Project duration and budget

- The project must start before 15 December 2024. (**TRANSNATIONAL ELIGIBILITY CRITERION 6**)
- The project must finish in 36 months from the start of the project. (**TRANSNATIONAL ELIGIBILITY CRITERION 7**)
- Specific Call Module requirements may apply regarding the project duration and budget, see **Project duration** and **Project budget** in respective Call Modules in **Chapter 8**.
- Specific National/regional requirements may apply regarding the project duration and/or budget; see respective national/regional requirements in **Annex B**.

The Call generally aims to support projects applying for funding in the Call in the range of (but not

[18] List of Participating Countries in Horizon Europe, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

limited to) EUR 0.5–5 million.

4.4. Research, development and innovation (RDI) approaches

- Specific Call Module requirements may apply regarding the RDI approaches; see **Target RDI approaches/TRLs** in respective Call Modules in **Chapter 8**.
- Specific National/regional requirements may apply regarding RDI approaches; see respective national/regional requirements in **Annex B**.

The following RDI approaches may apply:

- **Research-oriented approach (ROA)** aims at creating knowledge or exploring the feasibility of a new or improved technology, product, process, service or solution and includes applied research, technology development and integration, testing, demonstration and validation of a small-scale prototype in a laboratory or simulated environment.
- **Innovation-oriented approach (IOA)** aims at developing plans and arrangements or designs for new or improved products, processes or services and includes prototyping, testing, demonstrating, piloting, large-scale product validation in an operational environment, and market replication.

4.5. Technology Readiness Levels (TRLs)

- Specific Call Module requirements may apply regarding the TRLs; see **Target RDI approaches/TRLs** in respective Call Modules in **Chapter 8**.
- Specific National/regional requirements may apply regarding the TRLs; see respective national/regional requirements in **Annex B**.

The Call applies the same definition of TRLs as in the HE programme [19].

Since the CETPartnership aims at accelerating the clean energy transition to achieve the goal of climate neutrality by 2050, the Call generally aims at funding projects to reach medium to high TRLs (4–8), combining technologies with societal, commercial, financial, environmental, regulatory and other critical aspects. In some cases, projects may include activities at lower or higher TRLs based on specific needs to reach project goals or fulfil national/regional requirements.

Other frameworks than TRLs may apply as well in some Call Modules. For example, the Commercial Readiness Index (CRI) [20] describes solutions in terms of their commercial value proposition and ability to obtain financing for deployment. The Societal Readiness Level (SRL) [21] is a way of assessing the level of societal adaptation of solutions. In addition, the Smart Readiness Indicator (SRI) [22] is a common EU scheme for rating the smart readiness of buildings.

[19] https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-13-general-annexes_horizon-2023-2024_en.pdf

[20] https://arena.gov.au/assets/2014/02/Commercial-Readiness-Index.pdf

[21] https://innovationsfonden.dk/sites/default/files/2019-03/societal_readiness_levels_-_srl.pdf

[22] https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/smart-readiness-indicator_en

4.6. Cross-cutting dimensions

- Specific Call Module requirements may apply regarding the cross-cutting dimensions; see **Objectives**, **Scope**, **Target topics**, **Expected impact**, **Target RDI approaches/TRLs** and **Project consortia** in respective Call Modules in **Chapter 8**.

The cross-cutting dimensions are an integral part of the CETPartnership. They can be transition pathways, circularity, digitalisation as well as policy and social aspects and include different societal stakeholders and innovation ecosystems. Such a cross-sectoral and interdisciplinary approach can be structured in project design with the help of the Three-layer Research Model (see **Section 1.2**).

Following are aspects that can be considered to enable and accelerate the transition towards a net zero society in the CETPartnership:

- Identifying robust transition pathways toward a net zero society
- Encouraging transition based on resource efficiency and circularity principles
- Encouraging digitalisation of transition processes
- Accelerating transition through innovation ecosystems
- Developing policies and actions to ensure a fair, just and democratic transition
- Understanding effects of regulation and market design on transition in short and long term

Read more about the cross-cutting dimensions in the CETPartnership SRIA [23].

A proposal that extends any approach/result from ongoing projects can be considered in this Call if it is explicitly distinguished from the ongoing projects.

4.7. Reporting and Knowledge Community work package

- The proposals must include a work package called Reporting and Knowledge Community in their work plan (see **Annex A**), since projects funded by the Call are expected to actively participate in the CETPartnership Knowledge Community and exchange knowledge, read more in **Section 1.3**. (TRANSNATIONAL ELIGIBILITY CRITERION 8)

When developing the proposals, it is important to consider the concept and content of the CETPartnership Knowledge Community as well as uses and synergies which will be created there.

4.8. Open science

The proposals will be evaluated regarding open science under the criterion Excellence (see **Chapter 5**). Please consider carefully the EU's open science policy [24].

4.9. Gender dimension

The proposals will be evaluated regarding the gender dimension of the research and innovation,

[23] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

[24] https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science_en

project outcome and stakeholder engagement under the criterion Excellence (see **Chapter 5**). Gender balance in personnel named in the proposals will be one of the criteria to decide in case of ex aequo proposals.

In the CETPartnership, the gender dimension will be considered to eliminate gender inequality and intersecting socioeconomic inequalities throughout research and innovation systems, including by addressing unconscious bias and systemic structural barriers. CETPartnership promotes gender balance among personnel in a project consortium.

At project implementation, the Beneficiary Partners must follow HE Guidance on Gender Equality Plans (GEPs), see **Section 7.3**.

5. Evaluation criteria

In both Stage 1 and 2, the proposals will be evaluated according to the following main evaluation criteria:

- **Excellence**
- **Impact**
- **Quality and efficiency of the implementation**

For proposal evaluation, scores will be awarded for each of the three main criteria. Each criterion will be scored out of 5 (half scores are not allowed) and equally weighted.

The **cut-off** for being invited to Stage 2 or considered for selection in Stage 2 is a score at or above 10 and none of the criteria scoring below 3. It means that the scores must pass the individual threshold AND the overall threshold if a proposal is to proceed to Stage 2. The same rule applies for proposals to be considered for selection in Stage 2.

The following **sub-criteria** will be used in all the Call Modules to determine the scores for the three main criteria. Call Module sub-criteria may apply in addition, see **Chapter 8**.

Excellence

- Clarity and pertinence of the project's objectives, and the extent to which the proposed work is ambitious, and goes beyond the state-of-the-art.
- Soundness of the proposed methodology, including the underlying concepts, models, assumptions, inter-disciplinary 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.

Impact

- Likely scale and significance of the expected outcomes and impacts including the added value of the transnational collaboration, and credibility of the pathways to achieve the expected outcomes and impacts specified in the work programme.
- Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities.
- Extent to which the project is relevant for the energy transition through appropriate involvement of end-users, need-owners and/or the private sector.

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.

6. Call process

The Call process includes two stages: the pre-proposal stage (Stage 1) and the full proposal stage (Stage 2). **To be considered for selection, your pre-proposal must be submitted on time, complete and concise. Direct submission of a full proposal in Stage 2 is impossible.**

6.1. Pre-proposal stage – Stage 1

6.1.1 Submission of pre-proposals

A pre-proposal must be submitted by a Coordinator (see **Section 4.2** for the eligibility criteria and guidelines on project consortia) to a Call Module by **22 November 2023, 14:00 CET** on the CETPartnership Submission Platform, where the Coordinator must invite all the other Project Consortium Partners (the other Beneficiary Partners and possible Self-financed Partners). To submit the pre-proposal, every Project Consortium Partner invited by the Coordinator must accept the invitation and enter its information and budget on the Submission Platform, while possible irrelevant partners must have been removed.

The pre-proposal can be edited and re-submitted until the deadline. Every submitted version will replace the previous one, and the last version submitted by the deadline will be assessed and evaluated.

The pre-proposal must include a project description (max 10 pages using the mandatory pre-proposal templates available for download on the start page of the Submission Platform) and any supporting documents, where required. Text and page limits are set on the Submission Platform. See **Section 4.1** for the eligibility criteria and guidelines on submission. See **Section 4.2–4.9** for the eligibility criteria and guidelines on how to formulate the pre-proposal.

Please consider that some Funding Organisations require submission of additional information from applicable Project Consortium Partners. In this case, the Funding Organisations have own submission procedure such as deadlines, portals and templates. See respective national/regional requirements in **Annex B**.

6.1.2. Eligibility check of pre-proposals

The submitted pre-proposals will be assessed according to:

- Transnational eligibility criteria (see **Chapter 4**) by the Call Management.
- Call Module requirements (see **Chapter 8**) by TRIs.
- National/regional requirements (see **Annex B**) by the Funding Organisations. However, the final eligibility check may need to wait until Stage 2.

In Stage 1, the Funding Organisations deem Beneficiary Partners:

- Eligible for applying for funding in a full proposal
- Conditionally eligible, considered in the same way as eligible Beneficiary Partners except requested more information or requirements to be included in a full proposal
- Ineligible for applying for funding in a full proposal

In a similar manner, the TRIs deem pre-proposals:

- Eligible for applying for funding in a full proposal

- Conditionally eligible, considered in the same way as eligible pre-proposals except requested more information or requirements to be included in a full proposal
- Ineligible for applying for funding in a full proposal

Pre-proposals fulfilling all the transnational eligibility criteria and Call Module requirements will proceed to the next step.

A pre-proposal with (an) ineligible Beneficiary Partner(s) may also proceed to the next step on equal terms, if the Coordinator is deemed eligible or conditionally eligible and if the ineligible Beneficiary Partner(s) only cover(s) less than 25% of the total project efforts (measured in person months), despite the risk of failing to fulfil TRANSNATIONAL ELIGIBILITY CRITERION 2.

6.1.3. Evaluation of pre-proposals

In each Call Module, the evaluation of pre-proposals passing the former steps will be done according to the evaluation criteria described in **Chapter 5** and result in a ranking list. Each pre-proposal will be evaluated by at least three independent evaluators. In case of strong disagreement between individual evaluations, a panel meeting will be arranged to reach a consensus.

6.1.4. Selection of pre-proposals

Based on the ranking lists developed in the former step, the Funding Organisations will agree on a list of pre-proposals to be invited to Stage 2, while ensuring that the total funding requested by the invited pre-proposals is maximum four times the available budget for each Funding Organisation in each Call Module. Proposals scoring below the cut-off as described in **Chapter 5** will be excluded from the selection.

In case of budgetary constraints, pre-proposals scoring higher in the ranking lists will be prioritised, considering the following **core principles**:

- Maximisation of the total output in terms of funded projects.
- Maximisation of the number of countries/regions involved in the funded projects.
- Aiming for a similar success rate between the Call Modules.
- Reaching a good balance between the Call Modules regarding the output in terms of funded projects.
- Maximisation of the financial contribution by the EC obtained through the Joint Call 2023.

The outcome of Stage 1 will be notified by the Call Management to each Coordinator with reports on the eligibility check and, if applicable, the evaluation of the pre-proposals.

6.2. Full proposal stage – Stage 2

6.2.1. Submission of full proposal

A full proposal must be submitted by the Coordinator of each invited project consortium (see **Section 4.2** for the eligibility criteria and guidelines on project consortia) to the same Call Module by **27 March 2024, 14:00 CET** on the Submission Platform, in a similar manner to the pre-proposal, in collaboration with the other Project Consortium Partners (including Self-financed Partners). The difference from the

submission of the pre-proposal (**Subsection 6.1.1**) is:

- The full proposal must include a project description (max 30 pages instead of max 10 pages).
- Each Self-financed Partners must submit a Letter of Commitment.

Between the pre-proposal and the full proposal, no fundamental changes initiated by the project consortium alone will be accepted, except for minor ones in the project consortium, project budget, applied funding (see more information below) and project duration. Such minor changes must be communicated to all the Project Consortium Partners and the relevant Funding Organisation(s) before submission of the full proposal. Additionally, (a) written proof(s) of approval from the Funding Organisation(s) must be submitted to the Call Management (callmanagement@cetpartnership.eu) before the panel meeting described in **Section 6.2.3**.

The following changes in the project consortium can be allowed:

- To add (a) Self-financed Partner(s).
- To change (a) Beneficiary Partner(s) deemed ineligible in Stage 1 into (a) Self-financed Partner(s).
- To change (a) Beneficiary Partner(s) for (a) new Beneficiary partner(s) applying for funding from the same Funding Organisation.

If any Funding Organisation turns out to be undersubscribed in Stage 1[25], the following changes will also be allowed in the project consortium to widen the involvement of Funding Organisations:

- To change (an) ineligible Beneficiary Partner(s) for (another/other) Beneficiary Partner(s) applying for funding from any of the undersubscribed Funding Organisations.
- To add (a) new Beneficiary Partner(s) applying for funding from any of the undersubscribed Funding Organisations.

Changes in the project consortium can only be allowed if all the following conditions are met:

- The Coordinator stays the same.
- Addition/change of (a) Project Consortium Partner(s) is well motivated in relation to the overall project ambition and scope.
- Addition/change of (a) Project Consortium Partner(s) changes max 25% of the total project budget.

Please again consider that some Funding Organisations require submission of additional information from applicable Project Consortium Partners. In this case, the Funding Organisations have own submission procedure such as deadlines, portals and templates. See respective national/regional requirements in **Annex B**.

6.2.2. Eligibility check of full proposals

The submitted full proposals will be assessed for their eligibility in a similar manner to the pre-proposal. Full proposals fulfilling all the transnational eligibility criteria and Call Module requirements will proceed to the next step.

[25] Potential Funding Organisations will be found on the Submission Platform after Stage 1.

6.2.3. Evaluation of full proposals

In each Call Module, the evaluation of full proposals passing the former steps will be done according to the evaluation criteria described in **Chapter 5** and result in a ranking list. Each full proposal will be evaluated by at least three independent evaluators, who will then meet at a panel meeting to reach a consensus and write a report. The whole evaluation process will be overseen by an independent observer.

6.2.4. Selection of full proposals

The Funding Organisations will agree on a list of full proposals to be funded based on the ranking lists in the former step, the available budgets and the same core principles as in **Subsection 6.1.4**. Proposals scoring below the cut-off as described in **Chapter 5** will be excluded from the selection.

The outcome of Stage 2 will be notified by the Call Management to each Coordinator with reports on the eligibility check and, if applicable, the evaluation of the full proposals.

Co-funded by the European Union

7. Project implementation

7.1. Funding arrangements and period

Funding arrangement will be made directly between Project Consortium Partners and their national/regional Funding Organisations. It is highly recommended that all Partners in a project consortium synchronise their project start and end dates, even though their national/regional funding arrangements can be desynchronised. The latest start date for all Project Consortium Partners is 15 December 2024.

According to **Section 4.3**, projects funded by the Call must start before 15 December 2024 (**TRANSNATIONAL ELIGIBILITY CRITERION 7**) and finish in 36 months (**TRANSNATIONAL ELIGIBILITY CRITERION 8**). Specific National/regional requirements may apply regarding the project duration (see **Annex B**).

7.2. Consortium Agreement (CA)

Each project consortium must have a signed Consortium Agreement (CA) between all the Project Consortium Partners, including intellectual property rights (IPR) issues. It is recommended to have it already at the project start or by 6 months after the project start using the Development of a Simplified Consortium Agreement (DESCA)[26] template. However, a project consortium with Project Consortium Partners outside Europe may need an adapted CA.

7.3. Gender Equality Plans

The Beneficiary Partners must follow HE Guidance on Gender Equality Plans (GEPs)[27]. It means that public bodies as well as public and private higher education establishments and research organisations established in EU Member States and Associated Countries must have a GEP.

7.4. Changes in projects

Any substantial changes in an ongoing project must be reported to and approved by relevant Funding Organisations and the Call Management. Such changes may affect the funding from the CETPartnership.

7.5. Reporting and dissemination

The Coordinator must submit annual reports and a final report to the CETPartnership as well as other potential information needed by the EC. In addition, each project is expected to have a webpage, to prepare popular scientific summaries and to actively participate in the CETPartnership Knowledge Community (see **Section 1.3** and **Annex A**) for increased knowledge sharing and dissemination of results.
Specific National/regional requirements may apply regarding the reporting and dissemination.

[26] https://www.desca-agreement.eu/desca-model-consortium-agreement/

[27] https://op.europa.eu/en/publication-detail/-/publication/ffcb06c3-200a-11ec-bd8e-01aa75ed71a1/language-en/format-PDF/source-232129669

8. Call Modules

To cover different topics and RDI approaches, the Call is structured into 12 **Call Modules**, aimed at different energy technologies and/or systems (see Table 8.1). The Call Modules address different research-oriented approach (**ROA**) and innovation-oriented approach (**IOA**) (see **Section 4.4**) on different Technology Readiness Levels (TRLs)[28] (see **Section 4.5**) and are thus complementing and completing each other.

TABLE 8.1. 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	Advanced renewable energy technologies for power production	TRI2@cetpartnership.eu
CM2023-03B		
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
CM2023-10A	Clean energy integration in the built environment	TRI7@cetpartnership.eu
CM2023-10B		

In addition to the eligibility criteria and guidelines described in Chapter 4, specific Call Module requirements may apply. For such requirements, see the following in respective Call Modules in this chapter:

- **Project consortia** regarding the project consortia
- **Project duration and budget** regarding the project duration and budget
- **Target RDI approaches/TRLs** regarding the RDI approaches and TRLs
- **Objectives**, **Scope**, **Target topics**, **Expected impact**, **Target RDI approaches/TRLs** and **Project consortia** regarding the cross-cutting dimensions

[28] Definition in Horizon Europe Work Programme 2023-2024 13. General Annexes, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-13-general-annexes_horizon-2023-2024_en.pdf

CM2023-01 Direct current (DC) technologies for power networks

Objectives

TRI1[29] implements the CETPartnership SRIA[30] Challenge 1, that is focused on developing the "Optimised, integrated European net-zero emission energy system", where the energy networks (i.e. electricity, gas, hydrogen, water, heating and cooling, mobility and their integrated and coordinated functioning etc.) play a significant role.

To meet the European Union (EU) and Member States' climate targets for 2030 and 2050, it is not only necessary to accelerate the expansion of renewable energy sources (RES), but also to integrate RES more efficiently into the energy system.

RES integration into the energy system will require a fundamental change in infrastructure, implying significant investments in grids and use of different and new technologies in the grids. Direct current (DC) technologies can have a leading role in this transformation thanks to their flexibility, efficiency and sustainability. High voltage DC (HVDC) is essential for offshore generation and for the integration of energy islands (both onshore and offshore), while medium/low voltage DC (MVDC and LVDC) and hybrid networks (AC and DC) can foster direct RES integration at local level and sector coupling. Microgrids represent an outstanding solution to foster resilience as they enable the integration of all types of local resources (generation, storage, conversion, and load). MV/LVDC solutions can be of interest in this framework, observing that several of these elements are designed to operate in DC,

While both transmission and distribution grids are currently predominantly AC, DC grids are becoming increasingly important. Especially for long transmission distances, the use of HVDC is often advantageous, as their specific transport capacity is higher, there are lower losses over long distances, and compensation techniques are not required.

HVDC is therefore also important for connecting offshore wind farms to continental electricity grids and for the integration of "energy islands", a system concept currently being promoted by several Member States. In particular, the offshore wind expansion plans of the countries bordering the North Sea and the new energy island concept are challenging to integrate into the existing grids with current solutions, so that in addition to the necessary investments, there is also a high demand for research.

Moreover, there is a clear trend towards making use of MVDC networks and MVDC grids/microgrids thanks to the advancements in the power electronics area. For example, large RES can be easily connected to the MVDC networks, and DC loads such as energy storage or electric vehicles are increasingly appearing. In addition, existing AC grids can be effectively coupled using DC. MVDC networks and microgrids, which have different characteristics and applications from HVDC networks, are still in their infancy in terms of research.

In addition, LVDC networks are getting attention as well. In particular, LVDC can be used in microgrids at industrial, building, street and district level to improve efficiency and reduce losses.

[29] https://cetpartnership.eu/tri/1

[30] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

Co-funded by the European Union

This Call Module addresses the main challenges of DC technologies at low, medium and high voltage level for effective integration into the energy infrastructure of high shares of RES, including energy islands. The dynamic response of power systems with high shares of renewables, characterised by the widespread use of non-rotating generators is more dependent on complex fast-responding power electronic devices. Furthermore, meshed DC grids are expected to proliferate at all voltage levels as well as hybrid AC/DC transmission and distribution networks. In this context, even the higher voltage grids evolve towards multi-terminal, multi-vendor and meshed DC configurations. Therefore, new and advanced control and operation principles are required for a secure and stable grid operation supported by a higher level of observability, covering all voltage levels and new types of dynamics (e.g. faster dynamics).

In addition, the DC grids must be integrated into the existing grid infrastructures, whereby cost-efficient solutions are essential. Especially the integration of energy islands into the onshore grids requires not only transnational planning but also the consideration of market aspects, e.g. connection to shore, technology used and design of pricing zones. Furthermore, the costs of the different technologies on all voltage levels must be taken into consideration to enable effective hybrid AC/DC grid planning. Not only should optimal solutions be determined in terms of a cost-benefit analysis, but the solutions should also be designed for the long term.

TRI1, in continuity with previous year, keeps its work direction in the field of integrated energy system according to SET Plan Implementation Working Group IWG4 'energy systems' and the IWG 'HVDC and DC-Technologies', to the targets set by EU policies in the last years and to technology R&I roadmaps. Particularly, this Call Module fits into ETIP SNET, R&I Implementation Plan 2022–2025[31] (High Level Use Cases 4, 6 and 7).

Scope

This Call Module is meant to foster projects to develop, test and demonstrate enabling and supporting tools in the fields of:

- HVDC, MVDC and LVDC development and deployment
- meshed multi-terminal AC/DC grids
- energy island integration

The scope can be divided into three main areas the projects can focus on:

1. Planning and markets
   - Planning of meshed energy islands and their integration in onshore grids, e.g. location, capacity of onshore grids, size, technologies, impact of onshore grid/market
   - Analysis of sustainability and environmental impact of DC grids and energy islands
   - Coordinated planning of hybrid AC/DC grids including DC microgrids
   - Simulation of energy island integration and market related aspects, e.g. design of offshore bidding zones
2. Operation, control and protection
   - Grid operation and control principles for LVDC, MVDC and multi-terminal HVDC networks, for hybrid transmission and hybrid distribution AC/DC grids
   - Analysis and development of new energy management, voltage and power level management solutions including provision of flexibility

[31] https://op.europa.eu/en/publication-detail/-/publication/53e747cd-9f57-11ec-83e1-01aa75ed71a1

- Investigations and simulations of the dynamics of multi-terminal DC networks connected to AC grids
- Develop, test and validate protection concepts for DC and hybrid grids
- New generation of grid-connected inverters and parallel operation, lifetime and reliability of converters (different vendor, different topologies, considering energy storage applications)
- Components, operation and control of MVDC and LVDC microgrids
- Development of reliable communication and integration of DC grids in SCADA systems
- LVDC applications for distributed RES/EV integration and industrial processes
- Energy management of LVDC installations and compatibility with existing infrastructure, considering aspects such as scalability and parallel operation of power-supply units, standards for interfaces of LVDC-systems to existing electrical infrastructure
- Investigation of the possibility to convert AC infrastructure in different contexts into MV-/LVDC
- Implementation of earthing schemes
- Investigation of the magnitude of stray currents in typical installations and the subsequent corrosion in a multidisciplinary approach.

3. Verification, test and maintenance
   - Testing and verification methods and concepts for scaling
   - Standardised validation tests for de-risking interoperability issues
   - New HiL testing concepts
   - Standardised test procedures for DC grid protection equipment
   - Analysis of possible trade-offs in performance, ambient condition impact, maintenance, reliability, dimensioning, testing procedures, etc.
   - Improved tools for remote monitoring and maintenance of equipment
   - Digital twins for condition monitoring and improved maintenance
   - Definition of protection schemes and components for a variety of system architectures
   - Investigation of suitability of DC fuses for use cases with very small-time constants
   - Further investigation of breaker-less protection concepts in zones with limited fault energy

Projects must provide results in at least one of these three areas of the Call Module scope.

By fostering projects focusing on these areas, this Call Module aims to respond to the main R&I gaps and challenges underlined by IWG HVDC[32], IWG 4[33], ENTSO-e[34], ETIP SNET[35] and ETIPWind[36] in the framework of SET Plan:

- HVDC and MVDC technology development
- interoperability
- new solutions for DC breakers
- energy management solutions
- voltage and power level management
- distribution digital DC/hybrid converter/transformer

[32] https://setis.ec.europa.eu/implementing-actions/high-voltage-direct-current-hvdc-direct-current-dc-technologies_en

[33] https://setis.ec.europa.eu/implementing-actions/energy-systems_en

[34] https://www.entsoe.eu/

[35] https://smart-networks-energy-transition.ec.europa.eu/

[36] https://etipwind.eu/

- optimal design and operation concepts of hybrid grids (HVDC & HVAC; MVDC & MVAC)
- clear understanding and simulations of the dynamics of a power grid with high penetration of power electronics
- new generation of grid-connected inverters able to provide grid services in a flexible way and to commute
- grid operation and control principles for multi-terminal HVDC and MVDC networks and for hybrid AC/DC networks
- intelligent hybrid distribution substation

Exclusive analysis of materials, semiconductors and their design are not within the scope of this Call Module, but can be considered to an appropriate extent within a larger project.

Expected impact

Supported projects are expected to deliver results that have a significant impact on promoting the deployment of new and cost-efficient technologies. This Call Module looks at results helping to reduce the time to market for technologies much needed for the development of multi-terminal and multi-vendor hybrid networks, integrating LVDC, MVDC, HVDC and energy islands, with a significant contribution to the integration in the overall energy system.

Expected impacts:

- availability of validated solutions for control, operation and protection of DC and hybrid grids: shortening market uptake and cost reduction
- fostering European leadership in solutions and technologies linked with operation and control of DC networks
- acceleration of production of standards to ensure interoperability for multi-vendor applications enhancing technological market efficiency and cost reduction
- fostering European leadership in testing and validation of DC solutions and their related control and operation
- reduction of costs for maintenance and operation linked with the development of advanced monitoring and diagnostic techniques for DC applications
- enabling the concept of energy islands both onshore and offshore to optimise the integration of RES in a multi-vector energy system
- reducing the environmental impact of transmission and distribution grids and their components – e.g. HVDC for offshore wind integration or DC microgrids
- enabling cross-border markets, e.g. bidding zones design for North Sea or Baltic Sea, and reduced grid fees due to efficient transmission and distribution

Target RDI approaches/TRLs

The Call Module aims to support projects increasing the TRL moderately, i.e. showing a TRL increase of 1–2 from start to finish.

Project consortia

The concrete later use represents an important aspect of this Call Module, so that the consortia should have significant industry participation. The need-owners should be involved as Project Consortium

Partners in the project (e.g. wind park operator).

This Call Module expects at least two of the following stakeholders to be Beneficiary Partners of the projects:

- operators of offshore wind farms / energy islands
- infrastructure or grid operators, e.g. TSO, DSO
- industry and SMEs in the fields of components, systems and devices for energy systems as well as software (services)
- universities and research institutes

Further partners (Associated Partners) are welcome, e.g. (European) standardisation organisations, national & local authorities, etc.

Attention should be paid to a balanced allocation of work between users and developers.

The opportunity for projects to work on existing infrastructures would be considered positively. If possible, project consortia should include partners that can provide access to infrastructures to develop and test solutions that can be directly applied (e.g. supporting activities and tools for verification, validation, testing and study of technologies and their integration; working with test facilities and hardware in the loop; support, control and measurement tools; etc.).

Project duration and budget

As for project duration, see **Section 4.3**.

A budget of EUR10 million for the Call Module is envisaged. 2 – 3 projects shall be funded with EUR 2 – 4 million each. Projects addressing planning and markets are expected to be funded with EUR 1 – 2 million each.

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

Objectives

Through this joint Call Module, the CETPartnership TRI1 [37] and TRI2 [38] and the Mission Innovation (MI) Green Powered Future Mission (GPFM) are establishing an effective collaboration towards the green transition of the energy system.

The MI GPFM [39] aims to demonstrate that by 2030, power systems in different geographies and climates can effectively integrate up to 100% variable renewable energies, like wind and solar, in their generation mix, and maintain a cost-efficient, secure and resilient system.

This joint Call Module is intended to increase opportunities for international cooperation and represents the implementation of the GPFM Flagship Project 2 (FP2) "Multilateral Research Programme" to take forward a selection of the identified Innovation Priorities (IPs) for the power system decarbonisation and transformation. FP2 was launched by the GPFM at the Global Clean Energy Action Forum held in Pittsburgh (September 2022) as part of the GPFM Action Plan 2022–2024 [40].

Scope

This joint Call Module aims to address key aspects of the clean energy transition ranging from the integration of renewable energy sources into the power grids, considering storage as a possible solution to deal with their intermittent nature, to broad technological and market aspects as well as approaches towards system integration. Moreover, digitalisation and standardisation, being key enablers for the deployment of innovative system flexibility solutions, need to be duly considered by the submitted proposed projects.

The R&I Themes and IPs addressed by this Call Module are reported here below and have been selected with the help of a task force set up within the GPFM and by joint discussions between the GPFM and the CETPartnership. The challenges addressed by the Call Module are well aligned with the CETPartnership SRIA [41]: funded projects are therefore expected to contribute to reach the targets of both initiatives.

Funded projects shall address one or more of the following main **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

[37] https://cetpartnership.eu/tri/1

[38] https://cetpartnership.eu/tri/2

[39] https://explore.mission-innovation.net/mission/green-powered-future/

[40] http://mission-innovation.net/wp-content/uploads/2022/09/Green-Powered-Future-Mission-Action-Plan-2022-2024.pdf

[41] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

More in detail, funded projects shall address one or more of the following identified IPs[42]:

1. Large-scale renewable energy generation for improving system reliability & stability (GPFM IP 1.3.2)
2. Variable renewable energy flexibility provision & contribution to generation capacity (GPFM IP 2.1.1)
3. Innovation in energy storage technologies (GPFM IP 1.5.3)
4. Utility scale storage systems for innovative flexibility services (GPFM IP 2.4.3)
5. System stability assessment considering high VRE penetration (GPFM IP 2.3.1)
6. Enhanced TSO-DSO coordination platform for flexibility markets optimisation (GPFM IP 2.3.2)
7. Flexibility markets for innovative ancillary services by VRE and storage (GPFM IP 2.7.1)
8. Unlocking commercial and residential buildings flexibility potential (GPFM IP 2.5.2)
9. Connected data platforms for enhanced forecasting and flexible operation (GPFM IP 3.3.2)
10. Standardisation of devices and control platforms (GPFM IP 3.1.2)
11. Identify priority dataset for system security (GPFM IP 3.2.2)

Expected impact

This joint Call Module is intended to concentrate efforts and financial resources to accelerate the deployment of key innovation thus enabling the uptake of clean energy solutions in the near future.

The Call Module mainly focuses on **research and development**, while demonstration and implementation are considered as subordinate. Nevertheless, it is expected to possibly involve **industry**, bringing in expertise, knowledge, and know-how for the implementation of innovative and breakthrough solutions.

The Call Module mainly focuses on **transnationality**, as it expects to engage with GPFM country member organisations, among which are included extra-European countries (countries outside the EU and not associated to HE). Projects with partners outside Europe are expected to foster the CETPartnership approach worldwide, also contributing to link the GPFM Internet-based platform to the CETPartnership knowledge community.

Target RDI approaches/TRLs

The Call Module aims to support projects starting from TRL ≥3 and reaching TRL 5–6.

Project consortia

This joint Call Module deviates from the standard requirements regarding the consortium composition since it is devoted also to extra-European countries participation (countries outside the EU and not associated to HE).

The proper involvement in the consortia of Research Performing Organisations (RPO) and private

[42] See the GPFM Action Plan 2022–2024, https://explore.mission-innovation.net/wp-content/uploads/2022/09/Green-Powered-Future-Mission-Action-Plan-2022-2024-1.pdf

sector actors such as system operators, SMEs, spin-off companies, will be key to submit sound project proposals and to properly address some of the selected IP. Moreover, projects should be highly innovative and should preferably be designed building on top of existing initiatives or assets and propose replicable and scalable solutions.

Project duration and budget

As for project duration, see **Section 4.3**.

The Call Module aims to support projects applying for funding in the Call in the range of (but not limited to) EUR 0.5 – 1.5 million.

CM2023-03A/03B Advanced renewable energy (RE) technologies for power production

Objectives

The Call Modules **CM2023-03A/03B Advanced renewable energy (RE) technologies for power production** build on the CETPartnership SRIA, the Input Papers and the SET Plan Implementation Plans for the Actions 1 & 2 'Global Leadership in Renewables', to deliver performing RE technologies integrated in the energy system with increased circularity and a more sustainable life cycle.

The objective of the Call Modules is to support the development, scale up and market uptake of enhanced RE technologies contributing to zero-emission power production, in line with the Green Deal and the EU's energy policy and decarbonisation targets. In particular, the Call Modules **support projects aiming at increasing the overall energy conversion efficiency and lowering RE technologies' cost**. The EU SET Plan performance and cost targets for the renewable energy technologies in the scope of TRI2 [43] are a reference for these Call Modules.

The Call Modules contribute to the relevant SET Plan Implementation Plans objectives (and namely the IPs on CSP/STE; Ocean Energy; PV; Wind) [44], complementing HE calls in order to have a balanced portfolio of RE technologies for power production at different stages of TRL.

CM2023-03A calls for ROA (Research-Oriented Approach) projects, and **CM2023-03B** calls for IOA (Innovation-Oriented Approach) projects (see **Section 4.4** for definition of ROA and IOA). Projects can apply for either ROA or IOA, according to the target TRL.

Scope

Zero-emission power technologies are a cornerstone of the global and European sustainable energy system. Solar (photovoltaic-PV based, thermal and Concentrating Solar Power-STE/CSP), onshore and offshore wind, ocean energy, bioenergy with negative CO_2 emissions and their integration are key for transitioning the energy system. The electrification of end-use sectors, the integration of RE sources into the energy system, further reduction of cost, enhanced flexibility and diversification are needed. A massive renewable energy technologies rollout shall be accompanied by a sustainable integration into living and natural environment, sustainability and circularity in all parts of the European and global value chains.

The Call Modules are open to all the broad portfolio of RE zero-emission power technologies in TRI2's scope, but specific focus is on technologies contributing to power production such as onshore and offshore wind, ocean energy (tidal, wave, OTEC, osmotic energy etc.) and other offshore renewables, solar energy (PV based technology, including PVT, PVH and STE-CSP), bioenergy for power generation (with negative carbon emissions). Please note that bioenergy applications dedicated to fuel production are not in TRI2's in scope but are considered in TRI3's Call Module (**CM2023-05**).

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[43] https://cetpartnership.eu/tri/2

[44] CSP/STE: Initiative for Global Leadership in Concentrated Solar Thermal Technologies (Updated Implementation Plan February 2023); Ocean Energy: Ocean Energy - Implementation Plan (2021); Solar photovoltaics: PV Implementation Plan (2017 - under revision); Wind Energy: 2nd SET Plan Implementation Plan for offshore wind (March 2022). See: https://setis.ec.europa.eu/implementing-actions/set-plan-documents_en#implementation-plans

Target topics

The present Call Module aims to respond to the main RDI gaps and challenges underlined by the relevant SET Plan IWGs: IWG CSP-STE, IWG Ocean Energy; IWG PV and IWG Wind[45].

Following consultation with stakeholders, the following RDI areas have been identified as priority. The list is not prescriptive and other topics might be considered, as long as they demonstrate contribution to the objectives of the Call Modules and the development of the relevant RE sector.

Bioenergy for power generation

- High efficiency biomass (co)generation of power with improved performance and higher share of power production ratio, using residues and wastes as feedstocks, and with negative carbon emission
- Integrated CHP systems enhancing annual total efficiency and power capacity factor and negative carbon emission

Concentrated solar power (CSP) / solar thermal energy (STE)

- **Line-focus solar power plants technology**: Component development, process innovation and cost optimisation for molten salts systems; Solar collector fields with silicone oil as heat transfer fluid (HTF)
- **Central Receiver** power plants technology (concepts, materials and components): optimisation of central receiver molten-salt technology; Solar tower with particle receiver technology
- **Turbo-machinery** developed for specific conditions of solar thermal power plants: expansion turbine technologies for advanced CSP power blocks or supercritical CO2 cycles
- **Cross-cutting issues**: Digitalisation of CSP plants; Innovative coatings for CSP mirrors

Ocean energy

- **Dry-testing** of power take-off for wave energy devices to debug, improve, stabilise, fine-tune and optimise wave energy devices before offshore operations
- **Tidal blades**: Improving the survivability and efficiency of tidal blades to enhance performance and reliability of the device
- **Connection systems**: Reduce the cost of connection and cabling systems, as well as maintenance requirements and costs

Offshore renewables (marine renewables, floating wind/PV, etc.)

- **New materials** or novel applications of existing materials for moorings, foundations and components: Materials with improved fatigue, damping, stiffness, bio-fouling management or other cost-reducing characteristics
- **Mooring and connections**: Improved moorings, foundations, connections and cabling systems;

[45] https://setis.ec.europa.eu/implementing-actions_en

Dynamic cable repair solutions

- **O&M**: innovative solutions to reduce costs of operations and maintenance
- **Site-specific marine observation, modelling and forecasting**: marine / meteorological data to improve performance, reliability, availability of offshore renewables through better design and efficient operations

Solar photovoltaics

- **Performance Enhancement and Cost Reduction** through Advanced PV Technologies: Perovskite / Silicon Tandem-Solar cells and modules / Thin film cells
- **Lifetime, Reliability and Sustainability,** advanced PV technologies, manufacturing and applications: Low environmental impact materials, processes, products
- **Digitalisation for O&M**: advanced data analytics, digital twin of assets and components, predictive maintenance
- **New Applications through Integration of PV**: Agrovoltaic and landscape integration; Floating PV; IIPV-Infrastructure Integrated PV; Low power PV

Wind energy (offshore and onshore)

- **Next generation of wind turbine technology**: cost-efficient, energy-efficient, low environmental impact, scalable wind energy converters and turbines
- **Atmospheric modelling**: Improved understanding of atmospheric and wind power plant flow physics; Predicting environmental parameters
- **Digital twins** for turbine and for optimised wind energy applications
- **O&M**: solutions/digital solutions for wind energy operation, maintenance & installation
- **Landscape integration** of wind energy in the natural and social environment

Hybrid-RES solutions

- **Site integration optimisation**: PV+CSP; PV+Wind, CSP-Wind, Ocean-Wind, etc.
- **Optimising Generation Capacities with storage**: Optimise RE power production, site and technology integration with energy storage (projects focusing on storage integration for flexibility and innovation in energy storage technologies shall apply under Call Module CM2023-02)
- **Hybrid systems**: Combined electricity generation with heat or other energy carriers in hybrid systems (PVT, PV-Hydrogen, CSP-ST)

Expected impact

Projects shall address one or more of the following outcomes:

- Increase the **energy conversion efficiency**, contributing to zero-emission power production
- Increase **technology performance** (with reference to SET Plan Implementation Plans [46]) and/or lifetime

[46] https://setis.ec.europa.eu/implementing-actions/set-plan-documents_en#implementation-plans

- Develop **innovative technologies and components**, ensuring higher efficiency in the energy and power production
- Decrease **investment cost and LCOE** and/or improve the overall economics of the technology
- Demonstrate the **feasibility of scaling up**
- Demonstrate the **technology in different geophysical conditions** or in different weather conditions
- Reduce **environmental impact** (e. g. land use, effects on biodiversity and animal life) or significantly improve multiple use of occupied land surface / or maritime space
- Minimise the use of **critical raw materials** (CRM) and apply circularity-by-design approaches

Target RDI approaches/TRLs

Both research-oriented approach (ROA) and innovation-oriented approach (IOA) projects are equally relevant and will be ranked in **CM2023-03A** and **CM2023-03B** respectively.

CM2023-03A covers ROA projects (TRL 3–5) which will increase the efficiency of the technology and reach TRL 4 or above.

CM2023-03B covers IOA projects (TRL 5–7/8) which will make relevant progress towards the demonstration of technology and reach TRL 6 or above.

Project consortia

The Call Modules target consortia comprising complementary Research Performing Organisations (Universities, Research and Technology Organisations) and/or industry (SME, spin-offs; large companies, technology providers etc.).

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

Projects applying as IOA (**CM2023-03B**) shall comprise industry partners (SMEs, Spin-offs, large companies and in general any industrial up-taker) in the project consortium.

Project budget and duration

As for project duration, see **Section 4.3**.

The Call Module aims to support projects in the range of (but not limited to):

- EUR 1–2 million budget for **CM2023-03A** (ROA)
- EUR 2.5–5 million budget for **CM2023-03B** (IOA)

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

Objectives

The Call Module on CCU/CCS is based on the previous ERA-Net ACT initiative [47] with the aim to facilitate the emergence of CO_2 Capture, Utilisation and Storage (CCUS) technologies via funding of transnational projects. It aims at facilitating the emergence of CCU and CCS by accelerating and maturing these CCU/CCS technologies through targeted financing of innovation and research activities.

The term CCUS refers to all areas of the CCU and CCS chains. It encompasses a wide spectrum of technologies to capture CO_2 from point sources or directly from the air and either store it in porous geological formations that are typically located several kilometres under the earth's surface, onshore or offshore (CCS), or use the CO_2 to produce valuable products like fuels or energy, chemicals, and other materials (CCU). Under this Call, CCU does not include the use of CO_2 as a non-reactive working fluid, unless it is combined with other renewable systems (such as geothermal) to constitute a CCUS system.

The CCU/CCS Call Module intends to fund projects that aim to accelerate CCUS technologies in support of global efforts to reduce CO_2 emissions by more than 50 percent by 2030 compared to 1990 and further efforts for climate neutrality.

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.

Scope

Selected projects will support the emergence of CCU/CCS primarily in the industrial sectors and the energy sector.

The ambition of the Call Module is to select projects that have the potential to accelerate the time to market for CCU/CCS technologies. This will require cost-shared participation from industries in research and innovation activities, especially in energy intensive and heavy industry sectors, which may benefit strongly from implementing CCU/CCS technologies.

Projects must address one or several of the research and innovation activities described by the SET Plan IWG 9 [48] and the Mission Innovation [49], with special emphasis on the following topics:

- CO_2 capture from energy intensive or heavy industry (waste to energy, cement, steel, other metals, etc.), power, maritime transport, hydrogen [50] produced from natural gas, and storage-based CO_2 removal (CDR).
- Advancing lower cost CO_2 capture technologies that can effectively remove 95–100% of CO_2 from flue gases with dilute CO_2 concentrations.
- CO_2-storage sites, including elements that are needed for characterisation and management

[47] ACT- Accelerating CCS technologies, http://www.act-ccs.eu/

[48] CCUS Roadmap to 2030, https://www.ccus-setplan.eu/wp-content/uploads/2021/11/CCUS-SET-Plan_CCUS-Roadmap-2030.pdf

[49] https://www.energy.gov/fecm/articles/accelerating-breakthrough-innovation-carbon-capture-utilization-and-storage

[50] As for topics on hydrogen, see also CM2023-05 Hydrogen and renewable fuels.

of large-scale permanent storage of CO_2, e.g., reservoir integrity, monitoring, capacity estimation, modelling.

- Enabling CCUS technologies that industry views as high priority.
- Transport and injection of CO_2 (pipelines, ships, other non-pipeline transport and inter-modal options, monitoring and metering within CO_2 networks, temporary storage, well integrity and well technology).
- Reuse of existing energy assets for CCUS (e.g. pipeline repurposing).
- Negative emission technologies (NETs), Carbon Dioxide Removal (CDR) technologies such as Direct Air Capture technologies (DAC) with storage or use of CO_2, Bioenergy with CCS (BECCS), and Biomass Carbon Removal and Storage (BiCRS).

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.

Proposals must address at least one of the following:

- Improve the cost-efficiency and energy-efficiency along the value chain (scale up, storage at basin scale, efficiency, digital tools, effective collaboration among the stakeholders).
- Faster scale up of CCU/CCS technologies and at lower risk (design, demonstrations, development of legal framework, measures that strengthen the innovation system, knowledge sharing from full-scale operations, Integration into the energy-system etc.).
- Develop lower cost solutions for efficient capture of CO_2 from hydrogen produced from natural gas, and new technologies for processing, shipping, transport, and storage of hydrogen.
- Design and manufacturing of new materials that can make CCU/CCS more affordable.
- CCU/CCS market and business case development.
- Minimising or avoiding adverse impacts on human health and the environment throughout the CCU/CCS life cycle, including the development of circular economy strategies.
- Strengthen public perception of CCU/CCS through education, information sharing, and community engagement.
- Develop robust life-cycle assessment (LCA) and techno-economic analysis (TEA) for full CCU/CCS-value chains and life cycles. Alternatively, a more complex sustainability assessment can be developed addressing social science and humanities (SSH) disciplines (e.g. sociology, social psychology, economics).
- Develop net negative CO_2 emission solutions, such as direct air carbon capture and storage (DACCS) or Biomass Carbon Removal and Storage (BiCRS).

In addition to proposing technological solutions, proposals must also address the environmental, social, and economic implications that might impact industry adoption of the proposed technology. Proposals for only environmental, social, and economic implications of existing and commercial-ready technologies are not eligible for funding.

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.

The selected projects will address at least one of the following:

- lead to CO_2 capture at industrial-scale by early 2030s and CO_2 storage at mega ton scale also by early 2030s
- pave way for deployment of large-scale infrastructure for CO_2 capture from multiple sources, cross-border CO_2 transport, and CO_2 storage of tens of million tons CO_2 annually by mid 2030s
- be a bridge to implementation of CO_2 utilisation projects at industrial scale by early 2030s that have a sustainable and significant effect on reducing CO_2 emissions
- pave way for net zero or negative CO_2 emission technologies being deployed at industrial scale by mid 2030s

Target RDI approaches/TRLs

The Call Module aims to support projects reaching TRL 5 or above. However, activities at lower TRLs may be included if they contribute to the higher TRL goal of the overall project.

The acceleration of CCU/CCS technology deployment also depends on costs, markets and supporting frameworks. The Australian Renewable Energy Agency (ARENA) has developed and applied the concept of a Commercial Readiness Index (CRI) as shown in the figure below. The CRI casts technologies in terms of their commercial value proposition and ability to obtain financing for deployment.

Proposals must illustrate how their projects will help accelerate the time to market of affordable, cost-effective, low environmental impact and resource efficient CCU/CCS technologies. References to CRI and TRL should be included in proposals.

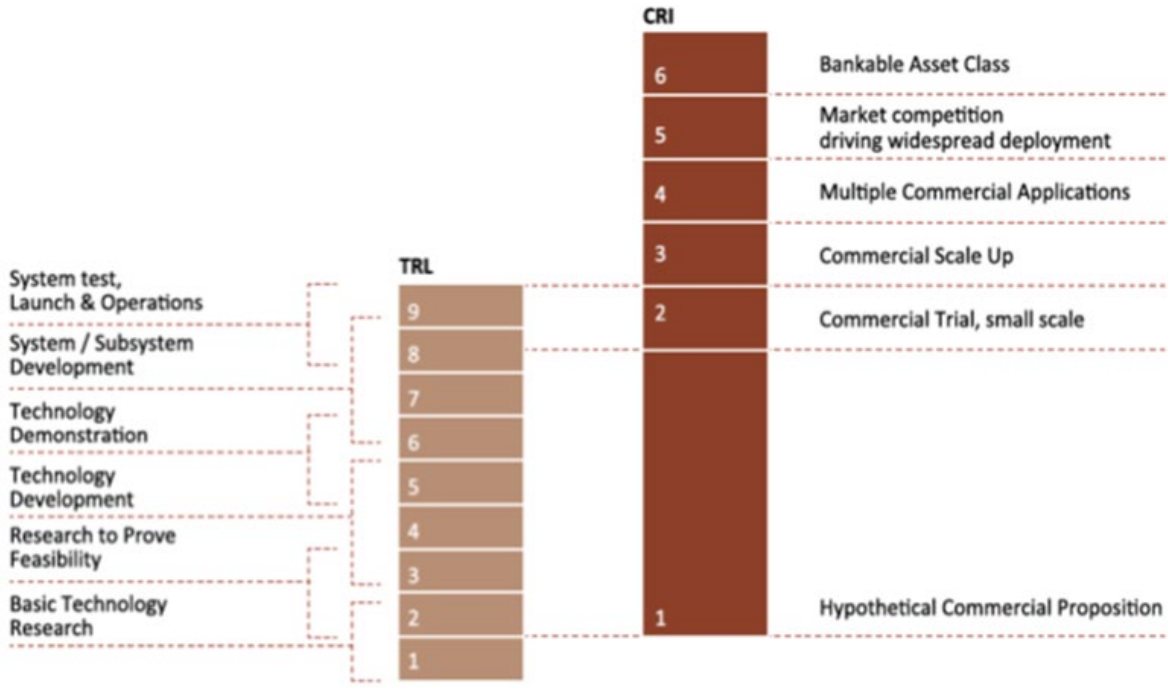

FIGURE 8.1. TECHNOLOGY READINESS LEVEL (TRL) AND THE COMMERCIAL READINESS INDEX (CRI)

Project consortia

Project consortia may consist of partners from universities, companies, industry organisations, local/regional governments, research organisations and NGOs. Consortia must demonstrate the interest of industry partner(s) by actively involving them in the project as Project Consortium Partners.

Access to top class research infrastructure is key for reaching the objectives of this Call Module. Proposals should, if relevant, seek to maximise synergies with existing infrastructures, for example ECCSEL [51], members of the International Test Center Network [52], the Hontomin Technology Development Plant (TDP) [53] in Spain, and the Alberta Carbon Conversion Technology Centre (ACCTC) [54].

Project duration and budget

Proposals must have a project duration between one and three years.

As for project budget, see **Section 4.3**.

[51] European Research Infrastructure for CO2 Capture, Utilisation, Transport and Storage (CCUS), https://www.eccsel.org/

[52] https://itcn-global.org/

[53] http://www.enos-project.eu/sites/operational-storage-field-site/hontomin/

[54] https://innotechalberta.ca/facilities/alberta-carbon-conversion-technology-centre/

CM2023-05 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 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.

The Call Module seeks to finance innovative projects, which can contribute, support, and provide results to future or already existing pilot and demonstration installations.

It is noted that at national level there might be specific goals within the global scope and objectives of the Call that need to be checked by candidates when formulating the proposal, for eligibility.

Scope

This **Call Module** on **Hydrogen and Renewable Fuels** is launched within the scope of CETPartnership TRI3[55]. In the case of storage technologies there are various programmes covering R&D related to batteries, which justifies focussing on alternative solutions for storage, namely by using energy carriers. In coherence with CETP SRIA, utilisation of a wide range of energy vectors, in particular hydrogen, and advanced and renewable fuels, as well as hybrid solutions are expected to support cross-sectoral integration. Appropriate fuel and chemical technologies will serve flexibility and sector coupling needs in the energy system and are important enablers for integration with other sectors such as industry and transport. Hence, this Call aims to support projects on hydrogen[56] and renewable fuels technologies, from the production of the fuel to its end-use.

The production of **hydrogen** plays a key role in any industrial society, since hydrogen can be used to store energy and for many essential chemical processes, as fuel to power electric motors via fuel cells, or as an input to produce e-fuels[57], biofuels and other hydrogen carriers like ammonia, or to power gas turbines.

Further development of hydrogen technologies is necessary to reduce cost and improve process integration and business models. Europe's goal of a **hydrogen economy** can be met cost-effectively when considering the production of **green or blue hydrogen**, particularly during integrated natural gas reforming and CO_2 capture. Hydrogen enables the decarbonisation of the heating/cooling of the building stock, transport sector, power sector, and other industrial facilities. However, upscaling of Europe's hydrogen infrastructure, liquid hydrogen conditioning as well as large-scale, safe transport of liquid hydrogen energy carriers are major challenges, as well as its end-use in the different sectors.

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[55] https://cetpartnership.eu/tri/3

[56] This includes hydrogen produced with maximum emission of 3 kg CO_2eq/kg H_2 (EU taxonomy).

[57] **Electrofuels** or **e-fuels** (synthetic fuels) are an emerging class of drop-in replacement fuels that are made by storing energy from renewable sources in the chemical bonds of liquid or gas fuels, aiming to be a carbon-neutral fuel. They are an alternative to aviation biofuel. The primary targets are butanol, biodiesel, and hydrogen, but include other alcohols and carbon-containing gases such as methane and butane.

Since hydrogen will be critical for the Clean Energy Transition and for reaching climate neutrality by 2050, it is crucial to coordinate the R&I initiatives between the CETP and the Clean Hydrogen partnership (e.g. what blue vs. green hydrogen covers and what the topics can be for collaboration). In the short and medium-term, hydrogen can be produced from fossil fuels with CCS, or from biomass or low-carbon power. Though water electrolysis has the advantage of producing extremely pure hydrogen (>99.9%), it is still possible to produce high purity hydrogen by natural gas reforming or gasification of biomass and other solid feedstocks (coal, waste plastics and municipal solid waste) through further hydrogen separation or purification.

Integration of hydrogen production and CCS offers significant opportunities for cost reduction. Commercial technologies for this type of hydrogen production are available but not implemented in large scale. **Biomass** can be used to produce different kinds of fuels. Production of hydrogen from biomass through anaerobic digestion, fermentation, gasification, or pyrolysis (all with bioenergy produced with CCS, i.e. BECCS) are at earlier stages of commercialisation. Hydrogen production with BECCS is attractive as it would deliver negative emissions, although it would compete with other sources of demand for biomass.

Considering the production of hydrogen to store energy in situations of surplus of intermittent power production, further research efforts and developments are also needed, as it is the case of electrolysis using non-purified water sources.

The international focus on **renewable fuels** is growing steadily to achieve a carbon neutral society. Renewable fuels are environmentally friendly energy carriers and important flexibility options are required to achieve a sustainable energy system. Important for a net-zero energy system is the cost-effective provision of thermo-, photo- and electrochemical solar fuels, as well as the supply of advanced biofuels from sustainable biomass. Renewable fuel production, particularly when coupled with power-to-X (e.g. biogas or biosyngas upgrading and solar fuels) and CCUS, offers major opportunities for greenhouse gas mitigation and negative emissions. The provision of such renewable fuels is crucial for industry, as well as for the residential and transport sectors. Low-cost production of such fuels to meet the needs of specific market segments (heavy-duty road transport, shipping, aviation, heat and power generation) requires a clear entry strategy.

The use of **renewable ammonia** (made from sun, air, and water) is expected to increase for both fertiliser and e-fuels. The advantage of renewable ammonia is that its production does not require a CO_2 source, it is easy to transport, and it is an established commodity. Thus, ammonia can be produced at remote locations with access to cheap renewable electricity. Ammonia is not yet approved or tested as a fuel for transport applications (e.g. in marine engines), but there are ongoing projects to test the feasibility, also considering hazardous aspects regarding handling of ammonia.

Electrofuels (e-fuels/synthetic fuels made by storing energy from renewable sources) are expected to impact aviation and shipping in all countries, most likely as sustainable jet-fuel for aviation and as either ammonia or methanol for marine. For short distance ferries, batteries or hydrogen will be an option. The technology for producing e-fuels requires further development before reaching technical and commercial maturity.

In order to enable the most rapid introduction of new fuels, selected end-user application technologies are also supported within this Call Module.

The hydrogen and renewable fuels Call Module strives to be complementary to calls for proposals

issued by the EC under the HE Work Programme, in particular the calls from the Clean Hydrogen Partnership[58], the Circular Bio-based Europe Joint Undertaking[59], the Clean Aviation Joint Undertaking[60], the Towards zero emission road transport (2Zero)[61] and the Zero-emission Waterborne Transport[62], or other available instruments, including the national research programmes planned by the countries involved in this collaboration.

Projects must focus on the technology but are also required to address cross-cutting dimensions such as the environmental, social, and economic challenges required to accelerate the implementation of these renewable or low carbon, low-footprint fuels. However, projects dedicated to cross-cutting dimensions alone are not eligible for funding.

The Call Module seeks to finance innovative projects which can contribute, support, and provide results to future or already existing pilot and demonstration installations.

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.

Target topics

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.

Hydrogen technologies

Considering that the Clean Hydrogen Partnership Call for proposals covers well a large part of this R&D domain, and more specifically water electrolysis, hydrogen storage (in solid materials, high pressure and liquid form), transport and distribution and fuel cells development, the topics are limited to:

- New or improved processes for hydrogen production (targeting a maximum emission of 3 kg CO_2eq/kg H_2 following the EU taxonomy) as:
  - from water through new electrolysis concepts (alternative to AEMEC, Alkaline electrolysis, PEMEC and SOEC) or processes alternative to electrolysis, including high temperature or solar processes (solar hydrogen), or
  - hydrogen obtained from biomass or other resources (waste…), potentially coupled with CCS, including their integration with other processes like electrolysis, or
  - blue hydrogen coupled with CCS[63], including their integration with other processes like electrolysis
- Storage of hydrogen through ammonia or other hydrogen liquid carriers (like LOHC); for the production of ammonia, research into alternative, economically viable, less energy-intensive processes to the commercial Haber-Bosch process is encouraged
- Infrastructure and distribution aspects, including pipeline reuse and cost competitive materials

[58] https://www.clean-hydrogen.europa.eu/index_en

[59] https://www.cbe.europa.eu/

[60] https://www.clean-aviation.eu/

[61] https://www.2zeroemission.eu/

[62] https://www.waterborne.eu/partnership/partnership

[63] See also CM2023-04 Carbon capture, utilisation, and storage (CCUS), which includes hydrogen produced from natural gas and storage based CO_2 removal (CDR) as topics.

for pipelines

- End-use applications are considered, as presented later in uses of hydrogen together with renewable fuels, with the main objective of substituting in part or fully the use of fossil fuels in different sectors

Renewable fuels

This topic is dedicated to new or improved processes and technologies for production of renewable fuels with low or zero carbon footprint, including biofuels and other synthetic fuels (such as e-fuels or solar fuels). Biomass and other feedstocks for the production of biofuels may be considered (taking into consideration the question of availability, cost, and competition with other uses). Different processes (thermo-, photo- and electrochemical, biological…) and their possible combination can be considered, namely on the following topics:

- New or improved conversion processes for renewable fuels production, using different types of feedstocks including wastes
- New or improved upgrading technologies, such as those applied to biogas and biosyngas for biomethane production
- New or improved cost-efficient methanation technologies
- New fuels for marine engines, aviation (SAF's) and heat and power generation
- Renewable ammonia, to include cost-effective production technologies using different types of feedstock (e.g. H_2, wastes, residual liquids as urine)

Uses of hydrogen and renewable fuels

This topic aims to support projects on end-use technologies using hydrogen or renewable fuels, targeting in particular the following priority uses: heavy-duty long-distance transport vehicles and machinery (road, off-road, rail, ship, and aviation), power production, stationary residential use and industrial use.

Aviation is undoubtedly a relevant field of application for sustainable fuels. There are numerous 2023 calls for proposals in HE (Cluster 5 Destination 5) respectively the Clean Hydrogen and the Clean Aviation Partnership programme; however, any intervention at this level will have a significant impact on climate. In the case of this Call, the focus is on renewable fuels addressing sustainable aviation fuels that can substitute jet fuel of fossil origin. This topic on uses of hydrogen and renewable fuels (including renewable ammonia) covers technologies for mobility, industry and residential use, such as:

- FCEV heavy duty, long-distance road transport vehicles
- FCEV locomotives
- FC off-road vehicles and mobile machinery (e.g. mining)
- Waterborne applications of hydrogen and renewable fuels
- New and innovative combustion concepts to substitute fossil fuels use in industry
- Combined heat and power systems with less than 30% output coming from electricity
- Stationary residential use
- Sustainable mobility (marine and aviation)

The projects should focus on system solutions at vehicle level based on component developments and includes fuel station technologies for hydrogen and renewable fuels. In terms of fuel transformation technologies, fuel cells or combustion engines can be considered, depending on the targeted

application.

Cross-cutting issues related to the uses of hydrogen and renewable fuels, such as the suitability of the fuel (hydrogen, ammonia, methanol, methane…) and the technology using it to the specifications of the targeted uses, pollutant emissions (e.g. NOx for combustion processes), safety of use, stability and ageing of the fuels, etc. will be considered.

Cross-cutting issues

Projects are required to consider cross-cutting issues, such as:

- Consumer attitudes, risk perception and the levers which could influence consumer behaviour
- Life cycle, techno-economic and environmental impact analyses, including water, land and energy consumptions aspects
- Barriers, opportunities, and solutions to scaling up
- System analysis and integration of processes in the energy system, continuity/intermittence
- Digitalisation as part of the project

Regarding the Technology Readiness Level, this Call Module aims at supporting projects to reach TRL 5 or above by the end of the project. Activities with lower TRL levels may be included if they contribute to the higher TRL goal of the project.

Expected impact

Projects funded under this Call Module are expected to have a significant bearing on accelerating the development and use of hydrogen and renewable fuel technologies and provide results showing significant CO_2 reduction by 2030.

Supported projects are expected to deliver results that have a significant impact on promoting the deployment of new and cost-efficient technologies with a significant contribution to the green transition.

Target RDI approaches/TRLs

This Call Module aims to support projects reaching TRL 5 or above. Activities with lower TRLs may be included if they contribute to the higher TRL goal of the project.

Project consortia

Consortia may consist of partners from universities, companies, industry organisations, local/regional governments, research organisations and NGOs.

Consortia may consist of partners **across several positions and disciplines** within research and development systems (i.e. fundamental targeted research, applied research, innovation, business etc.). The consortia must demonstrate the interest of industry partner(s) by actively involving them in the project as formal partners.

Project duration and budget

Proposals must have a project duration between one and three years.

As for project budget, see **Section 4.3**.

CM2023-06 Heating and cooling technologies

Objectives

The CETPartnership Transition Initiative Heating and cooling (TRI4[64]) will contribute to Challenge 4, "Efficient zero emission Heating and Cooling Solutions", formulated in the CETPartnership SRIA[65].

This initiative's overarching goals are to 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. The energy crisis caused by the war in Ukraine has clearly shown that Europe needs to repower and rethink its heating and cooling policy (ref. REPowerEU[66]). Better, cheaper, easier applicable and climate-neutral heating and cooling technologies are needed to provide thermal comfort while phasing out fossil fuel-fired dependence.

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

- For pilots and demos (aiming towards TRL 7, 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.

This Call Module (**CM2023-06**) complements various Call Modules in the CETPartnership Joint Call:

- PV/T is covered in **CM2023-03** (TRI2).
- Concentrated solar power is covered in **CM2023-03** (TRI2), while concentrated solar for thermal applications in the industry is covered by this Call Module (**CM2023-06**).
- Geothermal energy technologies are covered in **CM2023-07**.
- 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 **CM2023-07**.
- Projects focusing on integrating heating and cooling in regional or industrial energy systems or the built environment are referred to **CM2023-08**, **-09**, and **-10A/10B**, respectively.
- In case of doubt where to best propose your project, consult with your funding organisation.

[64] https://cetpartnership.eu/tri/4

[65] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

[66] https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3131

Scope

This Call Module targets innovation in all relevant areas for developing a secure, sustainable, competitive and affordable climate-neutral heating and cooling supply (Figure 8.2). Projects should address one or more of the following areas:

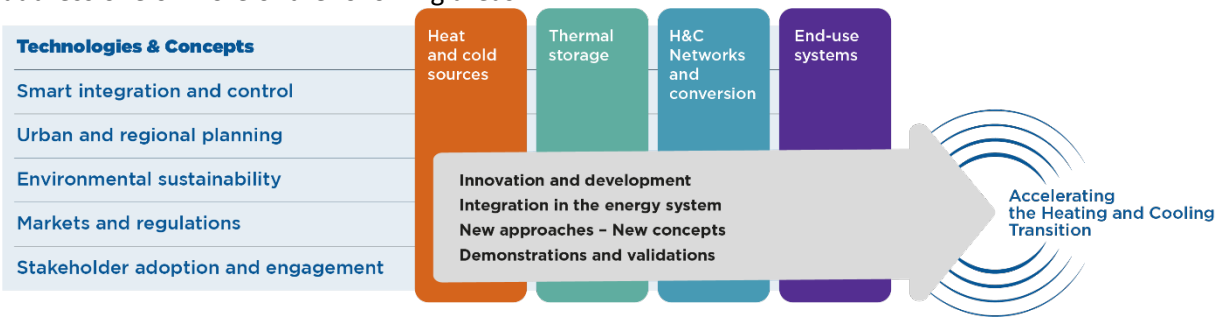

FIGURE 8.2. SCOPE MODULE 6 HEATING AND COOLING TECHNOLOGIES.

- **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.

Across these themes, the horizontal bars indicate essential 'areas of interest to adopt innovations in society'– including applications in buildings and meeting the industry's demand. The vertical bars indicate the technological scope. The arrow in the figure symbolises the forward and future-oriented approach that builds on these various aspects.

The projects resulting from this Call are expected to encompass projects both relating to the built environment or industrial end-users. For the built environment, the projects may focus on district heating and/or cooling systems and other collective systems, but also on individual solutions.

Proposals are expected to explain their contribution to the objectives of the Call Module and quantify this contribution to the extent that this is possible. Successful projects in the Call Module should contribute to one or more relevant **cross-cutting**, non-technological themes whenever appropriate. A close interconnection between sources and their temperature level, conversion and distribution technologies, flexibility for the energy system and end-user requirements should be sought for heating and thermal storage operations. Projects should demonstrate their market relevance and potential impact.

Project Consortium Partners must ensure that their proposed work agrees with the funding

instrument of their relevant funding organisation – consult Annex B to this Call Module.

Expected impact

Projects funded by this Call should improve business cases and/or increase the competitive market opportunities and environmental protection, compared to state-of-the-art today, through research and innovation. The projects' results must emphasise market-driven innovation activities, aimed to be ready for large-scale implementation by 2030. However, projects may include lower TRLs depending on national funding rules.

Project outcomes are expected to help accelerate the time to market of secure, sustainable, competitive, affordable and climate-neutral heating and/or cooling solutions. Projects can also focus on bringing upcoming technologies to a level of validation in a relevant environment or integrating their activities into already viable and ongoing demonstration or piloting projects.

This Call Module envisages technical projects that develop innovations or new solutions that may address **cross-cutting topics** such as economic modelling, social aspects, environmental concerns, etc. The projects are encouraged to consider **cross-cutting topics** in their work explicitly. However, Project Consortium Partners must ensure that their proposed work meets national funding instruments. Proposals that exclusively consider research on sustainability or social acceptance cannot be funded.

Target RDI approaches/TRLs

Projects are expected to demonstrate real progress. Projects need to assess the TRL (i) before their work and (ii) indicate by how many levels the technology readiness advances in case of a successful outcome of their project. Projects need to aim at advancing towards TRLs 5, 6, 7, 8 or 9. There will be an emphasis on market-driven projects aimed to be ready for large-scale implementation by 2030, implying industrial relevance for all projects. However, activities at lower TRLs may be included if they contribute to the higher TRL goal of the overall project.

Project consortia

This Call Module encourages innovative entrepreneurs in small, middle-sized, and large companies, and researchers at research organisations, and academia to propose. In many partner countries, local and regional governments are also eligible for funding and could be part of consortia.

Active involvement of the private sector and/or organisations that will own new demonstrators/installations developed as part of the project is highly recommended. Likewise, project leadership from such organisations is encouraged, in particular to maximise the impact of technological development in the private sector.

The Call Module encourages consortia with a broad geographic spectrum. Each project consortium must demonstrate the alignment with the respective funding bodies' national interest (see national/regional Annexes) and demonstrate the Project Consortium Partners' competence to implement the project.

Project duration and budget

Proposals must have a project duration between one and three years.

As for project budget, see **Section 4.3**.

CM2023-07 Geothermal energy technologies

Objectives

The CETPartnership TRI4 [67] Heating and cooling and TRI2 [68] Power technologies aim to contribute to their respective Challenges in the CETPartnership SRIA [69], by launching this Call Module for geothermal energy in the Call.

The Call Module will address 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.

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

- For pilots and demos (aiming towards TRL 7, 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.

This Call Module 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 (**CM2023-07**), while **CM2023-06** 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 **CM2023-08**, **-09**, and **- 10A/10B**, respectively.

Scope

This Call Module targets innovation, research and development in how geothermal energy is supplied and integrated into Europe's future energy system. The scope includes:

- Geothermal energy for heating and cooling
- Geothermal energy for power generation
- Underground thermal energy storage (UTES)
- Geothermal energy with the co-production of minerals

[67] https://cetpartnership.eu/tri/4

[68] https://cetpartnership.eu/tri/2

[69] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

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Successful projects may address one or more of the three themes shown in Figure 8.3, which cover all stages in the development cycle of a secure, sustainable, competitive, and affordable geothermal installation.

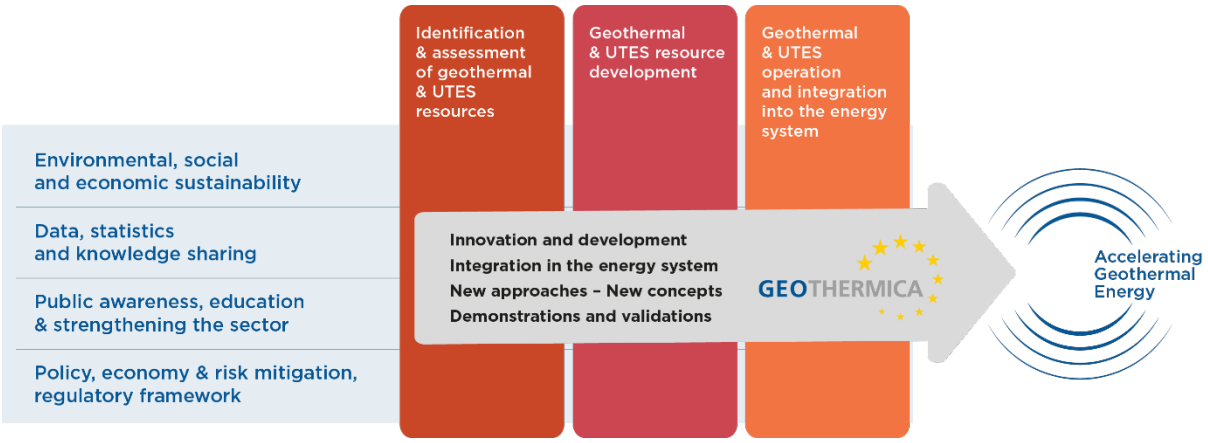

FIGURE 8.3. SCOPE CALL MODULE 7 GEOTHERMAL ENERGY TECHNOLOGIES

- **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 & 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.

Across these themes, four **cross-cutting**, non-technological thematic aspects are relevant for 'Geothermal Energy Technologies'; sustainability and safety, knowledge sharing, enhancing public awareness and the sector's strength, and activities related to policies and regulations (Figure 8.3). Proposals are expected to explain their contribution to the objectives of this Call Module and quantify this contribution to the extent that this is possible. Successful projects in this Call Module should contribute to one or more relevant **cross-cutting**, non-technological themes. A close interconnection between sources and their temperature level, conversion and distribution technologies, flexibility for the energy system and end-user requirements should be sought for heating and thermal storage operations. Projects should demonstrate their market relevance and potential impact. The Call Module considers all geological depth levels.

Project Consortium Partners must ensure that their proposed work agrees with the funding instrument of their relevant funding organisation – consult the national Annexes to this Call Module.

Expected impact

Projects funded by this Call should improve business cases and/or increase the competitive market opportunities and/or improve tools and methodologies and/or environmental protection, social acceptability, strategic knowledge, safety and/or circularity for geothermal energy. The projects' results must emphasise market-driven innovation activities, aimed to be ready for large-scale implementation by 2030. However, projects may include lower TRLs depending on national funding rules.

Project outcomes are expected to help accelerate and implement geothermal energy solutions. Projects can also focus on bringing upcoming technologies to a level of validation in a relevant environment or integrating their activities into already viable and ongoing demonstration or piloting projects.

This Call Module envisages technical projects that develop innovations or new solutions that may address **cross-cutting topics** such as economic modelling, social aspects, environmental concerns, etc. The projects are encouraged to consider **cross-cutting topics** in their work explicitly. However, Project Consortium Partners must ensure that their proposed work meets national funding rules. Proposals that exclusively consider research on sustainability or social acceptance cannot be funded.

Target RDI approaches/TRLs

Projects are expected to demonstrate real progress. Projects need to assess the TRL (i) before their work and (ii) indicate by how many levels the technology readiness advances in case of a successful outcome of their project. Projects need to aim at advancing towards TRLs 5, 6, 7, 8 or 9. There will be an emphasis on market-driven projects ready for large-scale implementation around 2030, implying industrial relevance for all projects. However, activities at lower TRLs may be included if they contribute to the higher TRL goal of the overall project.

Project consortia

This Call Module encourages innovative entrepreneurs in small, middle-sized, and large companies, and researchers at research organisations and academia to propose. In many partner countries, local and regional governments are also eligible for funding and could be part of consortia.

Active involvement of the private sector and/or organisations that will own new demonstrators/installations developed as part of the project is highly recommended. Likewise, project leadership from such organisations is encouraged, in particular to maximise the impact of technological development in the private sector.

This Call Module encourages consortia with a broad geographic spectrum. Each project consortium must demonstrate the alignment with the respective funding bodies' national interest (see national/regional Annexes) and demonstrate the Project Consortium Partners' competence to implement the project.

Project duration and budget

Proposals must have a project duration between one and three years.

As for project budget, see **Section 4.3**.

CM2023-08 Integrated regional energy systems

Objectives

The objective of this Call Module is to build Energy Transition Ecosystems all over Europe. The focus is on local and regional energy systems with the need owners [70] of specific regions [71] in the centre with projects that bring them together on a European level. The intention is to fund a portfolio of projects dealing with solutions for different regional characteristics. The characteristic can be described freely by the consortium, according to their perception what is of relevance in their specific geographical context for example an industrial or agricultural setting, wind or solar dominated system, and may or may not include specific infrastructure like heating grid, geographical terrain (plains or mountains), etc.

An Energy Transition Ecosystem can have specific characteristics such as:

- Located in a geographical context and has specific characteristics (urban, rural, agricultural, industrial, islands, etc.)
- Enabling a secure, resilient and CO_2-free regional energy supply for a specific regional context
- Use of flexibility of locally and regionally available energy sources, often with a focus on increasing security and resilience
- Meeting the individual local and regional requirements in terms of generation, demand, and goals
- Sustainable use and optimisation of local and regional infrastructures and local and global resources
- Use of synergies for user and consumer structures from different sectors (including, for example, municipalities, industrial plants or the transport system) and associated consumption patterns

The aim is to initiate projects driven by consortium of need owners in a regional / geographical context with the intent to develop model system solutions. These solutions should provide opportunities and synergies for active participation in the energy system and have a high potential for implementation. Scaling up in this context means that there is a high potential for replicability of the solution in similar environments across Europe.

The target for this Call Module is to demonstrate how local stakeholders, regulation and markets enable various technologies on different levels to work together in an integrated system. The development of regional and local energy systems should be orchestrated within framework, which reaches and impacts the maximum number of relevant stakeholders. Important local community and regional stakeholders include but are not limited to: municipalities, innovation clusters, ecosystems and programmes, small and medium-sized enterprises (SMEs), infrastructure providers and operators, etc. Interregional and transnational innovation ecosystems such as cluster networks, start-ups

70 “Need-owner” refers to the role of an entity (e.g. public agency, local/regional authority, energy grid manager/owner, company, building owner etc.), that seek a solution to a specified need (problem) within its area of operation. The “need-owner” has practical insights into what the actual need is and an interest to be involved in the development of a solution. This ensures the development of an optimal solution and facilitates the “need-owner(s)” acceptance and implementation of the solution. There can be more than one “need-owner” to the same need.

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

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networks, etc. are also relevant.

This Call Module does not focus on the technological development of individual solutions, but on appropriate system solutions in the specific regional context. Characteristics of potential initiatives may include:

- Encourage consortia to further develop already existing regional initiatives by adding either new aspects/objectives or new partners
- Connect to ongoing or recently finished demonstration projects and thereby utilise pre-existing test infrastructure, knowledge, cooperation of key demos, transfer of results, opening-up, etc.
- Design the structure around integrated approaches, involving **cross-sectoral and interdisciplinary research and innovation**
- Refer to existing local/regional climate, energy and implementation plans or roadmaps

Therefore, projects should focus on regionally anchored ecosystems with the need owners of the region and bring them together at European level.

Expectations for the transnational collaboration:
Energy Transition Ecosystems can be found in a broad range of settings for example: large urban systems, the integration of municipalities or smart energy communities, and often include the integration of multiple sectors like industry, agricultural, public or tourism.

The transnational cooperation of these ecosystems will help foster a deeper understanding of the different infrastructural and socio-economic contexts. The transfer of knowledge and the transfer of solutions to other regions with similar conditions will attract larger market players, more efficient use of resources and accelerate co-transition of regional energy systems. The benefit of addressing **cross-cutting issues** in a transnational approach ensures that learnings can be shared and create robust transition pathways across Europe.

Scope

The scope of this Call Module is the creation of resilient and secure energy transition regions, which efficiently provide, host, and utilise high shares of renewables in the dynamic local or regional supply by 2030. A crucial corner stone for this Call Module is the mission driven focus where relevant local and regional stakeholders (need-owners) have a central role in the problem definitions and in the implementation of the project.

These integrated local and regional energy systems must be validated by transnational cooperation on the European level. Such systems shall provide replicable solution models that both meet the individual local and regional requirements and demand, as well as provide scalability and replicability on a national and transnational level.

Target topics

Challenges that the projects may address:

Regional aspects

- Develop integrated regional and local energy systems that enable a secure, resilient and fossil free regional energy supply, up to and beyond 100% in the dynamic local or regional supply
- Increase renewable energy supply (RES), electric vehicles (EV) and storage hosting capacity of distribution systems to reduce energy dependence
- Leverage synergies and utilise flexibilities in locally and regionally available energy sources (including aspects of heating, cooling, electricity and local fuels) and involve **cross-sectoral integration** of multiple (economic) sectors like transport, industry, trade, and so on
- Include regional infrastructures as well as user and consumer structures driven by local municipalities, communities, industry and stakeholders from different sectors

Contribution to a secure and resilient European energy system

- Participation in inter-regional exchange of energy (e.g. city, rural areas)
- Demonstrate the ability of providing management of flexibility by cross-energy vector coupling and by efficiently integrating different energy carriers
- Contribute to interoperability in developing harmonised business processes for solutions
- Coordinate and link research activities with e.g. living labs to facilitate the development and field-testing of prototypes
- Develop regional climate strategies and Key Performance Indicators (KPI's) for climate neutral energy systems can guide policy makers and actors when adopting market design on European level

Market aspects

- Enable citizens, need-owners, and other stakeholders to take part in the related value chains
- Develop appropriate market and business models
- Focus on large scale markets for solutions and technologies
- Define target groups for the solutions

Partnership aspects

- Make a clear and locally relevant problem definition at the core of a process of interaction and iteration
- Define the target groups to answer the problem definition and achieve the goals
- Build partnerships for achieving strong relationships within the right target groups

Policy aspects

- Insights on how to overcome challenges and barriers related to governance, decision-making and the legal framework
- Guide regulatory frameworks for adaption in order to accelerate the energy transition

Expected impact

Projects funded under this Call Module are expected to contribute both to specific local and regional energy- and climate objectives and, at the same time, have a larger energy system relevance. The

Projects, that are related to system integration, should use the Three-Layer Research Model [72]as a framework for their expected impact.

Expected impact of the projects in the framework of the Three-Layer Research Model:

- **Transition (Stakeholder Adoption)**
  - Active engagement of diversified stakeholders in the local and regional energy context including spatial planning and business development
  - Educated citizens respecting the importance of regional energy infrastructure as a key enabler for the energy transition
  - Solutions to overcome energy poverty with a goal of presenting the feasibility and usefulness of local energy supply

- **Marketplace**
  - Practical business and market models to unleash flexibility potentials on regional level including sector coupling
  - Adopted models to assess critical needs of multiple stakeholders as a contribution that will harmonise European framework conditions
  - Guidance on how to create local and regional value with sustainable energies

- **Technology**
  - Replicable and scalable model solutions as well as tools and guidelines for replicable innovation processes, where innovation is on a system level
  - Demonstrated integration or coupling of different energy sectors
  - Modernise and improve infrastructure (especially smart grids) as a key factor
  - Evolve and adopted models for interoperability in harmonised business processes and data exchange

Target RDI approaches/TRLs

The Call Module aims to support projects reaching TRL 5–9. Activities with lower TRLs (3–5) may be included if they contribute to the higher project goal.

Furthermore, given that projects in this Call Module are required to structure around integrated approaches, involving **cross-sectoral and interdisciplinary research and innovation**, the Readiness Level should be considered along more holistic approaches. In the absence of an equally established and commonly used readiness concept, this can be described, for example, by the Societal Readiness Level (SRL) defined according to Innovation Fund Denmark [73].

The expectation is that projects in this Call Module will target solutions with a SRL in the interval SRL 5–8. If other Readiness Indicators such as System Readiness Level, Market Readiness Levels or alike are already in use nationally or seem more appropriate they can also be used.

Please refer to national funding agency requirement for more specific TRL and SRL requirements.

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[72] The Three-layer Research Model is a framework that facilitates a structured approach to fostering innovation in project design. The model has a proven track record in Smart Grid development throughout Europe where it has contributed to compatibility, intermobility, scalability, and replicability. The different layers are transition, marketplace and technology. See also **Section 1.2**.

[73] https://innovationsfonden.dk/sites/default/files/2019-03/societal_readiness_levels_-_srl.pdf

Project consortia

This Call Module aims to create a culture, which is conducive to innovation, allowing both companies and regional ecosystems to evolve over time. It is desirable to have projects driven by local and regional stakeholders (as defined above) working in close liaison with relevant research organisations and solution providers from the public and private sectors.

Target groups include the following entities:

- Local and regional authorities, stakeholder groups, aggregators
- Private and public need-owners, institutions and citizens, especially involving diversified stakeholders intent on implementing innovative and **cross-sectoral integrated solutions**
- Solution providers: technology product and system developers, service providers, etc.
- R&D institutes, local and regional innovation clusters, programmes and ecosystems, technology transfer agencies, triple helix organisations, and so forth

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

For proposals that intend to work with former ERA-Net Projects, Demonstration, Real-Lab or Living-Lab approach, it is recommended to consider the JPP SES Living Labs and Testbeds Network [74] when looking for partners. For Matchmaking opportunities please register at the CETPartnership platform [75].

For proposals that intend to work with data service solutions, it is recommended to consider the JPP SES network of Digital Platform Providers [76] when looking for partners.

Project duration and budget

See **Section 4.3**.

[74] https://www.eranet-smartenergysystems.eu/Partners/Living_Labs

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

[76] https://www.eranet-smartenergysystems.eu/Partners/Digital_Platform_Providers

CM2023-09 Integrated industrial energy systems

Objectives

The Call Module for Integrated Industrial Energy Systems (TRI6[77]) **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**. TRI6 focuses specifically on **integrated solutions across industries, across energy sectors and across public and private sectors** according to the CETPartnership SRIA[78].

Special emphasis in the Call Module is placed on solutions for system- and process-level integrations for efficient industrial power, heating, and cooling. The main industries that are considered include iron & steel, cement, pulp & paper, chemical, and food and beverage industries.

The Call Module will contribute to an innovation-based growth of the European economy and the European energy transition by supporting projects that accelerate the development of clean technologies by capitalising on synergies between programmes, both nationally and internationally, as well as by addressing **key cross-cutting issues**, lead to faster market uptake, upscaling, and increased EU´s technological independence and global competitiveness[79]. Projects are expected to increase their TRL up to 7 throughout the project duration so that they move closer to commercial readiness.

The Call Module will address topics such as sustainability, circularity, environmental impact, integration with local and regional energy systems, energy storage, CCUS and digitalisation and Artificial Intelligence. There are synergies with TRI3 and TRI5.

Scope

In the future, electricity will play a significant role as a “primary” energy source for the industries and new innovations are needed to accomplish the transformation of industrial electrification. Further, a large share of the industrial energy supply shall be based on renewable sources. Where carbon emissions cannot be avoided, CO_2 shall be captured, utilised for production of preferably long-lifetime products, or permanently stored. To produce negative emissions, capture, utilisation in long-lifetime products and storage of biogenic CO_2 from the exhaust gases, i.e. bio-CCUS, is an option.

While the energy transition of industries advances, industrial energy systems shall integrate with local, regional, and national heat and power networks and systems. Moreover, the energy and industrial systems shall together integrate as renewable power will also be used to produce hydrogen which can be utilised as energy carrier or raw materials in industrial processes or with CO_2 utilisation (CCU) to synthesise e-products for the replacement of fossil-based fuels and chemicals.

The integration of industrial energy systems with local, regional, or trans-regional energy systems supports national and European goals for carbon neutrality. As research, development, and innovation activities (RDI) for industrial carbon-neutrality are already funded at a national level in many countries,

[77] https://cetpartnership.eu/tri/6

[78] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

[79] https://setis.ec.europa.eu/set-plan-progress-report-2022_en

a broader experience and knowledge sharing at an international level will be an advantage. Transnational co-operation will boost efficient technology transfer and leverage complementarities for building competitive European value chains.

Target topics

This Call Module is in line with the REPowerEU Plan [80] and focuses on the need for reducing energy consumption, substituting fossil fuels, and accelerating Europe's clean energy transition to bring down emissions and dependencies [81]. Therefore, this Call Module welcomes proposals for research, development and innovation projects that contribute to one or more of the following challenges:

Challenge 1 – Reducing emissions from the industrial energy system

Funding in this area is directed to projects that contribute to reducing the industry's process-related greenhouse gas emissions and other emissions such as certain combustion emissions and diffuse emissions linked to process-related emissions. The objective is to finance technological leaps and to support industry's ambitions to change to more sustainable production.

Process-related emissions refer to emissions directly from industrial processes according to environmental reporting as well as to emissions that occur during the combustion of residual products from fossil raw materials in production processes, such as flaring of industrial residual gases. Emissions with an indirect connection to industrial processes are, for example, combustion emissions from on-site power and heat production.

Projects that focus on reduction of indirect emissions from industry can only be supported in cases where a reduction in direct emissions from processes is also included in the project or when they involve a technological leap for the industry. Therefore, projects that only involve conventional fuel changes will not be funded.

Challenge 2 – Integrating energy and resource efficient industrial energy systems

Funding in this area is directed to projects that increase knowledge and develop new and innovative processes and system integrations that improve sector coupling in an energy and resource efficient way between industrial energy systems and the energy system in general. **System-level integrations across sectoral boundaries** will provide support for a more flexible and robust European energy system based on a high degree of intermittent energy sources.

The projects in this area can include the role of industry in a larger perspective, i.e. integration between different industries or integration between an industrial site and the surrounding local or regional energy system, to create an energy- and resource-efficient system from a holistic perspective. The area thus comprises industrial and **cross-sectoral symbiosis**, including new industrial and system-integrated structures, i.e. projects that study physical exchanges of energy, material or residual streams in the form of, for example, excess heat or cool, operational and municipal wastes, residual materials and

[80] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:230:FIN

[81] https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en

residual flows. This area can thus help to create circular economy solutions for the industry and local communities and regions.

Challenge 3 – Removing carbon emissions from the carbon cycle in industrial energy systems

Funding in this area is directed to projects that can contribute to removing industrial greenhouse gas emissions from the carbon cycle through emission separation combined with long-lifetime utilisation or long-term storage of carbon. Funding is also directed to projects that address the possibility for industries to implement CCU to produce energy products/synthetic fuels from their CO_2 emissions. Such chemical energy carriers could serve as energy storages and support balancing of the renewable-based future energy system. CCU production pathways might involve bioprocesses, e.g. with algae, or synthesis processes with clean hydrogen. Implementation of CCU, hence, might open new business opportunities beyond today's industrial production.

Special emphasis is put on greenhouse gas emissions of biogenic origin and on CO_2 taken out of the atmosphere so that effective long-term removal of carbon emissions from the carbon cycle can be achieved.

Expected impact

The expected impact from projects that are funded in the Call are that they contribute to making European industry a part of a climate-neutral economy. Funded projects will strive to:

- increase European industry's competitiveness
- support the development and pre-commercialisation of future disruptive technologies
- support a wider use of renewables and alternative energy sources as well as emission control technologies for reducing industrial emissions
- integrate renewable energy into the industrial energy system to aid increased industrial electrification
- increase resource -and energy efficiency of industrial energy systems through novel process and system integrations
- increase circularity through, for example CCU or the reuse of waste heat
- Increase the use of Bio-CCUS in industrial processes
- develop sustainable bioenergy and biofuels
- develop and integrate hydrogen-based technologies into the industrial energy system and infrastructures

Projects that are funded are expected to provide solutions to the challenges in the Call Module through new knowledge, skills, and technologies. The funded projects will also be expected to use need-owners, industrial advisory boards and/or a challenge driven approach to improve fit with industrial needs, to foster industrial acceptance and to boost exploitation of research results. Projects shall participate in CETP's working groups and workshops to share information, knowledge, ideas, and results to strengthen national and regional research, development and innovation policies.

Target RDI approaches/TRLs

This Call Module aims to support projects with TRL 3–7. Projects are encouraged to advance solution

development towards TRL 7 by the end of the project so that the consortium members are ready to apply for follow-up funding for piloting or demonstration projects from other funding programmes like EU´s Innovation Fund [82]. This to drive clean energy solutions faster towards commercial readiness and contribute to a more competitive European industry and a sustainable and de-carbonised European energy system based on renewable energy sources.

Project consortia

A project consortium is expected to include the following types of actors:

- 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 organisations

Projects must involve industrial need-owners in the projects to provide for faster market diffusion, upscaling, and replication of solutions. If universities or research institutes are project leaders, they must have at least one need-owner attached to the project. If the project leaders are companies, their customers can be seen as need-owners so there is no need to attach a specific organisation to the project.

Project duration and budget

See **Section 4.3**.

[82] https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/programmes/innovfund

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

Objectives

The Call Modules **CM2023-10A/10B Clean energy integration in the built environment** cover both ROA (Research-Oriented Approach) and IOA (Innovation-Oriented Approach) projects.

The Call Modules' content is defined according to the CETPartnership SRIA[83], elaborated according to the CETPartnership principles, seeking coordination with the SET Plan IWG5 (Implementation Working Group on Energy Efficiency in Buildings), IWG3 (Implementation Working Group on Positive Energy Districts(PED) as well as different ETIPs and covers the objectives of CETPartnership TRI7: Integration in the built environment[84].

The CETPartnership SRIA proposes a wide picture of improvements in the field. The scope is organised around **new developments in integration and conversion of renewable energy in the built environment and digitalisation in the whole building life cycle**. In these Call Modules, particular emphasis is put on the interface with and the integration in the built infrastructure.

The Call Modules are intended to establish a portfolio of new solutions covering a fundamental part of the CETPartnership SRIA regarding RDI for integration in the built environment.

The Call Modules aim to enable transnational projects, which develop and provide new solutions for the built environment from a pure energy consumer towards becoming a prosumer (producer-consumers) of renewable energy and from a passive to an active role in the future energy landscape.

This should be achieved by focusing on the physical, technical and (where applicable) aesthetical integration of clean energy conversion technologies for power, heat and cold into buildings and more generally into the built infrastructure which thereby become integrated and active parts in energy networks (power, heat and cold).

The integration of electricity and heat storage as well as the integration of mobility concepts is also in the focus of these Call Modules.

RDI proposals should include the integration aspects in order to identify the expected role played in the built environment, reflecting the New European Bauhaus (NEB) integrated approach. The proposals should demonstrate their contribution to technology improvements through new solutions and capabilities, proof of concepts or optimisations including formalised test and validations.

Projects can apply either as ROA (**CM2023-10A**) or IOA (**CM2023-10B**) based on the target TRLs.

Scope

The scope of these Call Modules is to transform the built environment from a passive towards an active

[83] https://cetpartnership.eu/sites/default/files/documentation/CETP%20SRIA_v1.0_endorsed_compressed_0.pdf

[84] https://cetpartnership.eu/tri/7

role in the future energy landscape. Two challenges are defined, namely:

- 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 CO_2 reduction and increased building renovation rates).
- Challenge 2: Digitalisation for planning, construction phase, commissioning, and operation as well as decommissioning and disposal. Methods of building performance assessment. (Measure carbon-neutral building stock, life cycle analysis (LCA)).

Proposals should identify the foreseen application(s) of the developments in 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 (cultural and built heritage)
- Different climate and geographical areas

Proposed projects should include a perspective for technology transfer including plans for verification and validation, data management and exploitation.

Proposals shall cover solutions for one or several points in the two proposed challenges. The challenges are non-exclusive. Solutions addressing parts of one challenge or parts of both challenges are welcome.

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 CO_2 reduction and increased building renovation rates).
Climate-neutral buildings or building environment blocks that generate integrated electric and thermal energy, with increased use of local renewables, as well as generate local support (citizens and professional stakeholders) to reach sustainability in the long term.
Seamless integration of renewable energy technologies in the urban environment, building integrated photovoltaics (PV), several types of storage solutions, combined heat and power (CHP) technologies on fossil-free gaseous fuels (hydrogen or synthetic gases, biogenic gas, thermochemical solar fuels, electrochemical solar fuels) for historic integration districts or hard-to-retrofit buildings in the energy systems.
Building-to-Building energy and active buildings concepts. Aggregation of energy services and energy traceability.
Active facades: solar thermal, building integrated PV (BIPV), hybrid PV, PV-thermal, switchable windows, switchable thermal insulation and their system integration.
PV integration in buildings (including semi-fabricates): module installation, structural, thermal and functional integration, aesthetics solutions, power management, safety, operations and management, maintenance, decommissioning, recycling and disposal.
Integration of solar thermal energy in buildings and nearly zero energy buildings (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 of electricity and heat storage; integration of mobility concepts.
Decentralised storage tanks in buildings and built infrastructure for thermal flexibility.
Technologies for non-residential air-conditioning and ventilation.
Large building (malls, terminals, parking areas, building services) energy production and storage

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systems integration for efficient energy production and uses.

Challenge 2. Digitalisation for planning, construction phase, commissioning and operation as well as decommissioning and disposal. Methods of building performance assessment. (Measure carbon-neutral building stock, life cycle analysis (LCA)).
Digitalisation 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).
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.
Digitalisation in district heating and cooling networks: large scale collection data located throughout the district heating and cooling (DHC) production, transport, distribution and user chain, machine learning for optimal control of the network and support the analytics intended to maximise 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 (digital twins) in support of the energy transition for research-based knowledge. Standardisation of the solutions.
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 decarbonisation 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.
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).

All the proposals shall analyse the cross-cutting dimensions (cf. **Section 4.6**). Identify which are applicable and elaborate the inclusion of those in the proposal.

Cross-cutting dimensions
Integrated approach considering technical, societal, economical, architectural, aesthetical, urban planning and transport sector issues, implementing the European New Bauhaus (NEB) values.
Synergies with widespread of energy communities, neutral and 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.
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 (energy management and control in broad view, heating, ventilation, electrical, information, …) and evaluate it through objective indexes (Smart Readiness Indicator (SRI), ..).
Indoor Environmental Quality (IEQ) — indoor air quality (temperature, humidity, CO_2, 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.
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).
Safety and security (cyber security, privacy, data protection, data rights) by design intended to generate trust in society and must be included in the proposals.

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.

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), public bodies (regulators, standardisation institutions), as well as potential users of the developed solutions (i.e. municipalities, public and private property owners), creating high-quality new knowledge and skills in the complete built environment.

Proof methods of building energy performance assessment will support transition to carbon-neutral housing stock.

The prospect of standardised 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 CETPartnership Knowledge Community, the projects are invited to participate in the activities and events organised by other partnership programmes like Built4People.

Target RDI approaches/TRLs

Projects can apply either as ROA (**CM2023-10A**) or IOA (**CM2023-10B**) based on the target TRLs:

- ROA covers the TRL range 3–5
- IOA covers the TRL range 6–9

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 three evaluation criteria: Excellence, supporting project goals; Impact, as part of the expected outcome and impact; and Implementation, identifying deliverables in the work plan.

At the full 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.

Project consortia

TRI7 intends to establish, mobilise and attract project consortia from the energy, building and construction research (public and private research organisations, higher education institutions etc.) and industry (private SMEs, private large companies, etc.) to work together on holistic solutions for the future built environment.

Project duration and budget

As for project duration, see **Section 4.3**.

The Call Modules aims to support projects with an expected requested grant (but not limited to) in the range of €0.5–5 million.

Annex A. Reporting and Knowledge Community work package

Since all projects funded by the Call are expected to actively participate in the CETPartnership Knowledge Community, proposals must include the following tasks in the mandatory Reporting and Knowledge Community Work Package of your Work Plan and necessary resources in the project budget.

Even though the necessary resources depend on the project consortium composition, length, size and focus, the total estimated resources in the Work Package are as follows per project:

- 35–55 days/year
- €7 000–10 000 for travel, accommodation and related costs
- Minimum total costs €35 000

Estimated resources (days/year/project) per task are mentioned in the task description below.

The final organisation and implementation of the undermentioned tasks in each project will be determined in an iterative process with the CETPartnership Knowledge Community Management (KCM) using the CETPartnership Digital Collaboration Platform.

Knowledge Community events will mostly take place online. In case of onsite events, CETPartnership encourages Project Consortium Partners to consider traveling by train if feasible and compensating for the emission in case of traveling by air.

Task 1. Reporting

Resource estimation: 10 days/year/project.

The following deliverables must be reported to the Call.

Subtask	Description
1.1	**Annual reporting**
1.2	**Final reporting by 2028 depending on the project end date**
1.3	**Public abstract of the main results at the project's end**

Task 2. Contribution to formative evaluation

Resource estimation: 10–20 days/year/project.

Feedback based on the annual reporting in Subtask 1.1 will be given and implemented as follows:

Subtask	Description
2.1	**Giving feedback** Project Consortium Partners are expected to give feedback to other projects in a similar field.
2.2	**Feedback implementation** The following feedback will be given to your project once a year and must be considered for implementation during the rest of the project duration: ● Feedback from the CETPartnership monitoring team

	• In person feedback from Coordinators of other funded project at peer-to-peer online meetings where project results are presented and discussed

Task 3. Contribution to other Knowledge Community activities

Resource estimation: 15–25 days/year/project.

Each project will belong to one thematic working group organised by TRI(s) relevant to the Call Module and up to five cross-cutting working groups.

Subtask	Description
3.1	**Living documents** For each working group, each project must contribute to continuous development of spotlights and policy briefs related to the working group's topics by clarifying conclusions, giving feedback and examples etc. from own and other project results.
3.2	**Meetings (working group)** For each working group, at least one representative from each project must contribute to about one onsite meeting per project duration and two online meetings per year. This includes preparation for, participation in and follow-up of the meetings.
3.3	**Communication and dissemination** Each project must contribute to the following activities to detect synergies between funded projects and to develop joint communication and dissemination. • Online meetings and workshops • CETPartnership annual project events (hybrid)

Annex B. National/regional requirements

AUSTRIA – Austrian Research Promotion Agency (FFG)

a) National/Regional information and eligibility criteria

Contact Point	Paul Kuttner paul.kuttner@ffg.at +43 5 7755 5069 Sandra Braumann Sandra.braumann@ffg.at +43 5 7755 5058 For Call Module 5: Johannes Fritzer johannes.fritzer@ffg.at +43 5 7755 5032
Funding commitment	Call Module 1, 8 and 10 (A/B): 1.2 Mio. € Call Module 5: 1.5 Mio. € Call Module 9: 2 Mio. € Call Modules 1, 5 8 & 10 (A/B) financed by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) Call Module 9 financed by the Climate & Energy Fund
Anticipated number of projects to be funded	n.a.
Maximum funding per awarded project/per partner	Maximum funding per project 2 Mio. €
Eligible types of organisations	In general, universities, research institutes, SME's and large companies, cities, municipalities and NGOs (legal entities) are eligible for funding. The complete eligibility criteria and definitions may be found in the national guidelines
Eligible Call Modules	Call Modules 1, 5, 8, 9 & 10 (A/B)

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Eligible types of RDI and TRL	Industrial research & experimental development TRL 2 – 7
Submission of proposal /documentation at national/regional level	National application via eCall is mandatory: Submission deadline pre-proposals: 24 November 2023 at 12.00 (CET) Submission deadline full proposals: 29 March, 2024 at 12.00 (CET)
Additional eligibility criteria	At least one enterprise that receives funding is mandatory as a partner in any transnational consortium involving Austrian partners. It is not mandatory for this enterprise to be located in Austria. All Austrian partners in one project must select the same research type. For Call Module 5 Applications: Thematic restriction for Austrian participants to green hydrogen (as a fuel, produced by electrolysis or based on biogenic raw materials) or fuels produced by the use of green hydrogen as a reactant (e.g. Power-Liquid, Power-to-Gas, Power-to-Ammonia …). The contribution of Austrian participants in submitted proposals should be focused on the development and use of hydrogen and fuel cells in mobile applications. According to the goals of Austria's National Hydrogen Strategy the proposals must concentrate on applications in the transport sector, where electrification is difficult to achieve (aviation, heavy-duty road and rail transport, shipping).
Eligible costs	Personnel costs, Overhead costs (flat rate), Use of R&D infrastructure, Costs of materials, Third-party costs, Travel costs For detailed information see the "Kostenleitfaden" Costs must be allocated directly to the project, incurred during the funding period in addition to normal operating expenses, correspond to the funding contract and can be proven
Information available at	the CETP Call 2023 national website
Other	Applicants are strongly encouraged to contact FFG before submitting a preproposal. In parallel to the submission of the joint proposal by the coordinator, a simplified national application is to be submitted via the FFG electronic submission system eCall by participants requesting funding by FFG (both in the preproposal and in the full proposal stage). For projects awarded funding scientific and financial reporting via eCall on an annual basis is mandatory.

b) Maximum Funding rates

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	n.a.	55%	35%
Medium Enterprises	n.a.	70%	50%
Small Enterprises	n.a.	80%	60%
Universities, public research organisations	n.a.	85%	60%
Public authorities	n.a.	80%	60%
Associations without economic activities, NGOs	n.a.	80%	60%

BELGIUM-FLANDERS – FONDS INNOVATIE EN ONDERNEMEN (FIO/VLAIO)

a) National/Regional information and eligibility criteria

Contact Point	**Frank Verschraegen**, frank.verschraegen@vlaio.be, +32 471 55 98 19
Funding commitment	1.000.000 euro, excluding EC topup
Anticipated number of projects to be funded	2-3
Maximum funding per awarded project/per partner	500.000 euro per awarded project
Eligible types of organisations	VLAIO is involving the Programmes for Development projects and Research projects. Therefore the involvement of at least one private company (SME or large company) based in Flanders is mandatory (with the possibility to cooperate with research organisations).
Eligible Call Modules	All Modules.
Eligible types of RDI and TRL	Research projects and Development projects, up to TRL 7.
Submission of proposal /documentation at national/regional level	An annex is to be submitted together with the international project proposal to Flanders Innovation and Entrepreneurship. The annex(es) must be read together with the international project proposal. For this reason the focus of this annex should only be on the role of the (Flemish) company in the project, the nature of the activities to be carried out by the Flemish partners and the impact of the project results for the company in particular.
Additional eligibility criteria	Applicants should motivate how the realization of the project will create added value for the company in Flanders. Subsidies range from: 35-60% for development projects 60-70% for research projects

Eligible costs	Personnel costs and related direct and indirect costs according to VLAIO rules.
Information available at	Application process for research project grant | Agentschap Innoveren en Ondernemen (vlaio.be) The template annex for international and interregional projects can be found under the documents section. The template budget application can also be found here. Subsidies voor O&O&I in een internationaal consortium | Agentschap Innoveren en Ondernemen (vlaio.be)
Other	**It is advised to contact VLAIO before submission (see contact point above), in order to avoid ineligible projects and consortia.**

b) Funding rates

Maximum funding percentages (in case the Flemish company cooperates with 1 or more Flemish research organisations):

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	N/A	65%	40%
Medium Enterprises	N/A	70%	50%
Small Enterprises	N/A	70%	60%
Universities, public research organisations	N/A	As research partner of the enterprise, same funding rates as above.	As research partner of the enterprise, same funding rates as above.
Public authorities	N/A	Not funded	Not funded
Associations without economic activities, NGOs	N/A	Not funded	Not funded

Maximum funding percentages (in case the Flemish company does not cooperate with 1 or more Flemish research organisations):

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	N/A	60%	35%
Medium Enterprises	N/A	60%	45%
Small Enterprises	N/A	60%	50%
Universities, public research organisations	N/A	As research partner of the enterprise, same funding rates as above.	As research partner of the enterprise, same funding rates as above.
Public authorities	N/A	Not funded	Not funded
Associations without economic activities, NGOs	N/A	Not funded	Not funded

BELGIUM-WALLONIA – Service Public de Wallonie (SPW)

a) National/Regional information and eligibility criteria

Contact Point	Suleau Marie marie.suleau@spw.walonie.be Gilles Tihon gilles.tihon@spw.wallonie.be
Funding commitment	1 500 000
Anticipated number of projects to be funded	/
Maximum funding per awarded project/per partner	/
Eligible types of organisations	Participation of a private company is mandatory (minimum 40% of total Walloon budget). According to the rules of SPW. - Industrial Researches (TRL 3 to 5) : Universities, Research Centers, SME, large companies, settled in Wallonia -Experimental Development (TRL 6 to 7 (8)) : only SMEs and large companies settled in Wallonia
Eligible Call Modules	All TRI 1 to 7
Eligible types of RDI and TRL	RI & RIA All TRL, regarding the conditions on TRL per call module
Submission of proposal /documentation at national/regional level	The pre-proposal has also to be submitted on our own portal by our "regional partner". The pre-proposal can be in English. If selected for presenting a proposal, this proposal must be in French AND English

Additional eligibility criteria	-The partners in Wallonia MUST give a pdf file from their 2021 balance published on Banque Nationale de Belgique - The project cannot receive double funding; a specific form has to be filled in; - The budget for the Walloon partners should follow the SPW-EER (DGO6) cost model; - The funding rate will be the maximum allowed by the decree of the 3rd of July 2008, modified; - The beneficiary must have a stable financial situation; A financial viability check has to be carried out before being recommended for full proposal. - The beneficiary must have Operational offices in the Walloon Region; - The project must add benefit to the regional economy; - All information needed for evaluation should be available;
Eligible costs	Available : https://recherche.wallonie.be/guide-depenses-eligibles
Information available at	Will be published on https://recherche.wallonie.be/home.html and https://energie.wallonie.be/fr/index.html?IDC=6018
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	65%	65%	40%
Medium Enterprises	75%	75%	50%
Small Enterprises	80%	80%	60%
Universities, HE	100%	100%	100%
Research Centers	75%	75%	75%

All the conditions are available on : https://recherche.wallonie.be/home/nos-aides-1/minscrire-dans-une-demarche-internationale-international.html

CANADA-ALBERTA – Emissions Reduction Alberta (ERA)

a) National/Regional information and eligibility criteria

Contact Point	Sanah Dar (Manager – Main Contact) TEL: +1 780-429-9327 Email: sdar@eralberta.ca Christophe Owttrim (Executive Director, Technology and Innovation) TEL: +1 780-423-7762 Email: cowttrim@eralberta.ca
Funding commitment	Total ERA funding envelope is **$3 million CAD** (~€2 million at current exchange rate). The indicative budget for the following areas is: • *$1 million* CAD is allocated to **CCUS**, *$1 million* CAD is allocated to **Hydrogen**, *$0.5 million* CAD is allocated to **Renewable Fuels**, and *$0.5 million* CAD is allocated to **Geothermal Energy technologies**. ERA in its sole discretion reserves the right to modify the total funding available under this Call.
Anticipated number of projects to be funded	Approximately 5-7 anticipated. No minimum or maximum specified.
Maximum funding per awarded project/per partner	**$1 million CAD** (~€0.66 million at current exchange rate) per project. ERA in its sole discretion reserves the right to modify the maximum funding awarded per project.
Eligible types of organisations	ERA funding is open to all categories of applicant, including technology developers, industry, industrial associations, small and medium-sized enterprises (SMEs), research and development (R&D) organizations, universities, municipalities, not-for-profit organizations, government research labs, and individuals.
Eligible Call Modules	All focus areas mentioned in the CETP Joint Call 2023 guidelines for Modules 4, 5 and 7 are eligible for Alberta/Canada. However, the following areas for CCUS & Hydrogen are **NOT** eligible for Canada/Alberta region: • Acid gas injection • Offshore storage • Projects whose primary focus is point-to-point transportation or sequestration elements. For all focus areas, ERA funding will NOT be provided to projects whose primary focus is commercially proven technologies/processes, activities assessed to be business-as-usual, or to address only financial barriers.
Eligible types of RDI and TRL	ERA funding is targeted for projects at the technology scale-up, field pilot, commercial demonstration, or commercial implementation stages (TRL 5-9).
Submission of proposal /documentation at national/regional level	In addition to the CETP Joint Call 2023 proposal, ERA may require applicants, during the full proposal stage ONLY, to provide supplemental information to support due diligence and portfolio reporting. This information may include detailed budget information, financial report(s), an extended Greenhouse Gas benefits analysis, and/or additional information on the specific alignment with the Alberta market.

	Supplemental information relates to both the overall project and the component of the project based in Alberta. The final document for the Supplemental Information must be no more than 20 pages in length excluding appendices. Financial reporting will be required for the Alberta-based partner(s) on the project and is mandatory for the project partner that will receive funding from ERA. The **Supplemental Information document, budget sheet and appendices must be submitted via email to ERA Applications at applications@eralberta.ca.**
Additional eligibility criteria	Applicants are NOT required to be located in Alberta, but all applicants must demonstrate a clear value proposition for the province. Applicants must demonstrate how the proposed technology or application thereof is an innovative solution for emissions reduction in Alberta.
Eligible costs	ERA will match applicant contributions toward eligible expenses on a one-to-one (1:1) basis. The maximum ERA contribution to a single project will be no more than **50%** of the project's eligible expenses. ERA will not match other government funds provided directly for the proposed project (federal, provincial, or international), or future revenue associated with the outcomes of the project such as offset credits or emissions performance credits associated with the project, tax incentives associated with the project (e.g., Canadian SR&ED credits), revenue from sales of the project's end-products (e.g., from offtake agreement), or non-eligible contributions. Applicants must justify the amount of funding requested. For information about eligible expenses and costs, please refer to the *ERA Eligible Expenses and Cost Instructions document* available at https://erims.outcome-plus.com/Content/Files/ERIMS/Files/ERA%20Eligible%20Expenses%20and%20Cost%20Instructions_November%202021.pdf.
Information available at	https://eralberta.ca

	Alberta is home to the **Alberta Carbon Conversion Technology Centre** (ACCTC), a real-world test bed for carbon capture and conversion technologies. Applicants are strongly encouraged to consider piloting or testing their technology at the ACCTC. See https://innotechalberta.ca/research-facilities/alberta-carbon-conversion-technology-centre-acctc/ for more information. **Hydrogen Centre of Excellence** (HCOE) is led by Alberta Innovates, with the applied research and engineering expertise of InnoTech Alberta and C-FER Technologies. The HCOE is a funding program, testing and service facility, and forum for facilitating partnerships to de-risk hydrogen technology development. Applicants may reach out to the HCOE for assistance with developing partnerships in the hydrogen community. See https://albertainnovates.ca/programs/hydrogen-centre-of-excellence/ for more information. **InnoTech Alberta** has a set of services for hydrogen production, infrastructure, and end-use applications. Applicants are encouraged to consider the expertise or facilities needed for testing hydrogen technologies at InnoTech Alberta. See https://innotechalberta.ca/services/hydrogen/ for more information. **C-FER Technologies** has a collection of services for hydrogen & CO2 pipeline integrity, hydrogen & CO2 underground storage, and ensuring hydrogen & CO2 can be transported and used safely. Applicants are encouraged to consider the expertise or facilities needed for testing hydrogen and CO2 technologies at C-FER Technologies. See https://www.cfertech.com/hydrogen/ for more information.
Other	The **Canadian CCUS Research & Technology Network** is a network of organizations that provide expertise with facilities and equipment to help demonstrate, scale, and validate technologies in CCUS, and provide lab and business support. See https://cmcghg.com/facilities-activities/canadian-ccus-research-and-technology-network/ for more information. The **International CCS Knowledge Centre** (Knowledge Centre) offers insight into practical CCS deployment considerations. It is dedicated to advancing the understanding and use of a large-scale CCS/CCU as a means of managing GHG (greenhouse gas) emissions. Applicants may engage with the Knowledge Centre for assistance with proposal development or project delivery at their own expense. See https://ccsknowledge.com for more information. The **CCUS Investment Tax Credit** incentivizes expansion of CCUS technologies to reduce emissions in high-emitting sectors. It will offset the costs of purchase and installation for eligible equipment and will be available to claim in the year the expenses are incurred. Not applicable for use in Enhanced Oil Recovery. See https://www.canada.ca/en/department-finance/programs/consultations/2021/investment-tax-credit-carbon-capture-utilization-storage.html for more information. **Shell Quest** and the **Alberta Carbon Trunk Line** projects are notable large-scale CCS projects in Canada. Applicants are encouraged to consider leveraging or partnering with commercial-scale projects or infrastructure

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b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	-	-	-
Medium Enterprises	-	-	-
Small Enterprises	-	-	-
Universities, public research organisations	-	-	-
Public authorities	-	-	-
Associations without economic activities, NGOs	-	-	-

CYPRUS – RESEARCH AND INNOVATION FOUNDATION (RIF)

a) National/Regional information and eligibility criteria

Contact Point	ANNA MARIA CHRISTOFOROU
Funding commitment	€2.230.000
Anticipated number of projects to be funded	4-5
Maximum funding per awarded project/per partner	€500.000
Eligible types of organisations	Legal entities established and based in the areas, which are under the effective control of the Republic of Cyprus. Research Organisations, Enterprises (small, medium, large), Other Private Sector Organisations, Other Public and Broader Public Sector Organisations
Eligible Call Modules	ALL
Eligible types of RDI and TRL	Type of research (basic research, applied research, experimental development) Projects must include experimental development activities. TRL 1-8
Submission of proposal /documentation at national/regional level	YES IRIS Portal: https://iris.research.org.cy
Additional eligibility criteria	Please check National Regulations at: www.research.org.cy https://iris.research.org.cy/
Eligible costs	Research & Development Cost Categories • Personnel Cost • Costs for Instruments and Equipment • Costs for External Services • Consumables • Other Specific Costs • Overheads

Information available at	RPF Website: www.research.org.cy IRIS Portal: https://iris.research.org.cy
Other	Please check National Regulations at: www.research.org.cy https://iris.research.org.cy/

b) Funding rates

Maximum funding percentages (under specific conditions):

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	100%	65%	40%
Medium Enterprises	100%	75%	50%
Small Enterprises	100%	80%	60%
Universities, public research organisations	100%	100%	100%
Public authorities	100%	100%	100%
Associations without economic activities, NGOs (according to corresponding type of enterprise (small, medium, large))	100%	80% 75% 65%	60% 50% 40%

CZECH REPUBLIC – Technology Agency of the Czech Republic (TA CR)

a) National/Regional information and eligibility criteria

Contact Point	Name: Matěj Štěpánek E-mail: matej.stepanek@tacr.cz Tel: +420 770 194 873
Funding commitment	760 000 EUR
Anticipated number of projects to be funded	4-5
Maximum funding per awarded project/per partner	**Maximum funding rate (intensity) per project (Czech part)**: 80 % **Maximum funding (amount) per project (Czech part)**: 175 000 EUR per project
Eligible types of organisations	• Enterprises (according to Annex 1 of the Regulation) • Enterprises who act as natural persons according to Annex 1 of the Regulation engaged in an economic activity pursuant to Act no. 455/1991 coll. on Trades (Trade Act). • Research organisations (according to Article 2 paragraph 83 of the Regulation) **TA CR excludes the disbursement of individual aid to an enterprise:** • against which a recovery order has been issued which is unpaid • meeting the definition of an "undertaking in difficulty" • which has not met the obligation to publish the financial statements for the years 2019, 2020, 2021 in the respective register - the so-called "Veřejný rejstřík" • which has not disclose its ownership structure in the so-called "Evidence skutečných majitelů"
Eligible Call Modules	* *Czech Applicants are eligible to participate in Call Modules under TRI 1, TRI 3, TRI 5 and TRI 7.* **Eligible Call Modules:** CM 1 CM 2 CM 4 CM 5

	CM 8 CM 10A CM 10B
Eligible types of RDI and TRL	Applied research (industrial research and experimental development) TRL: 3-9
Submission of proposal /documentation at national/regional level	Mandatory forms to be submitted **The Czech applicants are requested to submit**: • A Sworn statement of the applicant • Completed "TACR Application Form" Excel file (submitted by the main Czech applicant only)* • if the applicant plans to achieve "Nmet" type of result, the mandatory form for Nmet result needs to be attached* • if the applicant plans to achieve the "Patent" type of result, patent search must be substantiated* • Sworn statement of the composition of the consortium (only if Czech enterprise is part of the project consortium; submitted by the main Czech applicant only) All mandatory documents to be found on TA CR website. Deadline for submitting all documents is the same as the deadline for submitting pre-proposals. All documents proving the eligibility of the Czech partner stated above shall be submitted via the TACR data box (TACR data box ID: afth9xp). *Applicants who will not submit this mandatory form (if relevant) via databox before the deadline will be considered as **not eligible** for TA CR funding. Project start Please note that following national legislation, Czech applicants shall start within 120 days from the funding decision being communicated by the Call Management (60-day period to enter into a contract + 60-day period to start the project).

Additional eligibility criteria	<u>Eligible projects for TA CR</u> • the project meets the definition of **applied research** • the research results correspond to the national rules and are applicable / exploitable. (The project proposal has to include a clear description of the exploitation plan and results.) • the aim of the project has to be relevant to the overall aim of the funding programme SIGMA • the declared share of industrial research and experimental development corresponds to the activities of the Czech partner described in the project proposal • the requested funding meets the national regulations for aid intensity <u>Supported results</u> Projects that achieve at least one of the following types of results can be supported in this Call. The type of the result has to be clearly described in the project proposal: • P - patent • G - technically realised results - prototype, functional sample • Z - pilot plant, proven technology • R - software • F - results with legal protection - utility model, industrial design • N - Certified methodologies and practices, treatment, conservation methods, procedures and specialised maps with professional expert content • O - Miscellaneous Results supported only in combination with at least one other result listed above: • H - results reflected in non-legislative directives and regulations binding within the competence of the respective provider and results reflected in the approved strategic and conceptual documents of the state or public administration <u>Intellectual Property Rights</u>

	The applicants are required to enter into a contract with their foreign partners (sign the so-called Consortium Agreement) which will define the conditions of cooperation on the project where, among other things, they specify the method of allocating rights to the research results, as well as adjustment and management of the rights imported or created during the project's implementation, which are necessary to address the project. Submission of financial and scientific reports at the national/regional level Czech beneficiaries must follow the rules of TA CR for reporting on the project (i.e. submission of interim and final reports and reports on the implementation of the results). Publicity obligations While promoting the project and its results Czech beneficiaries must follow the publicity rules of TA CR. .
Eligible costs	• personnel costs (including scholarships) • subcontracting costs (max. 20% of total eligible costs throughout the whole project period) • other direct costs (write-offs, protection of intellectual property, operating expenses, travel costs, consumables) • indirect costs (overheads) - full cost/flat rate. Specific categories of eligible costs are defined under Article 18 of the General Terms & Conditions.
Information available at	ERA-NET Cofund Scheme on TA CR website (in Czech) ERA-NET Cofund Scheme on TA CR website (in English) National research programme SIGMA (in Czech) National research programme SIGMA (in English) “Guide for Czech applicants” and all mandatory forms will be available on TA CR website (in Czech).

b) Funding rates

Maximum funding percentages:

*The aid intensity for each Czech applicant in the project is determined based on the type of entity according to the Regulation and at the same time must not exceed the maximum permissible aid intensity for the Czech part of the project, which is **80 %** of the total eligible costs.*

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	x	50-65* %	25-40* %
Medium Enterprises	x	60-75* %	35-50* %
Small Enterprises	x	70-80* %	45-60* %
Universities, public research organisations**	x	up to 100 %***	up to 100 %***
Public authorities	x	same as enterprises	same as enterprises
Associations without economic activities, NGOs	x	50-80 %	25-60 %

* If the "bonus for effective collaboration" is achieved

**Research organisations must satisfy the definition in the Act and the Framework

***While respecting the maximum permissible aid intensity of 85 % per project

DENMARK – Energy Technology Development and Demonstration Programme (EUDP)

a) National/Regional information and eligibility criteria

Contact Point	Wickie Lassen Agdal wbl@ens.dk +45 33 92 92 73
Funding commitment	1.340.000 EUR
Anticipated number of projects to be funded	N/A
Maximum funding per awarded project/per partner	1.340.000 EUR
Eligibile types of organisations	Public and private business enterprises, as well as knowledge institutions, are eligible for aid. However, it is required that at least one Danish private business enterprise participates as an active partner. - *An active partner should have a significant expected contribution to generate growth and/or employment in a Danish context, and/or contribute to the Danish climate policy objectives (e.g. CO_2-reductions and independence from fossil fuels).*
Eligible Call Modules	All NB: The applicant should choose "Innovation Fund Denmark" for more research-focused projects and "EUDP" for more development-focused projects. Please contact the relevant national contact point for guidance as early in the application process as possible.
Eligible types of RDI and TRL	EUDP supports projects focused on development and demonstration of new energy technology **(TRL 4-8).** EUDP can also support projects that includes a *smaller* research element if it prepares or directly support the development and demonstration in the same project.
Submission of proposal /documentation at national/regional level	EUDP require **submission of specific appendices for national eligibility check**. The appendices and more information are available at: https://eudp.dk/soeg-tilskud.

Additional eligibility criteria	EUDP Assessment Criteria for National Applications under CETPartnership can be found in the EUDP document package from https://eudp.dk/soeg-tilskud.
Eligible costs	• Personnel costs. • Instruments and equipment. • Buildings. • Other operating expenses, including materials. • External/sub-supplies. • Overhead costs. • Other/travelling/dissemination. Danish applicants must comply with the EUDP rules which can be found in the link below (section 3): Danish version / English version It is not possible to receive funding for activities, which aim to: • Develop business models, market analyses, direct sales promotion and other commercial market activities, including deploying existing technology or commercial operation of plant and similar. • Expand infrastructure. • Implement preproduction planning or to streamline production or control processes and similar. • Establish new institutions or continue existing institutions through operating grants etc. • Fund operating expenses in connection with partnerships, as these are expected to be paid by the participating parties. • Purchase land and to fund related costs. • Complete case-processing by the authorities in connection with building projects, environmental approvals and similar. • Obtain patents and similar rights.
Information available at	https://eudp.dk/soeg-tilskud
Other	It is recommended that you reach out to the national contact point prior to submitting the application.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	N/A	65 %	40 %
Medium Enterprises	N/A	75 %	50 %
Small Enterprises	N/A	80 %	60 %
Universities, public research organisations	N/A	90 %	90 %
Public authorities	N/A	65 %	40 %
Associations without economic activities, NGOs	N/A	Depends on organisation size	Depends on organisation size

DENMARK – Innovation Fund Denmark (IFD)

a) National/Regional information and eligibility criteria

Contact Point	**Daniel G. Marques** daniel.g.marques@innofond.dk **Thorbjørn Moth Gilberg** thorbjoern.moth.gilberg@innofond.dk **General contact** Internationale@innofond.dk
Funding commitment	1,5 M Euro
Anticipated number of projects to be funded by the funding partner	5-7
Maximum funding per awarded project/per partner	Both a maximum funding amount and maximum funding rate apply: 500.000 EUR per project and maximum 300.000 EUR per partner (incl. overhead). Maximum funding rates apply according to IFD guidelines.
Eligibility of a partner as a beneficiary institution	Danish universities, companies, industry organisations, local/regional governments, research organisations and NGOs. IFD encourages Danish research partners to include Danish industrial partners in the consortium in order to maximize the potential impact in Denmark.
Eligible call modules	All
Eligible type of research and TRL	IFD can fund all types of research and innovation within the call mentioned above, however, for call modules where the other Danish funding organisation, Energy Technology Development and Demonstration Programme (EUDP) also participate the applicant must choose IFD for more research-focused projects and EUDP for more development-focused projects. Further information can be found in IFD guidelines or your national contact.

Submission of the proposal at national/regional level	Danish applicants will receive an invitation to upload a pdf of the international application and other initial documents to our national e-grant platform in the period following the central submission deadline.
Additional eligibility criteria for the funding agency	If two projects with Danish partners have the same rating, IFD will prioritize the project which include both a Danish research organisation and a Danish industrial partner.
Eligible costs	Please refer to IFD guidelines.
Information available at	www.innovationsfonden.dk https://innovationsfonden.dk/da/p/internationalt-samarbejde
Other	Please refer to IFD guidelines, section 2.6.

b) Funding rates

Maximum funding rates (incl. overhead): please refer to IFD guidelines.

ESTONIA – Estonian Research Council (ETAG)

a) National/Regional information and eligibility criteria

Contact Point	Maria Habicht E-Mail: maria.habicht@etag.ee Phone: +372 51 74 058
Funding commitment	150 000
Anticipated number of projects to be funded	1
Maximum funding per awarded project/per partner	150 000
Eligible types of organisations	Large enterprises, medium enterprises, small enterprises, universities, public research organisations, public authorities, associations without economic activities, NGOs
Eligible Call Modules	All topics
Eligible types of RDI and TRL	**Basic research, industrial/applied research, TRL 1-6**
Submission of proposal /documentation at national/regional level	No
Additional eligibility criteria	N/A

Eligible costs	Budget 1 Research expenses consist of direct costs (personnel costs, travel costs and other direct costs) and subcontracting costs. The research expenses must be used to carry out the project and be separately identifiable. 2 Direct costs 2.1 Personnel costs are monthly salaries with social security charges and all the other statutory costs of the project participants, calculated according to their commitment and in proportion to their total workload at their Host Institution. 2.2 Travel costs may cover expenses for transport, accommodation, daily allowances and travel insurance. 3 Other direct costs are: - consumables and minor equipment related to the project; - publication and dissemination of project results; - organising meetings, seminars or conferences (room rent, catering); - fees for participating in scientific forums, conferences and other events related to the project; - patent costs; - all other costs that are identifiable as clearly required for carrying out the project (e.g. translation, copy editing, webpage hosting, etc.) and comply with the eligible costs. 4 Subcontracting costs should cover only the additional or complementary research related tasks (e.g. analyses, conducting surveys, building a prototype, etc.) performed by third parties. Subcontracting costs should not be included in the overhead calculation. The activities and budget should be described in the proposal. Core project tasks should not be subcontracted. Subcontracting costs may not exceed 15% of the total costs. 5 Indirect costs are overhead from the personnel costs only, which may not exceed 15% and should cover the general expenses of the Host Institution. Costs for equipment and services intended for public use (a copy machine or a printer that is publicly used, phone bills, copy service, etc.) should be covered from the overhead. 6. Double funding of activities is not acceptable.
Information available at	https://etag.ee/en/cooperation/horizon-europe/eu-partnerships/era-nets/

Other	**State Aid** EU Regulations on State aid and de minimis aid must be taken into account when requesting funding from the Estonian Research Council (ETAg). Support is not considered to be State aid for research and development, if the project has ties to the non-economic activities of the Research (or Host) Institution, as long as the research and development activities and the related costs, funding and revenue can be clearly separated, thus avoiding the cross subsidization of economic activity. The criteria defined in Clauses 17-22 of Communication from the European Commission – Framework for State aid for research and development and innovation (2014/C 198/01) forms the basis for determining whether the activities carried out are economic activities and whether the Host Institution is an undertaking who is considered to be a State aid recipient when it receives support. When an entity applies for State aid or de minimis aid, it has to fill in the **State aid form.** No tax arrears are allowed on the proposal submission date. If State aid and de minimis aid are given, the documents related to giving the support must be kept for 10 years as of the date when the agreement was entered into. **State aid pursuant to the Block Exemption Regulation** If the support is considered to be State aid, then support is given on the basis of Article 25, 25a or 25c of Commission Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (OJ L 187, 26.6.2014, p. 1–78) (hereinafter the Block Exemption Regulation), and the provisions of the Commission Regulation and Section 34² of the Estonian Competition Act apply. State aid is not given in cases specified under Articles 1(2) to (5) of the Block Exemption Regulation. If State aid is given on the basis of Article 25, the eligible costs of the project activities must comply with the requirements specified under Article 25(3) of the Block Exemption Regulation (except clause (c)), and the maximum aid intensity must comply with Articles 25(5) and (6). For State aid given on the basis of Articles 25a or 25c, see rules laid down in mentioned Articles accordingly. If the support applied for can be considered to be State aid, the application must include the information specified in Article 6(2) of the Block Exemption Regulation, and the application has to be submitted before the start of the activities. If State aid is given, then the costs of the activities carried out before application submission will not be eligible for aid. **De minimis aid** If support is considered de minimis aid, then giving support is subject to Commission Regulation (EU) No 1407/2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid (OJ L 352, 24.12.2013, p. 1–8) (hereinafter the De Minimis Aid Regulation), and the provisions of the Regulation and Section 33 of the Estonian Competition Act apply. De minimis aid is not given in cases specified under Article 1(1) of the De Minimis Aid Regulation. In case of de minimis aid, the maximum aid intensity must comply with Article 3 of the De Minimis Aid Regulation. De minimis aid given to the Host Institution together with de minimis aid applied for as support cannot exceed 200,000 euros during the current financial year and the two previous financial years.

	Article 5 of the De Minimis Aid Regulation applies to cumulating de minimis aid. A single undertaking is an undertaking specified in Article 2(1) of the De Minimis Aid Regulation. **Grant Agreement** If a positive funding decision is made, the Estonian Research Council enters into a grant agreement with the Host Institution. Information on the transnational project must be entered into ETIS once the agreement has been signed. The Consortium Agreement should be signed at the latest six months after the grant agreement has been signed. If one year has elapsed and the CA has not been signed, the next instalment of funding will not be paid out. **Research Involving Human Subjects or Animal Testing** If human research or animal testing are intended in the project, a positive resolution by the Human Research Ethics Committee or the Authorisation Committee for Animal Experiments must be submitted to the Estonian Research Council by the start of the relevant activities. **Nagoya Protocol** By applying for funding by the Estonian Research Council, the applicants agree to consider the relevance of the Nagoya protocol for their research, and to submit the Due Diligence Declaration, if applicable.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	100%	100%	N/A
Medium Enterprises	100%	100%	N/A
Small Enterprises	100%	100%	N/A
Universities, public research organisations	100%	100%	N/A
Public authorities	100%	100%	N/A
Associations without economic activities, NGOs	100%	100%	N/A

ESTONIA – Ministry of Economic Affairs and Communications (MKM)

a) National information and eligibility criteria

Contact Point	Name: Raili Allmae E-mail: raili.allmae@kliimaministeerium.ee Name: Andro Truuverk E-mail: andro.truuverk@kliimaministeerium.ee
Funding commitment	150 000 €
Anticipated number of projects to be funded	1
Maximum funding per awarded project / per partner	150 000 €
Eligible types of organisations	**1. Project Participants** **1.1. The Principal Investigator** is a researcher who acts as the Estonian team leader in the project proposal. The Principal Investigator is responsible for how the Estonia's part in the grant budget is allocated and how Estonia's part in the project is executed in case of a positive funding decision. The Principal Investigator: **1.1.1.** Must have an updated public profile in the Estonian Research Information System (ETIS) by the submission deadline; **1.1.2.** Must hold a doctoral degree or an equivalent qualification. The degree must be awarded at the latest by the submission deadline of the grant application; **1.1.3.** Must have published or received formal acceptance for at least three articles that comply with the requirements of Clause 1.1 of the ETIS classification of publications, or at least five articles that comply with the requirements of Clauses 1.1, 1.2, 2.1 or 3.1, within the last five calendar years prior to the proposal submission deadline.1 International patents are equalled with publications specified under Clause 1.1. A monograph (ETIS Clause 2.1) is equalled with three publications specified in Clause 1.1 if the number of authors is three or fewer. If the applicant has been on pregnancy and maternity or parental leave or performed compulsory service in the Defence Forces, or has another acceptable reason, they can request the publication period requirement to be extended by the relevant period of time.

	1.2. The Host Institution may be any legal entity that is registered and located in Estonia. The Host Institution must confirm to the Estonian Ministry of the Environment (with a confirmation letter after the submission deadline) that the project can be carried out on their premises and that they will employ the Principal Investigator during the proposed project, should the project receive funding. If the Host Institution is a for-profit institution, then State aid and de minimis aid regulations must be taken into account (see Section 3 **State Aid**).
Eligible Call Modules	All topics
Eligible type of RDI and TRL	Applied research TRL: 3-7
Submission of the (pre)proposal at the national level	No
Additional eligibility criteria	Private enterprises should submit the state aid information.
Eligible costs	**2. Requested Budget** **2.1. Research expenses** consist of direct costs, indirect costs and subcontracting costs. The research expenses must be used to carry out the project and be separately identifiable. **2.2. Direct costs** **2.2.1. Personnel costs** are monthly salaries with social security charges and all the other statutory costs of the project participants, calculated according to the person's commitment and in proportion to the person's total workload at their Host Institution. **2.2.2. Scholarships** may be paid to master's and doctoral students. Alternatively, remuneration can be paid as salary to students. All payments to the students should be done according to the usual practices of the Host Institution, following the Estonian legal acts. **2.2.3. Travel costs** may cover expenses for transport, accommodation, daily allowances and travel insurance. Fringe benefits are ineligible costs. **2.2.4. Other direct costs** include: - consumables, IT software, licences and minor equipment related to the project; - publication and dissemination of project results; - organising meetings, seminars or conferences (room rent, catering); - fees for participating in scientific forums, conferences and other events related to the project;

	- all other costs that are identifiable as clearly required for carrying out the project (e.g. translation, copy editing, webpage hosting, etc.). **2.3. Subcontracting costs** should cover only the additional or complementary research related tasks (e.g. analyses, conducting surveys, building a prototype, etc.) performed by third parties. Core project tasks should not be subcontracted. Subcontracting costs should not be included in the overhead calculation. The activities and budget should be described in the proposal. Subcontracting costs may not exceed **15% of the total requested budget**. **2.4. Overhead costs** are indirect costs, which may not exceed **15% of the eligible personnel costs** (order of the Minister of the Environment on the overhead costs: https://adr.envir.ee/et/document.html?id=36a914d4-a430-438e-85b1-91b3e1584044) and should cover the general expenses of the Host Institution. Overhead costs of the Host Institution may include include costs of office supplies; communication services; current expenditure on postal and electronic communications; maintenance and repair costs for IT and office equipment; utility costs; rental cost; costs of opening and managing a bank account and transfer fees only related to the project; security service; land tax. **2.5. Double funding** of activities is not acceptable.
Maximum amount of requested funding	150 000
Information available at	(not yet public)
Other	**3. State Aid** EU Regulations on State aid and de minimis aid must be taken into account when requesting funding from the Estonian Ministry of the Environment. The grant is not considered to be State aid for research and development, if the project has ties to the non-economic activities of the Research (or Host) Institution, as long as the research and development activities and the related costs, funding and revenue can be clearly separated, thus avoiding the cross subsidisation of economic activity. The criteria defined in Clauses 17–22 of Communication from the European Commission – Framework for State aid for research and development and innovation (2014/C 198/01) forms the basis for determining whether the activities carried out are economic activities and whether the Host Institution is an undertaking that is considered to be a State aid recipient when it receives support. When an entity applies for State aid or de minimis aid, it has to fill in the State aid form. No tax arrears are allowed on the proposal submission date.

	If State aid and de minimis aid are given, the documents related to giving the support must be kept for 10 years as of the date when the agreement was entered into. If the grant is considered State aid or de minimis aid, then it will not be granted to a Host Institution that is subject to a support withdrawal decision pursuant to a previous European Commission decision deeming the aid illegal and incompatible with the common market, if that decision has not been complied with. **3.1. State aid pursuant to the Block Exemption Regulation** If the grant is considered to be State aid, then it is allocated on the basis of Article 25 of Commission Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (OJ L 187, 26.6.2014, p. 1–78) (hereinafter the Block Exemption Regulation), and the provisions of the Commission Regulation and Section 34² of the Estonian Competition Act apply. State aid is not given in cases specified under Articles 1(2) to (5) of the Block Exemption Regulation. In case of State aid, the eligible costs of the project activities must comply with the requirements specified under Article 25(3) of the Block Exemption Regulation (except clause (c)), and the maximum aid intensity must comply with Articles 25(5) and (6). If the grant applied for can be considered to be State aid, then the application must include the information specified in Article 6(2) of the Block Exemption Regulation, and the application has to be submitted before the start of the activities. **3.2. De minimis aid** If the grant is considered de minimis aid, then the funding is subject to the Commission Regulation (EU) No 1407/2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid (OJ L 352, 24.12.2013, p. 1–8) (hereinafter the De Minimis Aid Regulation), and the provisions of the Regulation and Section 33 of the Estonian Competition Act apply. De minimis aid is not given in cases specified under Article 1(1) of the De Minimis Aid Regulation. In case of de minimis aid, the maximum aid intensity must comply with Article 3 of the De Minimis Aid Regulation. De minimis aid given to the Host Institution together with de minimis aid applied for cannot exceed 200,000 euro during the current financial year and the two previous financial years.

	Article 5 of the De Minimis Aid Regulation applies to cumulating de minimis aid. A single undertaking is an undertaking specified in Article 2(1) of the De Minimis Aid Regulation. **4. Grant Agreement** If a positive funding decision is made, the Estonian Ministry of the Environment enters into a grant agreement with the Host Institution and the Principal Investigator. Information on the transnational project must be entered into ETIS once the agreement has been signed. The Consortium Agreement (CA) should be signed at the latest six months after the grant agreement has been signed. If one year has elapsed and the CA has not been signed, the next instalment of funding will not be paid out. **5. Research Involving Human Subjects or Animal Testing** If human research or animal testing are intended in the project, a positive resolution by the Human Research Ethics Committee or the Authorisation Committee for Animal Experiments must be submitted to the Estonian Ministry of the Environment by the start of the relevant activities. **6. Nagoya Protocol** By applying for funding by the Estonian Ministry of the Environment, the applicants agree to consider the relevance of the Nagoya protocol for their research, and to submit the Due Diligence Declaration, if applicable.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises*	NA	Up to 100%*	Up to 100%*
Medium Enterprises*	NA	Up to 100%*	Up to 100%*
Small Enterprises*	NA	Up to 100%*	Up to 100%*
Universities, public research organisations	NA	100%	100%
Public authorities	NA	100%	100%
Associations without economic activities, NGOs*	NA	100%	100%

* State Aid regulations must be taken into account

FINLAND – Innovaatiorahoituskeskus Business Finland (BF)

a) National/Regional information and eligibility criteria

Contact Point	Anssi Paalanen Anssi.paalanen@businessfinland.fi
Funding commitment	5 000 000 €
Anticipated number of projects to be funded	5-10
Maximum funding per awarded project/per partner	N/A
Eligible types of organisations	Companies of any size (min 2 full time employees), universities, public research organisations Domicile in Finland
Eligible Call Modules	All modules
Eligible types of RDI and TRL	TRL 3-7
Submission of proposal /documentation at national/regional level	All companies applying for funding from Business Finland must submit an export potential assessment at the first stage. All partners applying for funding from Business Finland must submit a national funding proposal at full proposal stage.

Additional eligibility criteria	Business Finland R&D funding requirements: - Export potential sufficient (case by case assessment) - No financial and tax irregularities - No sanction listed owners - Public research organizations can't be the sole funded Finnish participant (i.e. a funded or self-funded Finnish company partner is required)
Eligible costs	Standard Business Finland R&D funding requirements, i.e. project related costs that are needed to reach the project goals: - Wages - Indirect employee costs (as stated in funding terms and conditions) - Overheads (as stated in funding terms and conditions) - Travel costs - Equipment and materials - Third party services
Information available at	https://www.businessfinland.fi/suomalaisille-asiakkaille/palvelut/rahoitus/rahoituksen-ohjeet-ehdot-lomakkeet
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	-	40 %	40 %
Medium Enterprises	-	50 %	50 %
Small Enterprises	-	50 %	50 %
Universities, public research organisations	-	80 %	80 %
Public authorities	-	-	-
Associations without economic activities, NGOs	-	-	-

FRANCE – Agence de la transition écologique – (ADEME)

a) National/Regional information and eligibility criteria

Contact Point	Name: Kherrouf Samira E-mail: samira.kherrouf@ademe.fr
Funding commitment	1,0 M€
Anticipated number of projects to be funded	5 – 7
Maximum funding per awarded project/per partner	300k€
Eligible types of organisations	Universities, research institutes, SME's and large companies, public authorities, NGOs…
Eligible Call Modules	TRI1 – CM1 : DC technologies for networks TRI 1-2 – CM2 : Power production technologies, storage and system integration TRI3 – CM4 : Only on CCS/CCU and ADEME does not wish to cofund projects on DAC (Direct Air Capture) and DACCS (Direct Air Carbon Capture and Storage). TRI6 – CM9 : Only CCU
Eligible types of RDI and TRL	applied research, experimental development, TRL5-8
Submission of proposal /documentation at national/regional level	**No**

Additional eligibility criteria	https://www.ademe.fr/nos-missions/financement/
Eligible costs	○ Personnel costs ○ Operational costs ○ Investment costs ○ Indirect costs (10% of personnel +operational costs) ○ Subcontracting
Information available at	https://www.ademe.fr/nos-missions/accompagner-la-recherche/
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	50%	50%	25%
Medium Enterprises	60%	60%	35%
Small Enterprises	70%	70%	45%
Universities, public research organisations (non-economic activity)	100%	50%	50%
Public authorities	100%	50%	50%
Associations without economic activities, NGOs	100%	50%	50%

FRANCE – Agence Nationale de la Recherche (ANR)

a) National/Regional information and eligibility criteria

Contact Point	Name: Pascal Bain Head of the SPICE Scientific Department Pascal.bain@agencerecherche.fr Name: Negar Naghavi-Fleury Scientific Officer Negar.naghavi-fleury@agencerecherche.fr Name: Elisa Meriggio for TRI 2 and TRI 4 Scientific Project Manager Elisa.meriggio@agencerecherche.fr Name: Thamires Moreira for TRI 1, TRI 3 and TRI 7 Scientific Project Manager Thamires.moreira@agencerecherche.fr
Funding commitment	3 000 000 €
Anticipated number of projects to be funded	8 to 10
Maximum funding per awarded project/per partner	500 000 € per project as a maximum in exceptional and highly justified cases. However, ANR expects typical funding requests per project to range between 200 000 and 350 000 €, depending on the number of ANR-funded partners involved and whether the coordinator of the project is funded by ANR or not.

Eligible types of organisations	Please consult the ANR Funding regulations and the Appendix for applicants to ANR on the ANR website for detailed information https://anr.fr/CETP-2023 Within this framework, public research organisations (such as Universities, EPST or EPIC) as well as private entities (such as companies, NGOs and foundations) and public authorities may be eligible (provided that at least one French public research organisation requesting funding to ANR is involved in the consortium).
Eligible Call Modules	Only the following Call Modules are eligible for ANR: - TRI1 CM1: DC technologies for power networks - TRI2 CM3A: Advanced renewable energy technologies for power production (ROA) - TRI3 CM4: Carbon capture, utilisation, and storage (CCUS) - TRI3 CM5: Hydrogen and renewable fuels. Concerning hydrogen production only green hydrogen production will be eligible for ANR. - TRI4 CM6: Heating and cooling technologies - TRI4 CM7: Geothermal energy technologies - TRI7 CM10A: R&I for clean energy integration in the built environment (ROA)
Eligible types of RDI and TRL	Basic Research, Industrial/ Applied Research/ Experimental development. TRL 3-5 (activities at TRL above 5 are possible but must be marginal for partners requesting funding from ANR).
Submission of proposal /documentation at national/regional level	No for the pre-proposal stage. For the full-proposal stage, partners requesting funding from ANR will be asked to apply on the ANR submission platform.

Additional eligibility criteria	A project proposal cannot be similar in whole or in part to another proposal submitted for a call currently being evaluated by ANR (all calls for proposals and evaluation stages considered) or already funded by ANR. The similarity between two projects is established when these projects (in their entirety or in part) describe identical main objectives or result from a simple adaptation. The minimal funding per partner by ANR is 15 000 €. Companies with economic difficulties are excluded from ANR subventions. Partners from countries subject to sanctions applicable to the research field by the European Union authorities are excluded from this call for ANR. ANR will declare Partners requesting its support ineligible if they apply with Partners established in these countries. At the date of publication, these exclusions concern Partners from the following countries: Russia, Belarus. This list may evolve in case of new sanctions decided by the European Union.
Eligible costs	ANR funds basic, industrial research and experimental development activities. The eligibility of costs and rates of funding depend on types of partners, consortia composition and types of research activities. See ANR funding regulations for more details: https://anr.fr/fr/rf/
Information available at	A specific web page on the ANR web site is published at the opening of the Call, with details for potential applicants to ANR. https://anr.fr/CETP-2023
Other	It is highly recommended to contact the national contact persons during the preparation of the project. Depending on the consortium composition, a Consortium Agreement may be mandatory for ANR at the funding stage for successful applications. Please refer to the ANR funding regulations for more details: https://anr.fr/fr/rf/

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	30 %	30 %	25 %
Medium Enterprises	45 %	35 – 45 %	35 – 45 %
Small Enterprises	45 %	35 – 45 %	35 – 45 %
Universities, public research organisations, foundations	see ANR funding regulations https://anr.fr/fr/rf/	see ANR funding regulations https://anr.fr/fr/rf/	see ANR funding regulations https://anr.fr/fr/rf/
Public authorities	see ANR funding regulations https://anr.fr/fr/rf/	see ANR funding regulations https://anr.fr/fr/rf/	see ANR funding regulations https://anr.fr/fr/rf/
Associations and NGOs (fitting the EU definition of a research organisation)	50 %*	50 %*	50 %*

*For more information see ANR funding regulations https://anr.fr/fr/rf/

FRANCE - PAYS DE LA LOIRE – Pays de la Loire Region Council – (RPL)

a) National/Regional information and eligibility criteria

Contact Point	Eric MATHIEU +33 (0)6 07 68 29 99
Funding commitment	1,5M€
Anticipated number of projects to be funded	-
Maximum funding per awarded project/per partner	No maximum funding
Eligible types of organisations	Small, Medium and large companies established and carrying out R&D activities in Pays de la Loire. Other entities such as universities, public research institutions, technological centres, and other private non-profit institutions may also participate : they will be funded only if a company from Pays de la Loire is also partner of the consortium and is funded. Project activities in the proposed work plan funded by the Regional Council Pays de la Loire must be implemented in Pays de la Loire, or at least mobilise resources based in Pays de la Loire.
Eligible Call Modules	TRI2 – Call Module 3B (Innovation Oriented Action) : Advanced Renewable Energy (RE) technologies for power production
Eligible types of RDI and TRL	Projects may comprise industrial/applied research or experimental activities. Projects (IOA) are expected to make relevant progress towards the demonstration of technology to TRL 6 or above (target TRL).
Submission of proposal /documentation at national/regional level	No additional submission of proposal at regional level --> https://cetp-submission.mur.gov.it/
Additional eligibility criteria	Companies must have been created since more than one year and have generated sufficient revenues.
Eligible costs	Personnel costs i.e. the cost of researchers, technicians and other supporting staff to the extent employed on the relevant project or activity (gross salary, without overheads). Indirect costs: 15% of personnel costs. Contractual research costs, technical knowledge and patents bought or licensed from outside sources at market prices, and costs for consulting and equivalent services intended exclusively for the research activity. Other operating expenses, including costs for material, supplies and similar products, which result directly from the research project. Instrument and equipment costs, to the extent and during the period in which they are used for the research project.

Information available at	https://www.paysdelaloire.fr/clean-energy-transition-partnership-cetp
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	Ineligible	65%	40%
Medium Enterprises	Ineligible	75%	50%
Small Enterprises	Ineligible	80%	60%
Universities, public research organisations	Ineligible	75% of total eligible costs or 100% of marginal costs	75% of total eligible costs or 100% of marginal costs
Public authorities	Ineligible	Ineligible	Ineligible
Associations without economic activities, NGOs	Ineligible	Ineligible	Ineligible

Support levels will be determined by the legal status of the applicant, the size of company and the proposed activity. The support level may vary from one work package to another. A part of the funding may be attributed through loans. The final support level and its form will be definitively defined after the selection phase.

GERMANY - Federal – Forschungszentrum Jülich, Project Management Jülich on behalf of BMWK (PtJ (BMWK))

a) National/Regional information and eligibility criteria

Contact Point	**Forschungszentrum Jülich GmbH** **Project Management Jülich** **Energy and Climate** **D-52425 Jülich** phone +49 2461 61- CM2023-01 Direct current (DC) technologies for power networks Ralf Eickhoff: r.eickhoff@fz-juelich.de, 9419 Stephan Schulte: s.schulte@fz-juelich.de, 96649 CM2023-02 Energy system flexibility: renewables production, storage and system integration Ralf Eickhoff: r.eickhoff@fz-juelich.de, 9419 Stephan Schulte: s.schulte@fz-juelich.de, 96649 CM2023-03A/03B Advanced renewable energy (RE) technologies for power production Renate Horbelt (PV): r.horbelt@fz-juelich.de 9874 Franciska Klein (Wind): f.klein@fz-juelich.de 8803 Tarik Schwarzer (CSP, STE): t.schwarzer@fz-juelich.de 9157 CM2023-04 Carbon capture, utilisation, and storage (CCUS) Heiko Gerhauser: h.gerhauser@fz-juelich.de, 96830 CM2023-05 Hydrogen and renewable fuels Margret Waschbüsch: m.waschbuesch@fz-juelich.de 9108 CM2023-06 Heating and cooling technologies Norbert Rohde: n.rohde@fz-juelich.de, +49 30 20199 3232 CM2023-07 Geothermal energy technologies Stephan Schreiber: k.schreiber@fz-juelich.de, 4743 CM2023-08 Integrated regional energy systems Ralf Eickhoff: r.eickhoff@fz-juelich.de, 9419 Stephan Schulte: s.schulte@fz-juelich.de, 96649 CM2023-09 Integrated industrial energy systems Dmitri Tabakajew: d.tabakajew@fz-juelich.de, 1665 CM2023-10A/10B Clean energy integration in the built environment Eerke Bunte: e.bunte@fz-juelich.de, 1646
Funding commitment	18 000 000 €

Anticipated number of projects to be funded by the funding partner	Not applicable
Maximum funding per awarded project/per partner	Not applicable
Eligibility of a partner as a beneficiary institution	Potentially private and public applicants are funded, e.g. (non-exclusive) • Private – SME • Private – large companies • Private – Non-profit research organisations • Higher education institutions (e.g., universities) • Public research organisations • Public organisations and municipalities
Eligible topics	All Call Modules are supported. Please note the **exceptions in "CM2023-03A/03B Advanced renewable energy (RE) technologies for power production"**: 1. **Bioenergy for power generation** with negative CO_2 emissions **is not eligible for Federal funding of BMWK!** German partners with own financing or funding are possible as "fully self-financed partners". 2. **Ocean energy as well as hybrid-RES solutions with ocean energy for power generation** with negative CO_2 emissions **is not eligible for Federal funding of BMWK!** German partners with own financing or funding are possible as "fully self-financed partners". 3. Please note that bioenergy applications for fuel production are not in the scope of "CM2023-03A/03B Advanced renewable energy (RE) technologies for power production"!
Eligible type of research and TRL	Focus on applied research (TRL 5 – 8, lower TRL down to 3 only in special and justified cases)

Submission of the proposal at national/regional level	**Full Proposal Phase** We may request additional documents (e.g. German project description, credit rating documents, cost breakdown, etc.) for successful pre-proposals in individual call modules. These documents must be submitted with the Full Proposals and contain information on the evaluation criteria of the valid Energy Research Programme (https://www.energieforschung.de/energieforschungspolitik/energieforschungsprogramm). Detailed Information will follow after a successful pre-proposal. **Successful proposals** Successfully selected full proposals must later submit formal national applications ("Anträge") and additional, tangible exploitation plans via the national application system easy-Online. (Applicants will be informed about the direct link for submission).
Additional eligibility criteria for the funding agency	The projects must fit thematically into the currently effective Energy Research Programme of the Federal Government. Industrial relevance is a requirement of this Research Programme.
Eligible costs	All project related costs (e.g., personnel, equipment [depreciations], consumables, travel expenses, etc.). Funding rates will be granted based on the targeted TRL, type of organisation, expected impact of results and financial situation of applicants. An appropriate self-financial engagement of the industry is mandatory. Applicants are strongly advised to consult the BMWK guidelines on eligible costs (Richtlinien für Zuwendungsanträge (AZA/AZK): http://foerderportal.bund.de/easy/easy_index.php?auswahl=formularschrank_foerderportal&formularschrank=bmwk).
Information available at	Valid Energy Research Programme of the Federal Government https://www.energieforschung.de/energieforschungspolitik/energieforschungsprogramm
Other	We strongly recommend to contact the above named contact persons in advance.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research [85]	Experimental development/innovationFel! Bokmärket är inte definierat.
Large Enterprises	n.a.	50%	40%
Medium Enterprises	n.a.	60%	50%
Small Enterprises	n.a.	70%	60%
Universities, public research organisations	n.a.	100%	90%
Public authorities	n.a.	100%	100%
Associations without economic activities, NGOs	n.a.	100%	50%

[85] All funding percentages must adhere to Article 25 of COMMISSION REGULATION (EU) No 651/2014.

GERMANY - NRW – Forschungszentrum Jülich – Projektträger Jülich on behalf of MWIKE (PtJ(MWIKE))

a) National/Regional information and eligibility criteria

Contact Point	**Forschungszentrum Jülich GmbH** **Projektträger Jülich** **Geschäftsbereich ETN** Melanie Dürr: me.duerr@fz-juelich.de, +49 2461 61-84026 Timur Galiullin: t.galliulin@fz-juelich.de, +49 2461 61-84090
Funding commitment	1 000 000€
Anticipated number of projects to be funded	Depends strongly on the single project volumes.
Maximum funding per awarded project/per partner	No limitation (Maximum funding per partner may of course not exceed the total funding commitment mentioned above.)
Eligible types of organisations	The Agency potentially supports all private and public applicants, namely: • Private – SME • Private – large companies • Private – Non-profit research organisation • Higher education institution • Public research organisation • Public organisation
Eligible Call Modules	We participate in all call modules from TRI1, TRI2, TRI3, TRI6. (Applicants from NRW should also compare the conditions for the funding owner Federal Republic of Germany, where all TRI can be supported.) For further information have a look at the funding guidelines of the state of North Rhine-Westphalia progres.NRW-Innovation (see link below at “Information available at”).
Eligible types of RDI and TRL	The Agency potentially supports the following types of RTD, namely: • Industrial / applied research

	• Experimental Development TRL level: 3-7
Submission of proposal /documentation at national/regional level	Winners of the joint call that are funded by the federal state of NRW have to fill out the regional application form. Please contact one of the responsible persons mentioned below.
Additional eligibility criteria	• good credit standing • depreciation for investments has to be considered • overhead costs are funded according progress.NRW (see link below)
Eligible costs	Personnel costs, travel costs, Consumables / Equipment, Subcontracts
Information available at	Applicants from North Rhine-Westphalia have the opportunity to receive funding from the Federal State of NRW or by the Federal Republic of Germany. The Federal State of NRW supports TRI1, TRI2, TRI3 and TRI6, while the Federal Republic of Germany supports all TRI. To maximise funding opportunities please contact Projektträger Jülich, Forschungszentrum Jülich GmbH as soon as possible. Projects funded by the federal state of NRW are bound by the funding guideline progress.NRW-Innovation: https://www.ptj.de/projektfoerderung/progres-nrw/progres-nrw-innovation Contacts: Melanie Dürr: me.duerr@fz-juelich.de, +49 2461 61-84026 Timur Galiullin: t.galliulin@fz-juelich.de, +49 2461 61-84090
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	0	65%	40%
Medium Enterprises	0	75%	50%
Small Enterprises	0	80%	60%
Universities, public research organisations	0	100%	100%
Public authorities	0	N.N.	N.N.
Associations without economic activities, NGOs	0	N.N.	N.N.

GERMANY - SAXONY – Saxon State Ministry for Science, Culture and Tourism (SMWK)

a) Regional information and eligibility criteria

Contact Point	Gabriele Süptitz E-Mail: gabriele.sueptitz@smwk.sachsen.de Phone: +49351 564-64210
Funding commitment	Approx. 3 Mio. EUR
Anticipated number of projects to be funded	No limitations
Maximum funding per awarded project/per partner	No limitations
Eligible types of organisations	For Saxon Universities and Research Institutions: see RL EuProNet For Saxon Enterprises: see also RL EFRE/JTF Technologie-förderung 2021 bis 2027
Eligible Call Modules	All Call Modules are eligible for funding.
Eligible types of RDI and TRL	For Saxon universities and research institutions: all type of research and TRL is eligible for funding. For Saxon enterprises: only project parts related to applied research or experimental development are eligible for funding (TRL 2-7)
Submission of proposal /documentation at national/regional level	No regional schedules, cut-off dates or deadlines No additional submissions of regional applications during the evaluation processes (pre- and fullproposal stage) Only in the case of a positive funding recommendation of the full proposal, Saxon applicants will be asked to submit a regional application according to the related Saxon guidelines (for Saxon universities and research organisations: RL EuProNet; for Saxon enterprises: RL EFRE/JTF-Technologieförderung 2021 bis 2027)

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Additional eligibility criteria	No thematic restrictions; Saxony will support projects within the entire scientific scope outlined in the Call Announcement, Other eligible criteria: For Saxon universities and research organisations: see RL EuProNet. For Saxon enterprises: see RL EFRE/JTF –Technologieförderung 2021 bis 2027
Eligible costs	For Saxon universities and research organisations: see RL EuProNet For Saxon SMEs/large industries: see RL EFRE/JTF – Technologieförderung 2021 bis 2027
Information available at	https://revosax.sachsen.de/vorschrift/17180-RL-EuProNet https://www.revosax.sachsen.de/vorschrift/19834-FRL-EFRE-JTF-Technologiefoerderung-2021-bis-2027
Other	In case of further questions please contact SMWK/Gabriele Süptitz gabriele.sueptitz@smwk.sachsen.de

b) Funding rates

Maximum funding percentages:

For Saxon universities and research organisations: see RL EuProNet

For Saxon SMEs/large industries: see RL EFRE/JTF –Technologieförderung 2021 bis 2027

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	-	see RL EFRE/JTF – Technologieförderung 2021 bis 2027	see RL EFRE/JTF – Technologieförderung 2021 bis 2027
Medium Enterprises	-	up to 75% see RL EFRE/JTF – Technologieförderung 2021 bis 2027	up to 50% see RL EFRE/JTF – Technologieförderung 2021 bis 2027
Small Enterprises	-	up to 80% see RL EFRE/JTF – Technologieförderung 2021 bis 2027	up to 60% see RL EFRE/JTF – Technologieförderung 2021 bis 2027
Universities, public research organisations	up to 100% (see RL EuProNet)	up to 100% (see RL EuProNet)	up to 100% (see RL EuProNet)
Public authorities			
Associations without economic activities, NGOs			

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GREECE – GENERAL SECRETARIAT FOR RESEARCH AND INNOVATION (GSRI)

a) National/Regional information and eligibility criteria

Contact Point	**-Dr Anna Rosenberg** International S&T Cooperation Directorate Bilateral and Multilateral Cooperation Department 14-18, Mesogeion Ave., GR-115 27 Athens, Greece Tel.: +30 213 13 00 095 Fax: +30 210 7714153 E-mail: a.rosenberg@gsrt.gr **-Ms. Aliki – Maria Argyri** International S&T Cooperation Directorate European Union and International Organizations Department 14-18, Mesogeion Ave., GR-115 27 Athens, Greece Tel: +30 213 1300101 E-mail: a.argyri@gsrt.gr
Funding commitment	Initial investment 500.000,00€
Anticipated number of projects to be funded	2-3
Maximum funding per awarded project/per partner	Upper limit of the total public funding will be 200.000 € per project (including indirect costs). Please note that this amount can be increased to 250.000 € per project if Greek partner assumes the project coordination. The maximum state aid intensity will be calculated according to the provisions of the European state aid rules and regulations in force (type of research activity, size of the participating enterprise, collaborative research).
Eligible types of organisations	GSRI potentially supports all private and public legal entities namely: private enterprises (such as SMEs, large-companies etc), research organizations, higher education institutions, and other public organizations with R&D activities). Individuals as well as individual enterprises are not eligible under this scheme. Applicants may submit, if they are enterprises, up to two (2) proposals from the same enterprise in the current call, and for Public research Institutes and Universities up to (2) proposals at the level of the same Laboratory or School or Institute or Department.
Eligible Call Modules	TRI 1, 2, 4, 5

Eligible type of RDI and TRL	TRL3-(8) in compliance with the (COMMISSION REGULATION (EU) 2021/1237 of 23 July 2021 amending Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty, page 3, article 13)
Submission of proposal /documentation at national/regional level	At national level, only eligibility check is conducted and not a full peer review at pre-proposal and full proposal stages. We rely on the evaluation made by the Call Evaluation Committee and external reviewers. ***Submission at the national level is required at a later stage.*** A national procedure will follow for the approved for funding, at the transnational level, proposals only. For more information please contact the NCP.
Additional eligibility criteria	

Eligible costs	➢ ***Aid of intensity*** **Public research Institutes and Universities**: the aid intensity can reach 100% for performing non-economic activities in accordance with point 19, article 2.1.1 of the «Framework for State aid for research and development and innovation» (2014/C 198/01). **Private Sector:** (a) 50% of the eligible costs for industrial research; (b) 25% of the eligible costs for experimental development; (c) 50% of the eligible costs for feasibility studies.- The aid intensities for industrial research and experimental development may be increased up to a maximum aid intensity of 80% of the eligible costs as follows: (a) by 10 percentage points for medium-sized enterprises and by 20 percentage points for small enterprises; (b) by 15 percentage points if one of the following conditions is fulfilled: **(i)** the project involves effective collaboration: — between undertakings among which at least one is an SME, or is carried out in at least two Member States, or in a Member State and in a Contracting Party of the EEA Agreement, and no single undertaking bears more than 70 % of the eligible costs, or — between an undertaking and one or more research and knowledge-dissemination organisations, where the latter bear at least 10 % of the eligible costs and have the right to publish their own research results; **(ii)** the results of the project are widely disseminated through conferences, publication, open access repositories, or free or open source software. -The aid intensity for feasibility studies may be increased by 10 percentage points for medium-sized enterprises and by 20 percentage points for small enterprises. ➢ ***Foreseen cost categories:*** (a) personnel costs: researchers, technicians and other supporting staff to the extent employed on the project. (b) costs on fixed assets i.e. b1) costs of instruments and equipment to the extent and for the period used for the project. Where such instruments and equipment are not used for their full life for the project, only the depreciation costs corresponding to the life of the project, as calculated on the basis of generally accepted accounting principles are considered as eligible and b2) costs for buildings and land, to the extent and for the duration period used for the project. With regard to buildings, only the depreciation costs corresponding to the life of the project, as calculated on the basis of generally accepted accounting principles are considered as eligible. For land, costs of commercial transfer or actually incurred capital costs are eligible. (c) costs of contractual research, knowledge and patents bought or licensed from outside sources at arm's length conditions, as well as costs of consultancy and equivalent services used exclusively for the project. (d) additional general costs and other operating expenses, including costs of materials, supplies, travel expenses, organization of meetings, dissemination/publicity costs, audit costs, incurred directly as a result of the project implementation. (e) indirect costs = 25% of direct costs. Indirect costs are eligible for all legal entities and include costs that do not incur directly as a result of the project implementation (e. g. administrative and management costs, utility costs). In compliance with the (COMMISSION REGULATION (EU) 2021/1237 of 23 July 2021 amending Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty.

Information available at	https://gsri.gov.gr/en/ https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014R0651&from=EN https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L:2021:270:TOC
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	-	50-65	25-40
Medium Enterprises	-	60-75	35-50
Small Enterprises	-	70-80	45-60
Universities, public research organisations	100	-	-
Public authorities with R&D activities	100	-	-
Associations without economic activities, NGOs (according to corresponding type of enterprise (small, medium, large))	-	**Large** 50-65 **Medium** 60-75 **Small** 70-80	**Large** 25-40 **Medium** 35-50 **Small** 45-60

HUNGARY – NATIONAL RESEARCH DEVELOPMENT AND INNOVATION OFFICE (NKFIH)

a) National/Regional information and eligibility criteria

Contact Point	Dr. Mónika Józon monika.jozon@nkfih.gov.hu
Funding commitment	1 165 000 EUR
Anticipated number of projects to be funded	3-4 projects
Maximum funding per awarded project/per partner	Max. 300 000 EUR per awarded project Max. 150 000 EUR/partner (if the Hungarian partner is the main applicant/coordinator - 200 000 EUR)
Eligible types of organisations	Institution of higher education, other budgetary research institution, enterprise based research organisation, enterprise (non-research type), non-profit research organisation, urban/local authorities, municipal companies (as partners of research-oriented applicant)
Eligible Call Modules	All
Eligible types of RDI and TRL	All type of research: strategic (basic) research, applied research, experimental development. TRL: 1-9
Submission of proposal /documentation at national/regional level	Proposals must be submitted to NKFIH through the dedicated call for Partnerships (call will be published at 2023 Q3) https://www.horizonteuropa.nkfih.gov.hu/partnersegek/futo-europai-partnersegek https://nkfih.gov.hu/palyazoknak/palyazatok/aktualis-felhivasok?save=1&cimke=NKFI

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Additional eligibility criteria	n. a.
Eligible costs	Max. 300 000 € per project Personnel (temporary, permanent), subcontracting and services, including travel, consumables, equipment, coordination, travel, communication and dissemination, overhead (20%), overhead for travel related activities (5%)
Information available at	https://www.horizonteuropa.nkfih.gov.hu/partnersegek/futo-europai-partnersegek https://nkfih.gov.hu/palyazoknak/palyazatok/aktualis-felhivasok?save=1&cimke=NKFI
Other	Information for Partners: All Hungarian entities are eligible to participate and receive funding in the Call. The top-up funding for universities affected by Council Implementing Decision 2022/2506 will be covered by the Hungarian Government's Guarantee Fund.

b) Funding rates

Maximum funding percentages:

Organisation type	Basic research	Industrial / Applied Research	Experimental development / Innovation
Large Enterprises	100%	65%	40%
Medium Enterprises	100%	75%	50%
Small Enterprises	100%	80%	60%
Universities, public research organisations	100%	100%	100%
Public authorities	100%	65%	40%
Associations without economic activities, NGOs	100%	100%	100%

ICELAND – THE ICELANDIC CENTRE FOR RESEARCH (RANNIS)

a) National/Regional information and eligibility criteria

Contact Point	Sigurdur Björnsson sigurdur.bjornsson@rannis.is Svandis Unnur Sigurdardottir svandis.u.sigurdardottir@rannis.is
Funding commitment	€1 million
Anticipated number of projects to be funded	3-5
Maximum funding per awarded project/per partner	€300k
Eligible types of organisations	Applicants have to follow the general guidelines of the Technology Development Fund, were own contribution can vary – further information on https://www.rannis.is/sjodir/rannsoknir/taeknithrounarsjodur/
Eligible Call Modules	Call modules no. 4, 5, 6 and 7 (TRI3 and TRI4)
Eligible types of RDI and TRL	**Industrial/Applied research and Experimental development/innovation TRL 4+**
Submission of proposal /documentation at national/regional level	Not required but registration at Rannis of Icelandic applicants in a proposal is requested
Additional eligibility criteria	Applicants have to follow the general guidelines of the Technology Development Fund, were own contribution can vary – further information on https://www.rannis.is/sjodir/rannsoknir/taeknithrounarsjodur/

Eligible costs	Applicants have to follow the general guidelines of the Technology Development Fund, were own contribution can vary – further information on https://www.rannis.is/sjodir/rannsoknir/taeknithrounarsjodur/
Information available at	https://www.rannis.is/
Other	Applicants have to follow the general guidelines of the Technology Development Fund, were own contribution can vary – further information on https://www.rannis.is/sjodir/rannsoknir/taeknithrounarsjodur/

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	N/A	50 - 65	25 - 40
Medium Enterprises	N/A	60 - 75	35 - 50
Small Enterprises	N/A	70 - 80	45 - 60
Universities, public research organisations	N/A	80	80
Public authorities	N/A	N/A	N/A
Associations without economic activities, NGOs	N/A	N/A	N/A

INDIA-NEW DEHLI – Department of Science & Technology , Ministry of Science & Technology, Goverment of India (DST)

a) National/Regional information and eligibility criteria

Contact Point	**Primary Contact 1:** Dr Neelima Alam, Email: neelima.alam@nic.in , Phone No.: +91-11- 26590467 **Primary Contact 2:** Dr Sanjai Kumar Email: sanjai.k@gov.in , Phone No.: +91-11-26590270 **Secondary Contact:** Dr. Anita Gupta, Email: anigupta@nic.in , Phone No.: +91-11-26590213
Funding commitment	**Call Module 4:** 1 Million Euro (Equivalent Indian Rupees: Approx. Rs 9 Crore)
Anticipated number of projects to be funded by the funding partner	Max. 3 projects (The numbers can be modified for the suitable project within the funding limit). Funding will be divided into approx. equal weightage to carbon capture, carbon utilization/conversion and storage/sequestration.
Maximum funding per awarded project/per	Maximum funding for Indian partners for awarded project will be restricted to maximum 0.33 Million Euro (Equivalent Indian Rupees:

Eligibility of a partner as a beneficiary institution	• The proposals are to be led by faculties/scientists working in regular position in recognized Academic Organizations/Public funded R&D Institutions/Laboratories, Central and State Government autonomous organizations in partnership with other academic/R&D organisation, DSIR recognized SIRO organizations, Central and state autonomous organisations, industry association, industries etc. • The proposals submitted with well-defined and synergistic institute - user - industry partnership are encouraged. • All Indian partners in a single project must be separate legal entities. However, there can be more than one investigator from the same entity. • Participating Indian companies must: 1.) Be incorporated in India under the Companies Act 1956/2013. 2.) Have at least 51% stake of the Company be owned by Indian citizens and Headquartered in India. 3.) Have been in operation for at least 3 financial years before the closing date for application. 4.) Be registered under relevant provisions of Good & Services Taxation (GST) Act. 5.) Have required expertise and capacity to technically contribute to the proposed project. 6.) The maximum funding for Industry will not be more than their MSME definition based on Investment in plant and machinery for manufacturing Sector and Investment in equipment for Service Sector (MSMED Act 2006 or their consecutive amendments). 7.) DST funding for Industry will be inline with the rates mentioned in the table at Annexure -I enclosed. 8.) Industry contribution should only be in cash. 9.) The man-hours of existing workforce, utilization of facilities etc. will not be counted as industry contribution. 10.) Indian industry/association may receive their part of the eligible costs on a "**Reimbursement Basis**", for costs already incurred on a proportionate basis
	• **Companies need to provide the following with the First Stage application:** ✓ Evidence they have the resources and finances to undertake the project. ✓ An audited copy of their submitted annual accounts for the last three fiscal years. **Please note:** • Sole proprietors and partnership firms are not eligible for support under this programme. • Companies headquartered and owned outside India and their subsidiaries in India, or vice versa, are not eligible to receive funding directly or indirectly.
Eligible topics	CM (Call Module)2023-04: Carbon capture, utilisation, and storage (CCUS)

Eligible type of RDI and TRL	**TRL 1-5**
Submission of the proposal at national/regional level	The applicant is required to submit a full copy of the proposal to the Department of Science and Technology at https://onlinedst.gov.in/ This proposal must be identical to what has been submitted to CETP and needs to be submitted to DST immediately after submission to CETP secretariat. The dates for submission and requirement for additional documentation for Indian applicants.
Additional eligibility criteria for the funding agency	**YES.** The evaluation and selection of project proposals to fund will be as per the steps described in the CETP Programme managers handbook.
Eligible costs	• All project-related costs (e.g. Equipment, Personnel, Consumables, Contingencies, Travels, Other Costs, Overheads etc.) will be covered. • Capital/Non-recurring costs are to be capped at max. 30% of the total project cost. • Indian applicants must comply with the **Department of Science & Technology (DST), India** Rules and Regulations regarding all eligible costs. Unless agreed otherwise: ○ Subcontracting is to be capped at a maximum of 20% of the Indian budget. ○ All India eligible costs, including sub-contracts, should be incurred within India. ○ Project management costs cannot be sub-contracted
Information available at	
Other	All the funded projects would be bound by guidelines stipulated by the Department of Science and Technology from time to time. The detailed guidelines for this call will appear on DST website, which will supercede anything stated here. The applicants may approach the national contact for specific queries at any stage of the project.

Annexure-I

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	15%	15%	15%
Medium Enterprises	15%	15%	15%
Small Enterprises	20%	20%	20%
Universities, public research organisations	100%	100%	100%
Public authorities	75%	75%	75%
Associations without economic activities, NGOs	-		

Note :

(1) Indian Enterprises may receive their part of the eligible costs on a "**Reimbursement Basis**", for costs already incurred on a proportionate basis through the lead organization.

(2) Rates mentioned above will be the maximum cap on funding lines subject to DST funding guidelines.

IRELAND – Geological Survey Ireland (GSI)

a) National/Regional information and eligibility criteria

Contact Point	Aoife Braiden, Geological Survey Ireland (Department of the Environment, Climate and Communications) research@gsi.ie
Funding commitment	€200,000
Anticipated number of projects to be funded	1-2
Maximum funding per awarded project/per partner	€200,000
Eligible types of organisations	SMEs and research organisations are eligible to apply. All funding must be in line with State Aid (it is the responsibility of the beneficiary to ensure compliance)
Eligible Call Modules	Geothermal Call Module, TRI4
Eligible types of RDI and TRL	Geothermal heating and cooling. For example: resource estimation, resource management, subsurface management, geoscience data, social acceptance of geothermal energy, geology and geotechnical engineering related to subsurface thermal storage. Applicants must check in advance with GSI if the proposed topic is eligible TRL 1-7 eligible
Submission of proposal /documentation at national/regional level	Applicants must be eligible under GSI rules to apply – all applicants must contact GSI in advance of submission. The proposal will not be reviewed for quality of scientific content at national level, but will be assessed to ensure the topic is within the remit of the GSI and adhering to budget and eligibility rules.

Additional eligibility criteria	Eligibility check will be conducted regarding (a) topic, (b) eligibility of the host organisation and (c) budget.
Eligible costs	Direct costs (staff, fieldwork, travel, consumables etc) + indirect costs, max 15% (of total direct costs). Durable equipment of <€10,000 is eligible but must be clearly justified and depreciation rules applied. Applicants must have pre-approval from GSI for any equipment > €10,000 with depreciation and standard accounting rules applied.
Information available at	research@gsi.ie GSI website
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises			
Medium Enterprises	100	75	
Small Enterprises	100	75	
Universities, public research organisations	100	100	
Public authorities			
Associations without economic activities, NGOs	100	100	

IRELAND – Sustainable Energy Authority of Ireland (SEAI)

a) National/Regional information and eligibility criteria

Contact Point	Joanne Fitzgerald energyresearch@seai.ie
Funding commitment	€500,000
Anticipated number of projects to be funded	
Maximum funding per awarded project/per partner	€200,000
Eligible types of organisations	SEAI research funding programmes are open to public and private sector organisations based in the Republic of Ireland (including Irish subsidiaries of overseas companies) who wish to carry out projects in Ireland. Applications will be accepted from companies, 3rd level educational bodies, public sector bodies and semi-state bodies who are based in the Republic of Ireland. It is strongly recommended that interested applicants contact the SEAI national contact point in the early stages of project proposal preparation.
Eligible Call Modules	All Call Modules, where proposals align with SEAI's remit and the overarching objectives of the SEAI National Energy Research, Development and Demonstration (RD&D) Funding Programme are eligible to apply. Applicants should refer to the SEAI website and the following link for an overview of the RD&D programme objectives:
Eligible types of RDI and TRL	Applicants should refer to the SEAI RD&D Budget Policy and to the SEAI website for further details of SEAI's remit and SEAI research funding programme objectives and eligibility guidelines. SEAI RD&D Budget Policy: SEAI-RDD-Budget-Policy.pdf

Submission of proposal /documentation at national/regional level	Separate national application required. Please contact the SEAI national contact point for further details on the national application process.
Additional eligibility criteria	Applicants should refer to the SEAI RD&D Budget Policy and to the SEAI website for further details of SEAI's remit and SEAI research funding programme objectives and eligibility guidelines. SEAI RD&D Budget Policy: SEAI-RDD-Budget-Policy.pdf
Eligible costs	Eligible costs are those actual, necessary and economic costs that are incurred during the grant duration. Only costs directly associated with delivery of a project are considered eligible costs. Please review the SEAI RD&D Budget Policy for further guidance on budgetary policies and financial requirements associated with the SEAI National Energy RD&D Funding Programme, including further guidance in relation to eligible costs and funding rates.
Information available at	SEAI National Energy Research Development and Demonstration (RD&D) Funding Programme: https://www.seai.ie/grants/research-funding/research-development-and-demonstration-fund/ SEAI RD&D Budget Policy document: SEAI-RDD-Budget-Policy.pdf
Other	

b) Funding rates

Maximum funding percentages:

Applicants should refer to the SEAI RD&D Budget Policy for guidance on eligible research categories and funding rates (Page 12-13): SEAI-RDD-Budget-Policy.pdf

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises			
Medium Enterprises			
Small Enterprises			
Universities, public research organisations			
Public authorities			
Associations without economic activities, NGOs			

ISRAEL – Ministry of Energy and Infrastructures (MoE)

a) National/Regional information and eligibility criteria

Contact Point	**Israel Ministry of Energy and Infrastructures**
Funding commitment	2.4M euro
Anticipated number of projects to be funded	7-10
Maximum funding per awarded project/per partner	Depending on the program: Academic 181K Euro / Startup193K Euro / Pilot 387K Euro
Eligible types of organisations	Academic Institutions, Companies, Municipalities, citizens from Israel
Eligible Call Modules	ALL Call Modules
Eligible types of RDI and TRL	All TRL levels
Submission of proposal /documentation at national/regional level	After submission to the CETP, a national level application is required, through the MoE public tenders: Academia tender and Pilot& start-ups tender. Sign to mailing list to be updated on the MoE CSO call: sign to CSO mailing list NOW

Additional eligibility criteria	There are specific criteria according to the three different support programs: • Pilot and Demonstration Support Program • Startups Support Program • Academic Support Program More details in the MoE page in Hebrew: About MoE grants
Eligible costs	All costs related to a development project, except overhead type of costs (e.g. office lease, insurance, office supplies), which are already covered as overhead. Salaries cannot exceed 16,666 ILS per month per full time job.
Information available at	About MoE grants
Other	sign to CSO mailing list NOW

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	-	50%	50%
Medium Enterprises	-	50%	50%
Small Enterprises	62.5%	62.5%	62.5%
Universities, public research organisations	100%	-	100%
Public authorities	-	-	-
Associations without economic activities, NGOs	-	-	-

ITALY – Ministero delle Imprese e del Made in Italy (MIMIT)

a) National/Regional information and eligibility criteria

Contact Point	Giulio Aloia, Valentina Milazzo, Massimiliano Lippolis giulio.aloia@mise.gov.it valentina.milazzo@mise.gov.it massimiliano.lippolis@mise.gov.it
Funding commitment	€ 16 Mil
Anticipated number of projects to be funded	20
Maximum funding per awarded project/per partner	€ 1 Mil x project
Eligible types of organisations	The following entities are eligible: - Enterprises - Research centers, defined as enterprises with independent legal status - Universities, and research organizations - only in collaboration with enterprises and research centers with which to set up a Consortium or a Network of Companies.
Eligible Call Modules	1. CM2023-01 2. CM2023-02 3. CM2023-03B (IOA) 4. CM2023-04 5. CM2023-05 6. CM2023-06 7. CM2023-07 8. CM2023-09 9. CM2023-10B (IOA)
Eligible types of RDI and TRL	applied research, experimental development prevailing TRL: (TRL 3-9)
Submission of proposal /documentation at national/regional level	email address: dgiai.div6@pec.mise.gov.it

Additional eligibility criteria	Specific rules established by Recovery and Resilience Plan such as DNSH, Tagging, and resources to be addressed to the South of Italy.
Eligible costs	All costs incurred during the lifetime of a project under the following categories are eligible: personnel, equipment, subcontracting, consumables, and overheads. Overheads are calculated as a fixed percentage 25% of eligible costs of the project, as established by art. 20 of the delegated regulation (EU) n 480/2014 and by art. 29 of the regulation (EU) n. 1290/2013. They include also communication, dissemination and travel expenses.
Information available at	https://www.mimit.gov.it/it/ https://www.mimit.gov.it/it/incentivi/sostegno-alla-transizione-energetica-cetp
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises		50%	25%
Medium Enterprises		60%	35%
Small Enterprises		70%	45%
Universities, public research organisations		50%	25%
Public authorities			
Associations without economic activities, NGOs			

ITALY – MINISTERO DELL'UNIVERSITA' E RICERCA (MUR)

a) National/Regional information and eligibility criteria

Contact Point	**Aldo Covello** aldo.covello@mur.gov.it **Rachele Nocera** Rachele.nocera@mur.gov.it
Funding commitment	€ 2.000.000,00
Anticipated number of projects to be funded	#
Maximum funding per awarded project/per partner	€ 300.000 per project
Eligible types of organisations	Eligible partners are the following legal entities having stable organization in Italy: • enterprises, foundations and other not-for-profit legal entities (including associations and NGOs provided they are registered legal entities), • Universities, • Research institutions, • Research organizations in accordance with EU Reg. n. 651/2014 of the European Commission - June 17, 2014.
Eligible Call Modules	• **CM2023-03A (ROA)** Advanced renewable energy technologies for power production • **CM2023-05** Hydrogen and renewable fuels • **CM2023-10A (ROA)** Clean energy integration in the built environment
Eligible types of RDI and TRL	All R&D activities considered as: Basic research, Industrial/Applied research and Experimental development are eligible for funding. However, **Basic Research and Industrial/Applied research activities must be predominant** with respect to Experimental development activities (in terms of budget share). **TRL: 3 - 6 indicatively**
Submission of proposal /documentation at national/regional level	**Additional National application:** In addition to the project proposal which shall be submitted at European level, **Italian participants are requested to submit a national additional application to MUR**, through the **national web platform**, at the following link: **https://banditransnazionali-miur.cineca.it**

	The national additional application must be submitted by the same deadline established in the international joint call. Participant who does not submit national documentation by the deadline are considered not eligible for funding. More information on the national documentation to be submitted to MUR is available at the web page dedicated to the CETPartnership Joint Call 2023: http://www.ricercainternazionale.miur.it/ **It is recommended to contact the National Contact Persons already in early stage of project preparation.** The admission to funding is subject to the adoption of the necessary accounting and administrative measures for the allocation of the resources.
Additional eligibility criteria	Applicants shall: • not be defaulting with regard to other funding received by the Ministry of University and Research • not have requested/got any other funding for the same project • be compliant to the Italian law "D.Lgs. n 159 del 6/09/2011 e successive modificazioni ed integrazioni" • not be subject to bankruptcy proceedings as of art. 5, comma 4, letter b) of DM 1314/2021 or must not be a company in difficulty according to the definition under number 18) of article 2 "Definitions" of Regulation (EU) no. 651/2014 • be in compliance with the obligations laid down in the contributory and social security regulations (DURC) Applicants shall demonstrate their viability and financial soundness regarding their own contribution to the project. For **any private entity, if the following financial criteria**, calculated using the data reported in the last approved balance sheet, **are not fulfilled, the applicant can be funded only if a bank guarantee is provided:** **a) CN > (CP – I)/2** Where: • CN = net assets (Capitale netto) • CP = sum of the costs of all the projects for which public funding has been requested by the participant during the year • I = sum of the contributions received, approved or requested for the same projects **b) OF/F < 8%** Where: • OF = financial charges (Oneri finanziari) • F = turnover (Fatturato)

Eligible costs	All costs incurred during the lifetime of the project under the following **categories** are eligible: • A) Personnel, • B) Consulting and equivalent services (subcontracting) • C.1) Travel and subsistence • C.2) Equipment • C.3) Other goods and Services • E) Indirect Costs/Overheads ("Spese generali") calculated at 25% flat rate of all direct costs excluding cost category B) Consulting and equivalent services [E) = 25% of A) + C.1) + C.2) + C.3]
Information available at	http://www.ricercainternazionale.miur.it
Other	**National Reporting** Funded participants will be requested to submit financial and scientific reports to MUR. **Applicable laws and rules:** (http://www.ricercainternazionale.miur.it/evidenza/normativa-prog-internazionali.aspx): • Decreto legge n. 83/2012 • Decreto Ministeriale n. 1314 del 14 dicembre 2021

b) Funding rates

Maximum funding percentages:

Basic research	Industrial/Applied Research	Experimental development / innovation
70 %	**70 %**	**25 %**

LATVIA – LATVIJAS ZINĀTNES PADOME (LZP)

a) National/Regional information and eligibility criteria

Contact Point	Maija Bundule, Maija.bundule@lzp.gov.lv ; +371 26514481
Funding commitment	600 000 EUR
Anticipated number of projects to be funded by the funding partner	2-3
Maximum funding per awarded project/per partner	100 00 EUR per project year/ per partner
Eligibility of a partner as a beneficiary institution	- R&D institutions (research institutes, universities, higher education establishments, research centres etc.) - Private entities, companies, SMEs, large enterprises
Eligible topics	All topics
Eligible type of research and TRL	**TRL 1-8**
Submission of the proposal at national/regional level	N/A
Additional eligibility criteria for the funding agency	R&D institutions must be listed in the Registry of Research Institutions operated by the Ministry of Education and Science of the Republic of Latvia. Private entities must be registered in the Registry of Enterprises of the Republic of Latvia and provide most of its R&D&I activities in the Republic of Latvia.

Co-funded by the European Union

Eligible costs	Direct costs: - Personnel costs incl. taxes; - Travels; - Subcontracts (up to 25% of direct costs), needs detailed justification, includes all external services, project core activities cannot be subcontracted; - Equipment (only depreciation costs); - Consumables, replaceable and fully consumable during project elements of equipment (electrodes), reagents and materials; - Other costs. Indirect costs (up to 25% of direct costs excluding subcontracting).
Information available at	https://lzp.gov.lv/starptautiskas-sadarbibas-programmas/eiropas-partneribas/
Other	Maximum 100 000 € per project year can be requested by each project partner. No more than two partners from Latvia may participate in the project. The funding of RTD activities is provided pursuant in accordance with the Regulation of the Council of Ministers of the Republic of Latvia No 259 on the procedure for providing support for participation in international cooperation programs for research and technology (adopted on 26 June 2015) and provisions of Commission Regulation (EC) No651/2014 of 17 June 2014 declaring certain categories of aid compatible with the common market in application Articles 107 and 108 of the Treaty. Further information on the conditions for receiving funding can be found on the LZP website: https://lzp.gov.lv/starptautiskas-sadarbibas-programmas/atbalsts-projektiem/

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	100	65	40
Medium Enterprises	100	75	50
Small Enterprises	100	80	60
Universities, public research organisations	100	100	100
Public authorities	N/A	N/A	N/A
Associations without economic activities, NGOs	N/A	N/A	N/A

MALTA – MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY (MCST)

a) National/Regional information and eligibility criteria

Contact Point	Ms. Martina Vella
Funding commitment	€500,000
Anticipated number of projects to be funded	A minimum of 1 (According to the number of applications received and the requested funding.)
Maximum funding per awarded project/per partner	€500,000
Eligible types of organisations	Malta-based applicants that are Eligible Undertakings, with an Operating Base in Malta, which plan to carry out Fundamental, Industrial Research or Experimental Development projects are eligible for funding, subject to the terms and conditions laid out in the latest version of the National Rules. Eligible Undertakings can be: **a)** a partnership constituted under the Companies Act, being a partnership *en nom collectif*, *en commandite* or a limited liability company; or **b)** be duly registered as a co-operative society under the Co-Operative Societies Act, or **c)** professional body; or **d)** NGO; or **f)** Non-profit making entity (including Foundation). Any Public Entity or Public Research or Knowledge-Dissemination Organisation registered in Malta, that do not carry out an economic activity within the meaning of Article 107 TFEU, will be eligible for funding subject to the terms and conditions laid out in the latest version of the National Rules for Participation (Non-State Aid).
Eligible Call Modules	All Call Modules within all Transition Initiatives
Eligible types of RDI and TRL	**Fundamental Research, Industrial Research and Experimental Development** **TRL 3 - 7**
Submission of proposal /documentation at national/regional level	A national application form **must** be submitted by the specified deadline within the National Rules. All national documentation will be available to download from https://mcst.gov.mt/funding-opportunities/ .

Co-funded by the European Union

	The national application form is to be sent **by the stipulated deadline** to eusubmissions.mcst@gov.mt . For any further information applicants can contact MCST as follows: Lead Call Manager – Ms. Martina Vella: martina.vella.5@gov.mt Alternate Call Manager – Ms. Annalisa Cartabia: annalisa.cartabia@gov.mt Generic email address: eusubmissions.mcst@gov.mt
Additional eligibility criteria	It is important for all national applicants to refer to MCST's National Rules for detailed information on the call which can be accessed from MCST's website: https://mcst.gov.mt/funding-opportunities/.

Eligible costs	Any Public Entity or Public Research or Knowledge-Dissemination Organisation registered in Malta, that do not carry out an economic activity within the meaning of Article 107 TFEU are eligible to apply under the **non-state aid** route. The eligible costs included within non-state aid include: - Personnel Costs - Costs of IP and Knowledge Transfer Activities - Instruments, Specialised Equipment and Research Consumables - Travel and Subsistence - Subcontracted Activities - Indirect Costs - Other Operating Expenses Eligible Undertakings with an operating base in Malta which plans to carry out Fundamental, Industrial Research or Experimental Development projects may be funded under **Regulation A** (*de minimis*) - Personnel Costs - Costs of IP and Knowledge Transfer Activities - Instruments, Specialised Equipment and Research Consumables - Travel and Subsistence - Subcontracted Activities - Indirect Costs - Other Operating Expenses Or under **Regulation B** (GBER), for which eligible costs are: - Personnel Costs - Costs of IP and Knowledge Transfer Activities - Instruments, Specialised Equipment and Research (depreciation costs eligible to the extent and for the period used for the project) - Subcontracted Activities - Indirect Costs - Other Operating Expenses
Information available at	Further information on the CETPartnership and the funding opportunities in this regard by the Malta Council for Science and Technology can be found on MCST's website: https://mcst.gov.mt/mcst-news/clean-energy-transition-partnership-cetpartnership/
Other	N/A

b) Funding rates

Maximum funding percentages:

MCST offers three funding modalities as follows:

- **Non-State Aid**

The financial contribution to an applicant (i.e., Public Entity or Public Research or Knowledge-Dissemination Organisation as defined above and in the National Rules for Participation) under non-state aid Rules for Participation shall be **100%** of the eligible costs incurred by that Partner.

- **State Aid – Regulation A (*de Minimis*)**

The financial contribution to a project partner (i.e., Eligible Undertaking as defined above and in the National Rules for Participation) applying under Regulation A (*de minimis)* shall be **up to 75%** of the eligible costs incurred on the project by that project partner. The partner must finance the remaining percentage of the eligible costs. It is not possible for a Partner to cover this percentage contribution 'in-kind'.

- **State Aid – Regulation B (GBER)**

The financial contribution to a project partner (i.e., Eligible Undertaking as defined above and in the National Rules for Participation) applying under Regulation B (GBER) shall following the current criteria:

Type of Research	Small Undertaking	Medium Undertaking	Large Undertaking
Fundamental Research	100%	100%	100%
Industrial Research	70%	60%	50%
Industrial Research with an effective collaboration and/or results are widely disseminated	80%	75%	65%
Experimental Development	45%	35%	25%
Experimental Development with an effective collaboration and/or results are widely disseminated	60%	50%	40%

The project involves **effective collaboration** if at least one of the following requirements is satisfied:

a. Project is being handle between undertakings among which at least one is an SME, or is carried out in at least two Member States, or in a Member State and in a Contracting Party of the EEA Agreement, and no single undertaking bears more than 70% of the eligible costs.
b. Between an undertaking and one or more Research and Knowledge-dissemination Organisation/s where the latter bear at least 10% of the eligible costs and have the right to publish their own research results.

For the results of the project to be considered as being widely disseminated, this must be done through conferences, publications, open access repositories, or free or open-source software at the beneficiary's **own** expense. The activities to be undertaken to satisfy these criteria must be clearly made visible in the National Application Form which is to be submitted by the stipulated deadline.

NETHERLANDS – Dutch Research Council (NWO)

a) National/Regional information and eligibility criteria

Contact Point	Leon Leu, Dutch Research Council, +31 06 1395 2854 Tom van Rens, Dutch Research Council, +31 6 2307 6121 Email: cetpartnership@nwo.nl
Funding commitment	€ 2,000,000
Anticipated number of projects to be funded	3-6
Maximum funding per awarded project/per partner	€ 650,000 per project application

Eligible types of organisations	Full, associate and assistant professors, lectors employed by an university of applied sciences (HBO) and other researchers with a comparable position* may submit an application (i.e. participate in a consortium and request NWO funding) if they have a tenured position (and therefore a paid position for an indefinite period) or a tenure track agreement at one of the following organisations: - Universities located in the Kingdom of the Netherlands; - University medical centres; - Institutes affiliated to the Royal Netherlands Academy of Arts and Sciences (KNAW) or NWO; - Universities of applied sciences as referred to in Article 1.8 of the Higher Education and Scientific Research Act (WHW); - The Netherlands Cancer Institute; - The Max Planck Institute for Psycholinguistics in Nijmegen; - Naturalis Biodiversity Center; - Advanced Research Centre for NanoLithography (ARCNL); - Princess Máxima Center. *A comparable position refers to a researcher that has a demonstrable and comparable number of years of experience in carrying out scientific research and supervising other researchers as a full, associate or assistant professor. Persons with a zero-hour employment agreement or with a contract for a limited period of time (other than a tenure track appointment) may not submit a proposal. It could be the case that a tenure track agreement ends before the intended completion date of the project for which funding is applied for, or that before that date, the tenured contract ends due to a researcher reaching retirement age. In that case, the researcher needs to include a statement from their employer in which the organisation concerned guarantees that the project and all project members for whom funding has been requested will receive adequate supervision for the full duration of the project. Employees with a part-time contract should guarantee adequate supervision of the project and all project members for whom funding is requested.
Eligible Call Modules	CM2023-04 Carbon capture, utilisation, and storage (CCUS) CM2023-08 Integrated Regional Energy Systems CM2023-09 Integrated Industrial Energy Systems
Eligible types of RDI and TRL	TRL level as specified per eligible Call Module (see module description in call for proposals).

Submission of proposal /documentation at national/regional level	In the Full Proposal stage, please return your NWO budget form to cetpartnership@NWO.nl. More information under “Eligible costs”.
Additional eligibility criteria	An application for NWO funding has a single main applicant responsible for scientific and financial management. - An applicant may only request NWO funding for one project (part of a European consortium) in this call. - Researchers may not apply for a post-doc position for themselves.

Eligible costs	The NWO budget modules (including the maximum amount) available for this Call for proposals are listed in the table below. Apply only for funding that is vital to realise the project. Proposals are required to have at least one personnel position of 12 full-time months. Available budget modules: - Postdoc – at least 12 full months and at most 36 full-time months, according to UNL or NFU rates - Research leave – max. 5 months, 1 fte, according to UNL or NFU rates - Material costs – max. € 15,000 per year per full-time scientific position (postdoc) - Knowledge utilisation - € 25,000 - Internationalisation - max. € 25,000 Please note the following: - For the budget module “Postdoc”, a one-off individual bench fee of € 5,000 is added on top of the salary costs to encourage the scientific career of the project employee funded by NWO. - PhD positions cannot be applied for in this call, due to the maximum project duration of 3 years. - Overhead costs are not eligible for NWO funding. A more detailed explanation of the budget modules and eligible costs can be found at www.nwo.nl/cetp Do not hesitate to contact the national contact persons in case of questions. For Full Proposals, it is mandatory to submit the NWO budget form for the funding requested at NWO at the time of the deadline. Please send this form to cetpartnership@nwo.nl. It is recommended to use the NWO budget template (obligatory in full proposal phase) in the pre-proposal stage to confirm eligibility of budget items.
Information available at	www.nwo.nl/cetp

Other	The NWO Grant Rules 2017 and the Approval of funding for scientific research 2008 are applicable to the part of the project's budget covered by the grant from NWO. Any arrangements made regarding the part of the project's budget covered by the grant from NWO, for instance in a Consortium Agreement, must comply with the NWO Grant Rules 2017 and the European legislation on state aid. Under the Dutch General Administrative Law Act, any interested party has the right to lodge an objection to the decision taken by NWO within six weeks of the date of the decision letter. Further information about the objections procedure can be found on the NWO website: https://www.nwo.nl/en/lodging-objection.

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises			
Medium Enterprises			
Small Enterprises			
Universities, public research organisations	100%	100%	100%
Public authorities			
Associations without economic activities, NGOs			

NETHERLANDS – Rijksdienst voor Ondernemend Nederland RVO

a) National/Regional information and eligibility criteria

Contact Point	Gerdi Breembroek | Gerdi.breembroek@rvo.nl | +31 6 5256 4480 Jirka Berka | Jirka.berka@rvo.nl
Funding commitment	8 million euros total commitment, from Regeling nationale EZK- en LNV-subsidies (RNES) § 4.2.10 'Demonstratie energie en klimaatinnovatie' (DEI+) and/or § 4.2.3 'Hernieuwbare energietransitie' (HER+). Actual funding will be adapted to volume of eligible projects. To be confirmed: No specific budget from HEP 'Horizon Europe Partnerships' § 4.2.18.
Anticipated number of projects to be funded	5-10 projects
Maximum funding per awarded project/per partner	For DEI+ and HER+: limitation as in funding instrument. For 'HEP': not applicable (to be confirmed)
Eligible types of organisations	All instruments: at least one company should be collaborating in the consortium. Municipalities and provinces are not eligible. For DEI+, companies should realise the majority of the project cost. For HER+, (any) involvement of research organisations should be balanced by involvement of companies. The consortium should be suitable to contribute to the aims of the instruments.
Eligible topics	1. Direct current (DC) technologies for power networks 2. Power production technologies, storage and system integration 3B. Advanced renewable energy technologies for power production 4. Carbon capture, utilisation, and storage (CCUS) 5. Hydrogen and renewable fuels 6. Heating and cooling technologies 7. Geothermal energy technologies 8. Integrated regional energy systems 9. Integrated industrial energy systems

Eligible type of RDI and TRL	For DEI+: Pilots (experimental development) and demonstration, indicative TRL 6-9 For HER+: Pilots and demonstration, experimental development and Industrial research (parts of the project), indicative TRL 4/5-9 For HEP: (if applicable): Industrial research, experimental development, indicative TRL 4-7
Submission of proposal/documentation at national/regional level	**Please consult your national contacts with any questions!** HER+ Pre-proposal: Submission 'Projectidee' + 'Onderbouwing HER+' to RVO - Deadline 24 November 2023 - 'Projectidee': highlight how the international project objectives contribute to the aim of HER+, and the role and activities of the Dutch partners in the project - 'Onderbouwing HER+': instructions on: https://mijn.rvo.nl/tse-hernieuwbare-energietransitie, go to "bijlagen bij uw aanvraag". Please make sure that you use the current version and fill out both calculation models where relevant. - Submit all of this through RVOs 'Projectidee' tool, and by E-mail to the national contacts mentioned above as well. Full proposal: Submission HER+ proposal to RVO - Deadline 2 April 2024, unless instructed otherwise by the national contacts. - Submission though RVO's electronic submission system - Full national proposal, specifying the Dutch funding request roles and activities, with a full national project plan plus 'Onderbouwing HER+'. The HER+ proposal should be readable on its own, without the need to refer to the international proposal. - Please note that "E-herkenning niveau 3" is required. DEI+ Pre-proposal: Submission 'Projectidee' to RVO - Deadline 24 November 2023 - 'Projectidee': highlight how the international project objectives contribute to the aim of DEI+, and the role and activities of the Dutch partners in the project - Submit through RVOs 'Projectidee' tool, and by E-mail to the national contacts mentioned above as well.

	Full proposal: Submission DEI+ proposal to RVO - Deadline 2 April 2024, unless instructed otherwise by the national contacts. - Submission though RVO's electronic submission system - Full national proposal, specifying the Dutch funding request roles and activities, with a full national project plan. The DEI+ proposal should be readable on its own, without the need to refer to the international proposal. - Please note that "E-herkenning niveau 3" is required. HEP - Not applicable (to be confirmed)
Additional eligibility criteria for the funding agency	**The HER+ and DEI+ have their own requirements and conditions. In order to be eligible for one of these schemes, you have to positively meet the specific requirements of the scheme. Please consult the relevant information, see links below.**
Eligible costs	Definitions according to the guidelines laid down in the General Block Exemption Regulation (GBER – In Dutch AGVV), Article 25 covers Research and development, other articles cover investment aid in specific categories. HER+: current GBER Articles 25, 38, 41, see Internet pages and manual (Dutch) DEI+: current GBER Articles 25, 36, 38, 41, 46, 47, 56, see Internet pages and manual (Dutch).
Information available at	www.rvo.nl/tse - select the relevant funding scheme. Please read the "Handleiding" (=manual) carefully for HER+ https://www.rvo.nl/subsidies-financiering/her Handleiding: https://www.rvo.nl/sites/default/files/2022-07/RVO-Handleiding-Hernieuwbare-energietransitie-juli-2022_0.pdf for DEI+ https://www.rvo.nl/subsidies-financiering/dei

Co-funded by the European Union

Other	- The national evaluation process will be the customary process for DEI+ and HER+, please consult the respective manuals. International evaluation leading in case of 'RNES § 4.2.18'. - For obvious reasons, the results of the national evaluation process shall be communicated after the trans-national funding recommendations have been made, irrespective of your date of submission. Without the international partners, the project cannot be implemented as proposed and will not be funded. - Customary national progress reporting will be required for all funded projects. - This annex must be regarded as a guide. The information contained herein is not complete about the national regulations. **For specific details and conditions you should always consult the original regulation texts, manuals and websites.** - **It is strongly recommended to contact the national contact points to discuss the pre-proposal as well as full-proposal before submission.**

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	Not applicable	See www.rvo.nl/tse	See www.rvo.nl/tse
Medium Enterprises	Not applicable	See www.rvo.nl/tse	See www.rvo.nl/tse
Small Enterprises	Not applicable	See www.rvo.nl/tse	See www.rvo.nl/tse
Universities, public research organisations	Not applicable	See www.rvo.nl/tse	See www.rvo.nl/tse
Public authorities	Not applicable	Not applicable	Not applicable
Associations without economic activities, NGOs	Not applicable	See www.rvo.nl/tse	See www.rvo.nl/tse

NORWAY – The Research Council of Norway (RCN)

a) National information and eligibility criteria

Contact Point	Main contact point: Aage Stangeland, ast@rcn.no Call Module contact points: • Call Module 1: DC technologies for energy networks: Marianne Haavardsholm Aandahl, mhaa@rcn.no • Call Module 4: Carbon capture, utilisation, and storage (CCUS): Aage Stangeland, ast@rcn.no • Call Module 6: Heating and cooling technologies: Per Arne Karlsen, pak@rcn.no
Funding commitment	• NOK 30 M (approximately € 2.56 M) for Call Module 4: *CCUS* • NOK 24 M (approximately € 2.05 M) all together for Call Module 1: *DC technologies for energy networks* and Call Module 6: *Heating and cooling technologies*
Anticipated number of projects to be funded	From 5 to 10
Maximum funding per awarded project	• Maximum NOK 10 M for Call Module 4 projects • Maximum NOK 6 M for projects under Call Modules 1 and 6
Eligible types of organisations	The call is open to approved Norwegian research organisations, actors from public sector entities, non-governmental organisations, and companies from the business/industrial sector. The main Norwegian partner must be either an approved Norwegian research organisation or a Norwegian company that has been issued an enterprise number under the Norwegian Register of Business Enterprises (Brønnøysundregistrene) and carry out economic activity in Norway.
Eligible Call Modules	• Call Module 1: DC technologies for energy networks • Call Module 4: Carbon capture, utilisation, and storage (CCUS) • Call Module 6: Heating and cooling technologies

Eligible types of RDI and TRL	For Call Module 4 on CCUS: • The Norwegian activities must comply with topics listed in the CLIMIT Program Plan • Norwegian activities must lead to long-term CO_2 storage, and CCU activities without long-term CO_2 storage are in-eligible For Call Modules 1 and 6: • The Norwegian activities must comply with priorities within energy systems or heating and cooling as listed in the Portfolio Plan for Energy, transport and low emissions and the priorities in the Energy 21 strategy • TRL: maximum 6 at the end of the project
Submission of proposal /documentation at national/regional level	A detailed budget for Norwegian partners must be sent on e-mail to the relevant RCN contact persons within November 24th 2023 end of business. The budget must include details listed at the RCN web site; Please specify all cost items per partner per year. A template may be provided from your RCN contact person upon request – send us an e-mail.

Additional eligibility criterias	The Norwegian team of participants must meet one of the two alternative project types listed below: **1. Knowledge building project** - Projects must aim at developing new knowledge and generate research competence needed by society or the business sector to address important societal challenges. - Collaboration between research group(s) and relevant actors from outside the research sector is required. The team must include at least one approved Norwegian research organisation and at least two relevant Norwegian companies. - Companies are not eligible for financial support. - The Norwegian applicants must document (in their budget) that at least 10 per cent of the Norwegian total costs will be used by the Norwegian industrial or end-user partners. - The Norwegian industrial or end-user partners may contribute with financial support (cash) in addition to the required in-kind efforts. - Letters of Intent from all Norwegian companies are required in stage 1 (pre-proposal), and Letters of Commitment in stage 2 (full proposal). (The letters can be sent on e-mail to the RCN contact persons if problem with uploading them in the submission portal) - Note: Applications without required industrial participation at stage 1 will be in-eligible and not evaluated for potential proceedings to stage 2 **2. Innovation project for the industrial sector** - Open for projects in which companies are engaged in business-led innovation and where research and development (R&D) is a critical part of the innovation process. - The main Norwegian applicant must be a Norwegian company. - Norwegian research organisation(s) may be partner(s). The cost for research organisation(s) must be covered by the companie(s). - The maximum funding rate for the Norwegian companie(s) is 50%
Eligible costs	Eligible costs for Norwegian applicants are defined at the RCN website
Information available at	Relevant links are provided above

Other	Applied funding rates for all Norwegian applicants must comply with European state aid guidelines. Details are available at the RCN website. Please use exchange rates between NOK and Euro close to the due date for submission of your pre-proposal, and specify the exchange rate applied in the application. The applied exchange rate will be binding for all proposals invited further to full proposal and may not be subject to any change.

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	NA	0 / 50 *	0 / 25 **
Medium Enterprises	NA	0 / 50 *	0 / 25 **
Small Enterprises	NA	0 / 50 *	0 / 25 **
Universities, public research organisations	100	100	NA
Public authorities	100	100	NA
Associations without economic activities, NGOs	100	100	NA

* 0 % funding rate for Knowledge building projects and maximum 50 % funding rate for Innovation projects for the industrial sector.

** 0 % funding rate for Knowledge building projects and maximum 25 % funding rate for Innovation projects for the industrial sector.

POLAND – The National Centre for Research and Development (NCBR)

a) National/Regional information and eligibility criteria

Contact Point	Name: Jolanta Drożdż E-mail: jolanta.drozdz@ncbr.gov.pl Tel: +48 22 39 07 106, +48 509 216 759
Funding commitment	3 000 000 EUR
Anticipated number of projects to be funded	6 or more (all within available funding commitment)
Maximum funding per awarded project/per partner	700 000 EUR per project or all Polish partners in one project
Eligible types of organisations	• Enterprises[86] - SME and Large, • Groups of enterprises composed of at least two enterprises, • Groups of entities composed of at least one research organisation[87] and at least one enterprise. Entities must be established as a legal person[88] and must conduct its business, R&D or any other activity on the territory of the Republic of Poland, confirmed by an entry into the relevant register[89]. A condition for the participation of a group of entities as the Applicant in the call is its formal existence on the date of submission of the pre-proposal, confirmed by its members concluding, at least conditionally, an agreement on the creation of a group of entities.

[86] defined in Annex I to Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (hereinafter referred to as "Commission Regulation (EU) No 651/2014");

[87] Defined in Commission Regulation (EU) No 651/2014;

[88] Legal person (juridical person) - an entity that is capable of having and amend legal rights and obligations within a certain legal system, such as to enter into contracts, sue, and be sued, excluding natural persons;

[89] if applicable.

Eligible Call Modules	• **CM2023-01**. Direct current (DC) technologies for power networks (TRI1) • **CM2023-02**. Energy system flexibility: renewables production, storage and system integration (TRI1+ TRI2) • **CM2023-03A/03B**. Advanced renewable energy technologies for power production (TRI2) • **CM2023-04**. Carbon capture, utilisation, and storage (CCUS) (TRI3) • **CM2023-05**. Hydrogen and renewable fuels (TRI3) • **CM2023-06**. Heating and cooling technologies (TRI4) • **CM2023-08**. Integrated regional energy systems (TRI5) • **CM2023-09**. Integrated industrial energy systems (TRI6) • **CM2023-10A/10B**. Clean energy integration in the built environment (TRI7)
Eligible types of RDI and TRL	**Type of research:** • **Industrial/Applied research** • **Experimental development** **TRL: 4-8** Polish applicants shall declare the TRL of their research in the pre-proposals and full proposals.
Submission of proposal /documentation at national/regional level	Polish Participants will be informed and invited to submit Polish full proposal once the international evaluation and the ranking list will be established. Only projects recommended for funding will be asked to submit a national application form (NAF). All eligible entities, invited to submit Polish full proposal are obliged to use the rate of exchange of The European Central Bank dated on the day of opening the call. If more than one Polish entity participates in the project, the national application is submitted by a consortium (group of entities) of all Polish entities.
Additional eligibility criteria	n/a

Eligible costs	The eligible costs shall be the following: 1. **personnel costs** (researchers, technicians and other supporting staff to the extent employed on the research project); 2. **costs of subcontracting**, costs of consultancy and equivalent services used exclusively for the research activity; this cost type cannot account for more than 70% of all eligible costs of a project; the subcontracting can be obtained from consortium partner only in justified case, this need will be verified by a national experts panel; 3. **operating costs including**: • **costs of instruments and equipment**, technical knowledge and patents to the extent and for the period used for the research project; if such instruments and equipment are not used for their full life for the research project, only the depreciation costs corresponding to the life of the research project, as calculated on the basis of good accounting practice, shall be considered eligible; • **costs for buildings and land**, to the extent and for the duration used for the research project; with regard to buildings, only the depreciation costs corresponding to the life of the research project, as calculated on the basis of good accounting practice shall be considered eligible; for land, costs of commercial transfer or actually incurred capital costs shall be eligible; • **other operating costs** including costs of materials, supplies and similar products incurred directly as a result of the research activity; 4. **additional overheads** incurred indirectly as a result of the research project; that costs should account 25% of all eligible project costs; That costs (4) are counted as a multiplication by percentage given above (called x%) and the rest of direct costs, excluding subcontracting (2); It means 4=(1+3)*25%.
Information available at	www.ncbr.gov.pl

Other	All proposals must be aligned with national regulations, inter alia: • The Act of 20 July 2018 - Law on Higher Education and Science; • The Act of 30 April 2010 on the National Centre for Research and Development; • The Regulation of the Minister of Science and Higher Education of 19 August 2020 on granting state aid by the National Centre for Research and Development, which is in line with the Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (General Block Exemption Regulation); • The Regulation of the Minister of Science and Higher Education of 17 September 2010 on the detailed mode of performance of tasks of the National Centre for Research and Development.

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	not eligible	Up to 50+15 (max 65%)	Up to 25+15 (max 40%)
Medium Enterprises	not eligible	Up to 50+10+15 (max 75 %)	Up to 25+10+15 (max 50 %)
Small Enterprises	not eligible	Up to 50+20+15 (max 80 %)	Up to 25+20+15 (max 60 %)
Universities, public research organisations	not eligible	Up to 100%	Up to 100%
Public authorities	not eligible	not eligible	not eligible
Associations without economic activities, NGOs	not eligible	not eligible	not eligible

Funding quota for Polish participants may be up to 100% for universities and research organisations. In case of enterprises, funding quota will be decided on a case-by-case basis depending on the size of the company and type of research/development under Section 2 of the Regulation of the Minister of Science and Higher Education of 19 August 2020 on granting state aid by the National Centre for Research and Development, published in Journal of Laws item 1456, 2020.

In any case only Industrial Research and Experimental Development will be funded. Other type of activities (e.g. coordination, dissemination, management) cannot be included into separate task.

PORTUGAL – FUNDAÇÃO PARA A CIÊNCIA E A TECNOLOGIA I.P. (FCT)

a) National/Regional information and eligibility criteria

Contact Point	**Joana Pinheiro** T: [+351] 213 911 567 joana.pinheiro@fct.pt **Alexandre Maurício** T: [+351] 213 917 648 alexandre.mauricio@fct.pt
Funding commitment	500.000,00 €
Anticipated number of projects to be funded	4 to 5 (four to five)
Maximum funding per awarded project/per partner	Maximum requested funding for a consortium with **Portuguese coordination: 175 000,00 €.** Maximum requested funding for a consortium with **Portuguese participation: 125 000,00 €**. In case that more than one Portuguese team participates in the same consortium the budget must be shared.
Eligible types of organisations	For eligibility of a partner as beneficiary please consult Article 3 of FCT Regulation on projects funded solely by national funds.
Eligible Call Modules	**FCT WILL FUND:** • CM2023-03A • CM2023-04 • CM2023-05 • CM2023-06 • CM2023-07 • CM2023-08
Eligible types of RDI and TRL	**Type of research:** strategic (basic) research, applied research. **TRL**: 1 to 8
Submission of proposal /documentation at national/regional level	Within 10 working days after the deadline for submitting the pre-proposal, a Statement of Commitment duly signed by the Researcher in Charge (partner and/or coordinators) and by the legal representant of the Portuguese Proposing Institution must be sent to joana.pinheiro@fct.pt. Portuguese applicants of transnational consortia that do not apply for funding from FCT do not need to submit the Statement of Commitment to FCT.
Additional eligibility criteria	For eligibility criteria of beneficiaries and projects please consult articles 5 and 6 of FCT Regulation on projects funded solely by national funds.

Eligible costs	For eligible costs and non-eligible cost please consult articles 8 and 9 of FCT Regulation on projects funded solely by national funds. Please note that costs indicated in paragraph x of Point 1 a) from Article 8 (In-kind contributions) of FCT Regulation on projects funded solely by national funds are **not** eligible to this call. For eligible costs please also consult *Normas de Execução Financeira*.
Information available at	https://www.fct.pt/concursos/concurso-2023-da-parceria-europeia-clean-energy-transition-cetp-
Other	For additional information please check FCT Regulation on projects funded solely by national funds. The percentage of time dedicated to transnational projects will not be added to the percentage of time dedicated to existing national projects.

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises*	50%**	50%**	Non-fundable
Medium Enterprises*	50%**	50%**	Non-fundable
Small Enterprises*	50%**	50%**	Non-fundable
Universities, public research organisations*	100%	100%	Non-fundable
Public authorities*	100%	100%	Non-fundable
Associations without economic activities, NGOs*	100%	100%	Non-fundable

* Please check Article 3 of FCT Regulation on projects funded solely by national funds for confirming beneficiary eligibility.
** Please check Article 7 of FCT Regulation on projects funded solely by national funds for form of support and funding rate.

ROMANIA – Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI)

a)National/Regional information and eligibility criteria – to be updated

Contact Point	Elena Simion E-mail: elena.simion@uefiscdi.ro Tel: +4021 307 19 93 Nicoleta Dumitrache E-mail: nicoleta.dumitrache@uefiscdi.ro Tel: +4021 302 38 86 Domnica Cotet E-mail: domnica.cotet@uefiscdi.ro Tel: +4021 302 38 80
Funding commitment	EUR 1,500,000
Anticipated number of projects to be funded	6-7
Maximum funding per awarded project/per partner	a. 250.000 euro for all Romanian partners in case a Romanian institution is the Coordinator; b. 200.000 for all Romanian partners in case a Romanian institution is not the Coordinator
Eligible types of organisations	
Eligible Call Modules	All TRIs
Eligible types of RDI and TRL	UEFISCDI will fund strategic (basic) research, applied/industrial research, experimental development implemented by research organisations and/or SMEs, according to the national rules and to the State Aid legislation.
Submission of proposal /documentation at national/regional level	Not required

Additional eligibility criteria	N/A
Eligible costs	a. Staff costs; b. Logistics expenses - Capital expenditure ; - Expenditure on stocks - supplies and inventory items; - Expenditure on services performed by third parties cannot exceed 25% of the funding from the public budget. The subcontracted parts should not be core/substantial parts of the project work; c. Travel expenses; d. Overhead (indirect costs) is calculated as a percentage of direct costs: staff costs, logistics costs (excluding capital costs and cost for subcontracting) and travel expenses. Indirect costs will not exceed 20 %
Information available at	https://uefiscdi.gov.ro/pachet-de-informatii-suprogramul-3-2-orizont-2020 This information will be updated.
Other	It is strongly advised to contact UEFISCDI before submission, in order to verify the eligibility of the researchers and avoid ineligible projects/research consortia.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	100%	up to 65%	up to 40%
Medium Enterprises	100%	up to 75%	up to 50%
Small Enterprises	100%	up to 80%	up to 60%
Universities, public research organisations	100%	100%	100%
Public authorities	up to 100%		
Associations without economic activities, NGOs*			

* Please check the national rules to confirm beneficiary eligibility for the requested form of support and funding rate

SPAIN – Agencia Estatal de Investigación (AEI)

a) National/Regional information and eligibility criteria

<table>
<tr><td>Contact Points</td><td>María Gavira, Irene Carlos

E-mail: era-energia@aei.gob.es</td></tr>
<tr><td>Funding commitment</td><td>1.700.000 €</td></tr>
<tr><td>Anticipated number of projects to be funded</td><td>10-12</td></tr>
<tr><td>Maximum funding per awarded project/per partner</td><td>The following funding limits for a three-year project are considered eligibility criteria. Proposals not respecting these limits could be declared ineligible.

Maximum funding per project
<table><tr><td></td><td>Direct costs (€)</td><td>Indirect costs (€)*</td><td>Total costs (€)</td></tr><tr><td>One applicant</td><td>140.000</td><td>35.000</td><td>175.000</td></tr><tr><td>Two applicants</td><td>180.000</td><td>45.000</td><td>225.000</td></tr><tr><td>One main applicant</td><td>220.000</td><td>55.000</td><td>275.000</td></tr><tr><td>One main applicant and one applicant</td><td>260.000</td><td>65.000</td><td>325.000</td></tr></table>* Indirect costs calculated as 25% of direct costs requested

• Additional € 30.000 (direct costs) can be granted for the entire proposal if the work plan includes substantial experimental tasks to be carried out by the Spanish Partners, that must be clearly justified in the budget.

• IMPORTANT:
- a maximum of two AEI-applicants in the same proposal are allowed;
- the direct costs in the application must be rounded to the thousands

Only R&I activities will be funded by the AEI. Entire communication work packages, without research associated, are not eligible costs for AEI

The final funding will take into account the transnational evaluation of the collaborative proposal, the scientific quality of the Spanish group, the added value of the international collaboration and the financial resources available.</td></tr>
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Eligible types of organisations	Non-profit research organizations (such as universities, public research institutions, technological centres and other private non-profit institutions performing RDI activities in Spain), as the general requirements established for PCI 2023-1 call. They must have been previously beneficiaries of any of the AEI calls. They have to ensure contractual relationship with the Principal Investigator during all the time of development of the project. IMPORTANT: Spanish legal entities which are part of mixed centres will be considered as a unique beneficiary, and thus the maximum funding should not exceed the limits per proposal established above.
Eligible Call Modules	All
Eligible types of RDI and TRL	AEI funds are intended to support excellent research and innovation developments and those tasks necessary to accomplish them. Management costs in case of project coordination can be also supported. Applicants mainly participating in tasks not directly involving research and innovation, such as entire communication work packages for the consortium not involving actual research activities, can be considered non-eligible. TRL: no constraints
Submission of proposal /documentation at national/regional level	Funding Programme: The framework for this funding action is the Plan Estatal de Investigación Científica, Técnica e Innovación 2021-2023 or future plans. Instrument for funding If the proposal is approved, the Spanish groups will need to apply to the call on *Proyectos de Colaboración internacional* (PCI), which is AEI's funding instrument. Applicants are encouraged to carefully read the call PCI 2023-1 and the general requirements. The PCI Call will be managed by the *Subdivisión de Programas Científico-Técnicos Transversales, Fortalecimiento y Excelencia* (STRAN) of the AEI. No further documentation is required at the preproposal stage, but it is highly recommended to check Principal Investigator (PI) and beneficiary eligibility, since no changes will be accepted.
Additional eligibility criteria	The Spanish PI must hold a PhD degree. PIs must be eligible according to the general requirements of PCI 2023-1

	call and must have experience as investigators (not necessarily as PIs) in projects funded by the Plan Nacional I+D+i 2008-2011, the Plan Estatal I+D+i 2013-2016, the Plan Estatal I+D+i 2017-2020, ERC Grants, European Framework Programmes or other relevant national or international programmes. **Incompatibilities** (these must be taken into account when participating in different ERA-Nets or other international initiatives): • PIs must remain unchanged between the pre- and full proposal of this transnational joint call, and the national PCI call. • PIs will not be eligible for funding if they apply as PIs to more than one proposal in this transnational joint call, to more than one proposal in the same Spanish PCI call and/or to PCI calls of consecutive years. • If the same PI submits two or more proposals to the present call, all but one will be declared ineligible, without the possibility of changing the PI. • A PI that has been granted a PCI the previous year will be declared ineligible, without the possibility of changing the PI. The AEI will avoid double funding and will not grant projects or parts of projects already funded through other national or EU calls.
Eligible costs	• Only personnel costs for exclusive dedication to the project are eligible. The costs of permanent staff linked to the beneficiary entity or members of the research team will not be considered eligible costs. • Direct costs such as current costs, small scientific equipment, disposable materials, travelling expenses, coordination costs, and other costs that can be justified as necessary to carry out the proposed activities. • Indirect costs (overheads) are eligible costs (25% of total direct costs, including subcontracting). • Subcontracting should not exceed 25% of total requested budget. Please consult "*Artículo 8. Conceptos financiables*" in PCI 2023-1 resolution since eligible cost will be similar.
Information available at	Applicants are encouraged to carefully read the call and the general requirements PCI2023-1.

Other	Acknowledgements: Any publication or dissemination activity resulting from the granted projects must acknowledge funding by the Agencia Estatal de Investigación according to AEI's web guidelines Data Protection: By submitting a grant application, the applicants consent to communication of the data contained in the application to other public administrations, with the aim of further processing of the data for historical, statistical or scientific purposes, within the framework of the Organic Law 3/2018, of December 5, on Personal Data

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises			
Medium Enterprises			
Small Enterprises			
Universities, public research organisations	100% of eligible costs	100% of eligible costs	100% of eligible costs
Public authorities	Check eligibility with the contact persons		
Associations without economic activities, NGOs	Check eligibility with the contact persons		

SPAIN – Centre for the Development of Technology and Innovation CDTI

a) National/Regional information and eligibility criteria

Contact Point	Marina Sopeña partenariadoshe@cdti.es +34 91 581 04 89
Funding commitment	1.500.000 €
Anticipated number of projects to be funded	3-6
Maximum funding per awarded project/per partner	N.A.
Eligible types of organisations	Companies (large and SME) with tax residence or permanent establishment in Spain
Eligible Call Modules	All
Eligible types of RDI and TRL	Industrial research and/or experimental development activities, in accordance with the definitions of the COMMISSION REGULATION (EU) No 651/2014 of 17 June 2014 TRL 4-7
Submission of proposal /documentation at national/regional level	Each Spanish company participating in a project and requesting funding from CDTI, must apply via CDTI´s electronic submission system. CDTI´s application process consists of completing an online application form which is accompanied by a short technical report written in Spanish. The report must focus on the activities (and associated budget) that the company will assume in the project (please check Type of research funded and Eligible costs sections in this table). **Deadline to complete CDTI´s application process: 22/11/2023 Please note that failing to comply with the national application process by the deadline, will deem the company ineligible to participate in the call**. Applicants are strongly advised to check the detailed information available on CDTI website and to contact the NCP for advice about national funding rules, before submitting a proposal.
Additional eligibility criteria	• Projects should support transnational collaboration; therefore, no single participant or country can exceed 70% of the total project costs.

	• The Spanish applicant's activities must be carried out in Spain and represent a high scientific-technical quality and a relevant innovative nature. • Projects can have a duration of between 12 and 36 months.
Eligible costs	• Costs of the personnel performing R&D tasks, including up to 58 hours per month for project management. • Overheads (up to 25% of personnel costs). • Instruments, equipment, materials, supplies and similar products incurred directly as a result of the project (to the extent that they are used and for the duration of the project). • Contractual research, knowledge and patents. • Subcontracting costs cannot exceed 50% of the participant eligible costs. • Subcontracting a consultancy firm (up to 8.000€). • Travel expenses (up to 8.000€). • Audit reports (up to 2.000€ per financial year). Other operating expenses are not eligible for funding. The **activities and tasks related to communication, dissemination, preparation for entry into the market, commercialisation, industrial-scale trials and registration of industrial property are not eligible for funding**.
Information available at	https://www.cdti.es/index.asp?MP=101&MS=946&MN=3
Other	It is recommended a minimum budget of 200.000€ **The funding will be implemented in the modality of grants. CDTI´s funding is subject to final availability**.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises		Up to 70%	Up to 70%
Medium Enterprises		Up to 70%	Up to 70%
Small Enterprises		Up to 70%	Up to 70%
Universities, public research organisations			
Public authorities			
Associations without economic activities, NGOs			

SPAIN – ASTURIAS - Fundación para el Fomento en Asturias de la Investigación Científica Aplicada y la Tecnología (FICYT) - Agencia de Ciencia, Competitividad Empresarial e Innovación Asturiana (SEKUENS)

a) Regional information and eligibility criteria

Contact Points	Ana Elena Fernández - anae@sekuens.es Raquel Ochoa – raquel.ochoa@ficyt.es
Funding commitment	€250.000
Anticipated number of projects to be funded	Expected: 2-3 project.
Maximum funding per awarded project/per partner	Maximum: €150.000 per partner and per project Expected: 100.000€
Eligible types of organisations	**Micro, small, medium and large enterprises** **Other beneficiaries, under conditions** • University of Oviedo • Research organisations • Technology centers These applicants will be eligible only if there is a company in the consortium which is eligible for this funding programme
Eligible Call Modules	All topics of CETP are eligible
Eligible types of RDI and TRL	Basic/Industrial Research and Experimental Development. 1 - 8
Submission of proposal /documentation at regional level	Yes. The applicants will have to submit a proposal at regional level, meeting all the requirements of the regional call.
Additional eligibility criteria	• The eligible budget must be at least of €100.000. • The contribution of the regional partner to the proposal must be an R&D project.

	• The project will start not before the submission of the application at regional level. • Only actions to be carried out by applicants located in the Principality of Asturias will be eligible for funding. **Companies**: Eligible budgets submitted by applicants to any R&D call launched by SEKUENS in the same year must be less than, or equal, to 50% of the turnover of the last financial year (except for companies less than 2 years old).
Eligible costs	The following costs are eligible if related to the project: • Personnel costs: new researchers and/or technicians hired for the project. • Only companies: own staff (excluding social security costs): Researchers and technicians. Supporting staff only in case of coordination of the proposal. • Costs of materials and supplies. • Costs of contractual research, knowledge, patents and consultancy services.
Information available at	Yearly calls. Actual funding programme under revision.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises/Technology centers		65%	40%
Medium Enterprises/Technology centers		75%	50%
Small Enterprises/Technology centers		80%	60%
Universities, research organisations.	100%	100%	100%

SPAIN - BASQUE – Departamento de Desarrollo Económico, Sostenibilidad y Medio Ambiente. Eusko Jaurlaritza-Gobierno Vasco (EUSKADI)

a) National/Regional information and eligibility criteria

Contact Point	Cristina Ugarte. Innovation technician. SPRI cugartev@spri.eus
Funding commitment	1M€
Anticipated number of projects to be funded	
Maximum funding per awarded project/per partner	Up to 250 k€/year
Eligible types of organisations	Large, medium and small enterprises
Eligible Call Modules	All Call modules
Eligible types of RDI and TRL	Industrial/Applied Research and Experimental Development (TRL3-7)
Submission of proposal /documentation at national/regional level	Yes. Hazitek programme

Additional eligibility criteria	• Have a production facility in the Basque Country from where develop its economic activity and where it will have its own staff involved in the R&D project • Develop directly from its facilities in the Basque Country the eligible activities. • Minimum annual budget/project/year 100.000 € • Minimum annual budget per Basque company in the consortium 50.000 €
Eligible costs	• Personnel expenses in the project (direct and indirect). • External advisory services and equivalent expenses. • Outsourcing highly specialized parts of the project. • Subcontracting expenses to Basque Science, Technology and Innovation Network agents. • Operating expenses (such as materials costs, supplies...) incurred directly as a result of the research activity. • Intellectual property rights expenses. • Amortization expenses for infrastructure and equipment used in the project.
Information available at	Hazitek 2023. Apoyo a la I+D Empresarial - Ayudas SPRI
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises		45	30 (ED)
Medium Enterprises		45	30 (ED)
Small Enterprises		45	30 (ED)
Universities, public research organisations			
Public authorities			
Associations without economic activities, NGOs			

SPAIN - BASQUE – Ente Vasco de la Energía (EVE)

a) National/Regional information and eligibility criteria

Contact Point	Joserra López (jrlopez@eve.eus) Olatz Ajuria (oajuria@eve.eus)
Funding commitment	1 000 000 € per Call
Anticipated number of projects to be funded	1-2
Maximum funding per awarded project/per partner	1 000 000 €
Eligible types of organisations	All legal entities, public or private. Public or private consortia, groupings, or associations of companies without legal personality.
Eligible Call Modules	Call Modules 3A & B (only wave and offshore wind technologies)
Eligible types of RDI and TRL	Pilot testing at the demonstration and validation phase of: a. full scale, or almost full scale, prototypes of wave energy converters. b. full scale, or almost full scale, prototypes of floating platforms for wind turbines. c. full scale, or almost full scale, prototypes of offshore wind turbines. d. prototypes of auxiliary equipment or components considered as complementary to any of the aforementioned prototypes. TRL: 5-8
Submission of proposal /documentation at national/regional level	Yes. Proposals must be submitted at regional level: 'Aid programme for investment in the demonstration and validation of emerging marine renewable energy technologies'

Co-funded by the European Union

Additional eligibility criteria	All actions shall necessarily be carried out in open-sea testing facilities within the Autonomous Community of the Basque Country. Proposals shall necessarily be submitted with a signed commitment of acceptance from the open-sea testing facilities where the prototype is going to be tested.
Eligible costs	· Personnel expenses of the consortium, grouping or association of companies, resulting from the coordination of projects. For this concept of coordination, a maximum limit of 10% of the aid awarded for the action eligible for aid is established. In any case, the maximum aid to be awarded for this concept shall not exceed 100 000 €. · Costs of instruments and equipment, to the extent and for the period they are used for the action potentially eligible for aid under this aid programme, required to conduct the pilot testing on the prototypes, such as the costs of moorings and the umbilical cable, amongst others. The costs of the prototypes themselves shall be specifically excluded. · Costs of contractual research, technical knowledge and patents bought or licensed from outside sources at market prices, where the transaction has been carried out at arm's length and there is no element of collusion involved, as well as costs of consultancy and equivalent services used exclusively for the research activity and provided they have been incurred in the course of the pilot testing. · Additional overheads incurred directly as a result of performing the action eligible for aid, such as the rental costs of the open sea testing facilities.
Information available at	https://www.eve.eus/Programa-de-ayudas
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	-	-	25% (+15% collab.)
Medium Enterprises	-	-	35% (+15% collab.)
Small Enterprises	-	-	45% (+15% collab.)
Universities, public research organisations	-	-	25% - 45% (+15% collab.)
Public authorities	-	-	-
Associations without economic activities, NGOs	-	-	-

SPAIN-CANTABRIA – REGIONAL DEVELOPMENT AGENCY- CANTABRIA REGION (SODERCAN)

a) National/Regional information and eligibility criteria

Contact Point	
Funding commitment	150.000€, with a possibility of increase the amount.
Anticipated number of projects to be funded	
Maximum funding per awarded project/per partner	70%
Eligible types of organisations	Companies with any legal form, legally existent and with an economic activity in the Region of Cantabria. In addition, Foundations are also eligible only if they carry out a business activity.
Eligible Call Modules	All
Eligible types of RDI and TRL	**All**
Submission of proposal /documentation at national/regional level	
Additional eligibility criteria	

Eligible costs	- Staff costs - Equipment (depreciation) - Fungible assets and supplies - Subcontracting: Technical assistance and contractual research. - Travel expenses, associated to the project and staff assigned to the project.
Information available at	
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises		50%	25%
Medium Enterprises		60%	35%
Small Enterprises		70%	45%
Universities, public research organisations			
Public authorities			
Associations without economic activities, NGOs			

SWEDEN – Swedish Energy Agency (SWEA)

a) National/Regional information and eligibility criteria

Contact Point	CETPartnership@energimyndigheten.se, +46 (0)16 544 2000, https://www.energimyndigheten.se/utlysningar/CETPartnership_2023
Funding commitment	7 MEUR available funding for Swedish partners
Anticipated number of projects to be funded	5 -15
Maximum funding per awarded project/per partner	No specific limitation
Eligible types of organisations	All actors operating in Sweden are eligible for funding. For example Public and private entities such as: • Universities • Research institutes • Companies • Municipalities/Regions Decisions on funding research, development and innovation in the energy area are taken according to the ordinance SFS 2008:761 in the Swedish Code of Statues. Decisions on funding research, development and innovation in the industry's climate transition area are taken according to the ordinance SFS 2017:1319 in the Swedish Code of Statues.

Eligible Call Modules	All call modules. International applications that include Swedish organizations will be evaluated by an internal group of experts from SWEA during the national eligibility check. This evaluation will check that formal requirements are fulfilled, and as well it will check that the application is relevant in relation to SWEA's energy and climate change mission.
Eligible types of RDI and TRL	Industrial research (TRL 4-6) and experimental development can be supported if overall project scope is relevant to the call text (TRL 7-9).
Submission of proposal /documentation at national/regional level	Only consortia selected for funding after final evaluation of full proposal will be invited to write a full proposal at the national level.
Additional eligibility criteria	Swedish sub-consortia need to include at least one non-research organisation.
Eligible costs	Personnel costs, travel costs, consultancy, material costs, laboratory costs, equipment costs, patent, indirect costs (only academia and research institutes). http://www.energimyndigheten.se/globalassets/utlysningar/anvisningar-foransokan.pdf For more information regarding eligible costs and SWEA's legislation see the Swedish national information on the call via the link below:
Information available at	information on CETPartnership call at the Swedish Energy Agency web page: https://www.energimyndigheten.se/utlysningar/CETPartnership_2023

Other	The Swedish Energy Agency (SWEA) funds research and innovation projects that support energy system transformation into a modern and sustainable, fossil-free society. Submission of the proposal at the national level: Following the full proposal stage of the international Expert Panel evaluation, the Swedish Principal Investigators in the projects recommended for funding will be invited to submit a national application to SWEA (via mina sidor). Information about the submission will be provided in the invitation and by the contact person. Submission of financial and progress reports at the national level: Following the national project decision: the funded projects will be required to submit one financial and one progress report annually to SWEA (via mina sidor)

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	n.a	50 %	25 %
Medium Enterprises	n.a	60 %	35 %
Small Enterprises	n.a	70 %	45 %
Universities, public research organisations	n.a	100 %	100 %
Public authorities	n.a	50 %	25 %
Associations without economic activities, NGOs	n.a	100 %	100 %

SWITZERLAND – Swiss Federal Office of Energy (SFOE)

a) National/Regional information and eligibility criteria

Contact Point	Dr Michael MOSER, michael.moser@bfe.admin.ch, +41 58 465 36 23 Dr Stefano BENATO, stefano.benato@bfe.admin.ch, +41 58 465 92 79
Funding commitment	€ 10'000'000 from SFOE P+D Programme € 300'000 from SFOE R+D Programme **for CM2023-07 only** (Note that proposals to CM2023-07 can be submitted either to the R+D OR the P+D programme as R+D and P+D funding cannot be cumulated)
Anticipated number of projects to be funded	10-15
Maximum funding per awarded project/per partner	No maximum per project/per partner. The SFOE P+D Programme covers **max. 40%** of the eligible project costs, while the R+D Programme covers **max. 80%** (CM2023-07 only) of the eligible project costs.
Eligible types of organisations	In principle, all types of partners such as universities (including ETH-domain), universities of applied science, public authorities, NGOs, research organizations and the private sector in Switzerland are eligible. Federal authorities can be involved but are not eligible for funding. All partners must comply with the SFOE Directive for energy research and P+D projects.
Eligible Call Modules	CM2023-02: Energy system flexibility: renewables production, storage and system integration CM2023-03B: Advanced renewable energy (RE) technologies for power production CM2023-04: Carbon capture, utilization and storage (CCUS) CM2023-05: Hydrogen and renewable fuels CM2023-06: Heating and cooling technologies CM2023-07: Geothermal energy technologies **(also R+D projects)** CM2023-08: Integrated regional energy systems CM2023-09: Integrated industrial energy systems
Eligible types of RDI and TRL	P+D projects: TRL 4-9 (all CM2023) R+D projects: TRL 1-4 **(CM2023-07 only)** (Note that proposals to CM2023-07 can be submitted either to the R+D **OR** the P+D programme, not to both simultaneously)

Submission of proposal /documentation at national/regional level	Please use the SFOE proposal templates documents at www.bfe.admin.ch/cetp
Additional eligibility criteria	
Eligible costs	• Personnel costs • Operational costs (P+D projects only) • Investment costs (P+D projects only) • Subcontracting Please refer to the SFOE Directive for energy research and P+D projects
Information available at	For details see SFOE call text at www.bfe.admin.ch/cetp
Other	The funded Swiss partner may use and commercialize the project results. In return the project results will be made publicly available by SFOE. SFOE disclaims the IPRs. The subsidy recipients can utilize the project results. Direct communication with the national contact point at SFOE is strongly recommended by 15 October 2023.

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises		80 % (CM2023-07 only)	40 %
Medium Enterprises		80 % (CM2023-07 only)	40 %
Small Enterprises		80 % (CM2023-07 only)	40 %
Universities, public research organisations		80 % (CM2023-07 only)	40 %
Public authorities		80 % (CM2023-07 only) federal authorities can be	40 % federal authorities can be involved but are not eligible for funding

		involved but are not eligible for funding	
Associations without economic activities, NGOs		80 % (CM2023-07 only)	40 %

Co-funded by the European Union

SWITZERLAND – Swiss National Science Foundation (SNSF)

a) National/Regional information and eligibility criteria

Contact Point	Cédric Leroux E-mail: cetp@snf.ch
Funding commitment	600'000.- (approx € 600.000)
Anticipated number of projects to be funded	1 – 2
Maximum funding per awarded project/per partner	The SNSF provides a **minimum grant of 100 000 Swiss francs per projet**. The SNSF provides a **maximum of 250,000 Swiss francs annually per applicant** of a project and a maximum of 1 million francs annually for the project as a whole.
Eligible types of organisations	Applicants must comply with the SNSF Funding Regulations.
Eligible Call Modules	CM 4, CM 8, CM 9, and CM 10A
Eligible types of RDI and TRL	The SNSF **exclusively funds basic research** conducted for purposes that are not directly commercial. Pursuant to the Research and Innovation Promotion Act (RIPA) and the legal framework of the SNSF, no research grants are awarded if the relevant research is conducted for directly commercial purposes or if the persons involved in the research work are not scientifically independent. Thus, the SNSF can fund basic research and applied research without commercial goals only. **TRL: 1 to maximum 4**
Submission of proposal /documentation at national/regional level	**Mandatory, parallel submission of pre- and full-proposal via *my*SNF** Swiss-based partners must submit pre-proposals and full proposals **via *my*SNF** at the same submission deadline of the consortium application.

	These submissions are mandatory and do not replace the submission of the consortium application to the Call Secretariat. **Pre-proposal** forms are created by selecting "Projects: Partnership: CETP: Pre-proposal". **Full-proposal** forms are created by selecting "Projects: Partnership: CETP: Full proposal" and are to be linked to the pre-proposal by selecting its number in the data container "Relation to pre-proposal". **In case of multiple, Swiss-based partners participating in the same consortium**, only one application is to be submitted on *my*SNF, whereby one Swiss-based partner must act as "corresponding applicant" and the other Swiss-based partners are to be listed as "other applicants". **International partners of the consortium** applying for funding at different funding agencies from the SNSF cannot be declared as "project partners" in the sense of article 11.2 of the SNSF Funding Regulations. For the submission via *my*SNF, they are to be declared as "consortium partners" instead and must apply for their funding at their respective research funding organisation.
Additional eligibility criteria	**Participation of Swiss-based partners requesting financial support from the SNSF is restricted to one project** (Art.7.3, SNSF Regulations on project funding). They may, however, participate in other consortia projects as self-financed partners. The maximum number of grants in the project funding scheme for the same funding period from the SNSF is limited to three grants, provided at least one grant is for an EU consortium project or has been granted on the basis of a lead agency, Weave or International Con-investigator scheme evaluation. **Swiss-based investigators who already hold three SNSF grants in project funding cannot request financial support from the SNSF to participate in this call.** **Proposals with overlapping funding periods with ongoing SNSF projects** are only approved if the research projects pursue different goals (Article 17 of the SNSF Funding Regulations).

Eligible costs	**Eligible costs** are outlined in the SNSF Funding Regulations (Art. 28) and the SNSF General Implementation Regulations (Section 2). **Project overhead costs** cannot be applied for. They are calculated on the basis of the research funding acquired by eligible institutions under eligible funding schemes. Overhead contributions are paid in retrospect at a flat rate to the institutions of the SNSF awardees.
Information available at	Information available at: - SNSF Funding regulations - General Implementation Regulations - SNSF Regulations on Project Funding
Other	**Data management plan** Applicants will have to complete the DMP on *my*SNF once the project is approved, regardless of whether a DMP is requested by the consortium. The DMP has to cover the research data, which are collected, observed, generated or reused in the Swiss part of the project and has to comply with the SNSF Open Research Data Policy. **Consortium agreement** Before the release of the funds, the SNSF requests the submission of a copy of the consortium agreement signed by all the partners. **Grant management** Grants will be managed according to standard SNSF rules described in SNSF Funding Regulations. Yearly financial reports for the use of SNSF funds must be submitted via *my*SNF. As a final scientific report, the SNSF requests the submission of the final scientific report submitted to the CETP Call Secretariat. No other scientific report is requested.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	n/a	n/a	n/a
Medium Enterprises	n/a	n/a	n/a
Small Enterprises	n/a	n/a	n/a
Universities, public research organisations	100%	100% for applied research; 0% for industrial research (see above)	n/a
Public authorities	n/a	n/a	n/a
Associations without economic activities, NGOs	n/a	n/a	n/a

TUNISIA – Ministry of Higher Education and scientific Research (MHESR)

a) National/Regional information and eligibility criteria

Contact Point	Hayet Souai E-mail : souaihayet@gmail.com Saida RAFRAFI FARHAT E-mail :coopint2@gmail.com
Funding commitment	400 000 €
Anticipated number of projects to be funded	4
Maximum funding per awarded project/per partner	100 000 €
Eligible types of organisations	• Tunisian public research institutions: - Institutes or research centers; - Research laboratories/units based at the universities.
Eligible Call Modules	all
Eligible types of RDI and TRL	**Research and development project TRL 2-8**
Submission of proposal /documentation at national/regional level	No

Additional eligibility criteria	• The Tunisian Principal Investigator (PI) of the research and innovation project should be a: - Professor; - Associate Professor, - Assistant professor.
Eligible costs	Eligible costs are those spent directly by the project partner during the duration of the project and used exclusively for achieving the objectives of the project. All expenses must be incurred between the start date and the end date of the project and must be limited to the allocated budget • the following expenses would be eligible: – Travel and daily allowances, – Other operating expenses directly related to the project, – Small equipment, logistics and consumables, – Service contracts (non-permanent staff), – Organization and participation in the scientific events and meetings. – Publication and filing fees required (scientific publications, filing of patents), – Expenses for carrying out analyzes and processing samples
Information available at	www.mes.tn
Other	• The conditions of execution and financing of the projects upon the completion of the selection process shall be defined in the national grant award agreements, where the PI of the selected project for financing will sign an agreement with the MHESR/General Directorate of Scientific Research.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	x	x	x
Medium Enterprises	x	x	x
Small Enterprises	x	x	x
Universities, public research organisations	x	100%	100%
Public authorities	x	x	x
Associations without economic activities, NGOs	x	x	x

TÜRKIYE – The Scientific and Technological Research Council of Türkiye (TÜBİTAK)

a) National/Regional information and eligibility criteria

Contact Point	Çağrı YILDIRIM and Hanife TUZCUOĞLU e-mail: ncpenergy@tubitak.gov.tr and cetp@tubitak.gov.tr
Funding commitment	1.200.000 €
Anticipated number of projects to be funded	n.a
Maximum funding per awarded project/per partner	• 9.000.000 TRY per project (excluding Project Incentive Payment and Overhead costs), • Per partner - Higher education institutions, training and research hospitals and public institutions and organisations (including city, metropolitan and district municipalities) 3.000.000 TRY (excluding Project Incentive Payment and Overhead costs) - Private entities: 9.000.000 TRY
Eligible types of organisations	- Higher education institutions, - Training and research hospitals, - Public institutions and organisations (including city, metropolitan and district municipalities) - SMEs and large companies established in Türkiye
Eligible Call Modules	All call modules
Eligible types of RDI and TRL	Type of research: strategic (basic) research, applied research, experimental development TRL: 1-8
Submission of proposal /documentation at national/regional level	Electronic application is required via: https://uidb-pbs.tubitak.gov.tr/
Additional eligibility criteria	National ”1071 Programme - Support Programme for Increasing Capacity to Benefit from International Research Funds and Participation in International R&D Cooperation” Programme will be implemented. Further information will be announced on http://www.ufukavrupa.org.tr and www.tubitak.gov.tr.

Eligible costs	Personnel, travel, equipment/tool/software, consultancy and service procurement, consumables are eligible for funding.
Information available at	Further information will be announced on http://www.ufukavrupa.org.tr and www.tubitak.gov.tr
Other	

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
Large Enterprises	60%	60%	60%
Medium Enterprises	75%	75%	75%
Small Enterprises	75%	75%	75%
Universities, public research organisations	100%	100%	100%
Public authorities	100%	100%	100%
Associations without economic activities, NGOs	N/A	N/A	N/A

UNITED KINGDOM - SCOTLAND – SCOTTISH ENTERPRISE (SE)

a) National/Regional information and eligibility criteria

Contact Point	Karen Fraser karen.fraser@scotent.co.uk Richard Buxbaum richard.buxbaum@scotent.co.uk
Funding commitment	5.7m Euro (£5m)
Anticipated number of projects to be funded	6-10 projects, but flexible
Maximum funding per awarded project/per partner	No maximum
Eligible types of organisations	**Companies** (SME or large) that are legal entities registered, operating and carrying out research and development activities within Scotland or companies intending to establish a presence within the area to carry out research and development activities. **Universities or other research organisations (ROs)** that are legal entities registered and operating in Scotland, subject to the following conditions: • ROs will only be eligible if there are at least two companies involved in the collaborative project, one of which must be a company eligible for and requesting Scottish Enterprise funding; • The work being carried out by the research organisation should be of direct relevance to at least one of the participating Scottish companies; • The budget of the Scottish research organisations should be no greater than the combined budgets of the Scottish companies involved in the collaborative project and seeking funding from Scottish Enterprise.
Eligible Call Modules	We will consider applications under all Call Modules. However, as part of our eligibility process, projects will be expected to demonstrate relevance to Scottish Government energy strategies and expected contribution to economic development in Scotland.
Eligible types of RDI and TRL	No specific rules on TRLs; please refer to CETP call modules. Projects should include the development of new products, processes or services for Scottish companies.
Submission of proposal /documentation at national/regional level	Yes, at Full Proposal stage. Further information will be provided to applicants invited to Stage 2.

Additional eligibility criteria	• The project / activity must be strategically important to the Scottish company(ies) and in line with its business plan. • The project must involve research and development activity in Scotland. However, testing in a demonstration site outside Scotland is also eligible. • Projects must have the potential to deliver benefits to Scotland's economy and the new product, process or service must, in the case of non-SMEs, be able to compete in a global marketplace. • Proposals must demonstrate how the project will be implemented to ensure capability building and sustainability in Scotland to enhance the companies' future competitiveness and research and development capacity. • For large companies seeking support, the project must demonstrate the incentive effect of the grant (i.e. how the applicant's level of R&D expenditure or R&D jobs will be increased as a result of support). As part of their Fair Work Action Plan the Scottish government has set out the goal to make Scotland a Fair Work Nation by 2025. To help achieve this goal, applicants for Scottish Enterprise grant support will be assessed against the Scottish Government's seven Fair Work First Criteria. Pease note that to secure a R&D grant, you must be able to demonstrate that your business has met or will meet the Fair Work First Criteria within six weeks of signing any contract of award. If you are unable to commit to the criteria, Scottish Enterprise may not be able to offer you an award at this time.
Eligible costs	Project-specific costs including salaries, overheads, equipment, sub-contracting, consultancy, training, materials, trials, IP management (SMEs only), travel and subsistence, and audit certificates for financial claims (SMEs only). Detailed guidance available on request.
Information available at	From contacts above
Other	Please speak to Scottish Enterprise contact prior to submitting a proposal to discuss the project scope.

b) Funding rates

Maximum funding percentages:

	Basic research	Industrial/Applied Research	Experimental development/innovation
Large Enterprises	Up to 40%	Up to 40%	Up to 40%
Medium Enterprises	Up to 50%	Up to 50%	Up to 50%
Small Enterprises	Up to 50%	Up to 50%	Up to 50%
Universities, public research organisations	Up to 100% (or 80% FEC)	Up to 100% (or 80% FEC)	Up to 100% (or 80% FEC)
Public authorities	n/a	n/a	n/a
Associations without	n/a	n/a	n/a

UNITED STATES OF AMERICA – Department of Energy Office of Fossil Energy and Carbon Management (DOE FECM)

a) National/Regional information and eligibility criteria

Contact Point	Darin Damiani, darin.damiani@hq.doe.gov, (Contact point for Carbon Storage and Transport) Robert Schrecengost, Robert.schrecengost@hq.doe.gov, (Contact point for Blue Hydrogen) Aaron Fuller, aaron.fuller@hq.doe.gov, (Contact point for Carbon Utilization/Conversion) Andrew Hlasko, Andrew.hlasko@hq.doe.gov, (Contact point for Carbon Capture)
Funding commitment	Up to **USD** 6M (approx. € 6 M) for Call Module 4 on CCUS and Call Module 5 on Hydrogen and Renewable Fuels (2M Capture, 2M Transport & Storage; 1M Utilization; 1M Hydrogen)
Anticipated number of projects to be funded	Between 6-12
Maximum funding per awarded project/per partner	• Maximum USD 1 M pr project for Call Module 4 on CCUS • Maximum USD 1 M pr project for Call Module 5 on Hydrogen and Renewable Fuels
Eligible types of organizations	• The call is open to U.S. National Laboratories and their public or private research partners. • The main U.S. partner must be one of the designated DOE national laboratories.
Eligible Call Modules	Call Module 4 CCU, CCS, CO2 Transport, and Call Module 5 Hydrogen and Renewable Fuels: • Information on the R&D areas of interest to the United States may be found in the DOE FECM Strategic Vision • Activities that do not strongly align with these areas will be deemed ineligible
Eligible types of RDI and TRL	The U.S. team must meet all requirements related to the DOE strategies defined in the DOE FECM Strategic Vision ranging

	from TRL 3-6 as defined in the U.S. DOE Technology Readiness Assessment Guide
Submission of proposal /documentation at national/regional level	No
Additional eligibility criteria	Yes. The United States applicants must meet all eligibility criteria related to application types listed under "Eligibility type of research and TRL." United States applicants are encouraged (not required) to include scope and budget for making project data available to the international research community through the CO_2DataShare portal (https://co2datashare.org/).

Eligible costs	Eligible costs for United States applicants are defined in the DOE Guide to Financial Assistance.
Information available at	The DOE FECM web site; https://www.energy.gov/fecm/office-fossil- energy-and-carbon-management
Other	N/A

b) Funding rates

Maximum funding percentages:

	Basic research	**Industrial/Applied Research**	**Experimental development/innovation**
National Laboratories	100	100	100

Annex C. Funding Organisations' participation per Call Module

Country/ region	Organisation	Acronym	Funding (€)	CM2023-01 Direct current (DC) technologies for power networks	CM2023-02 Energy system flexibility: renewables production, storage and system integration	CM2023-03A Advanced renewable energy technologies for power production (ROA)	CM2023-03B Advanced renewable energy technologies for power production (IOA)	CM2023-04 Carbon capture, utilsation, 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	CM2023-10A Clean energy integration in the built environment (ROA)	CM2023-10B Clean energy integration in the built environment (IOA)
Austria	Austrian Research Promotion Agency	FFG	4 700 000	x					1 500 000 €			x	2 000 000 €	x	x
Belgium-Flanders	Fonds Innoveren en Ondernemen	FIO	1 000 000	x	x	x	x	x	x	x	x	x	x	x	x
Belgium-Wallonia	Service public de Wallonie	SPW	1 500 000	x	x	x	x	x	x	x	x	x	x	x	x
Canada-Alberta	Emissions Reduction Alberta tbc	ERA	2 000 000					700 000 €	1 000 000 €		300 000 €				
Cyprus	Research and Innovation Foundation	RIF	2 230 000	x	x	x	x	x	x	x	x	x	x	x	x
Czech Republic	Technology Agency of the Czech Republic	TA CR	760 000	x	x			x	x			x		x	x
Denmark	Energy Technology Development and Demonstration Programme	EUDP	1 340 000	x	x	x	x	x	x	x	x	x	x	x	x
Denmark	Innovation Fund Denmark	IFD	1 500 000	x	x	x	x	x	x	x	x	x	x	x	x
Estonia	Estonian Research Council	ETAG	150 000	x	x	x	x	x	x	x	x	x	x	x	x
Estonia	Ministry of Economic Affairs and Communications	MKM	150 000	x	x	x	x	x	x	x	x	x	x	x	x
Finland	Innovaatiorahoituskeskus Business Finland	BF	5 000 000	x	x	x	x	x	x	x	x	x	x	x	x
France	Agence de la transition écologique	ADEME	1 000 000	x	x			x					x		
France	Agence Nationale de la Recherche	ANR	3 000 000	x		x		x	x	x	x			x	
France-Pays de la Loire	Pays de la Loire Region Council	RPL	1 500 000				x								
Germany	Projektträger Jülich/Forschungszentrum Jülich GmbH (on behalf of BMWK)	PtJ (BMWK)	18 000 000	x	x	x	x	x	x	x	x	x	x	x	x
Germany-NRW	Projektträger Jülich/Forschungszentrum Jülich GmbH(on behalf of MWIKE)	PtJ (MWIKE)	1 000 000	x	x	x	x	x	x				x		
Germany-Saxony	Saxon State Ministry for Science, Culture and Tourism	SMWK	3 000 000	x	x	x	x	x	x	x	x	x	x	x	x
Greece	General Secretariat for Research and Innovation	GSRI	500 000	x	x			x	x						
Hungary	National Research, Development and Innovation Office	NKFIH	1 160 000	x	x	x	x	x	x	x	x	x	x	x	x
Iceland	The Icelandic Centre for Research	RANNIS	1 000 000					x	x	x	x				
India	Department of Science & Technology, Ministry of Science & Technology, Goverment of India	DST	1 000 000					x							
Ireland	Geological Survey Ireland	GSI	200 000								x				
Ireland	Sustainable Energy Authority of Ireland	SEAI	500 000	x	x	x	x	x	x	x	x	x	x	x	x
Israel	Ministry of National Infrastructure, Energy and Water Resources	MoE	2 400 000	x	x	x	x	x	x	x	x	x	x	x	x
Italy	Ministry of Economic Development	MIMIT	16 000 000	x	x		x	x	x	x	x		x		x
Italy	Ministero dell'Università e della Ricerca	MUR	2 000 000			x			x					x	

Country/ region	Organisation	Acronym	Funding (€)	CM2023-01 Direct current (DC) technologies for power networks	CM2023-02 Energy system flexibility: renewables production, storage and system integration	CM2023-03A Advanced renewable energy technologies for power production (ROA)	CM2023-03B Advanced renewable energy technologies for power production (IOA)	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	CM2023-10A Clean energy integration in the built environment (ROA)	CM2023-10B Clean energy integration in the built environment (IOA)
Latvia	Latvian Council of Science	LZP	600 000	x	x	x	x	x	x	x	x	x	x	x	x
Malta	Malta Council for Science and Technology	MCST	500 000	x	x	x	x	x	x	x	x	x	x	x	x
The Netherlands	Dutch Research Council	NWO	2 000 000					x				x	x		
The Netherlands	Netherlands Enterprise Agency	RVO	8 000 000	x	x		x	x	x	x	x	x	x		x
Norway	The Research Council of Norway	RCN	4 610 000	x				2 560 000 €		x					
Poland	National Centre for Research and Development	NCBR	3 000 000	x	x	x	x	x	x	x		x	x	x	x
Portugal	Fundação para a Ciência e a Tecnologia	FCT	500 000			x		x	x	x	x	x			
Romania	Executive Agency for Higher Education, Research, Development and Innovation Funding	UEFISCDI	1 500 000	x	x	x	x	x	x	x	x	x	x	x	x
Spain	Agencia Estatal de Investigación	AEI	1 700 000	x	x	x	x	x	x	x	x	x	x	x	x
Spain	Centre for the Development of Technology and Innovation	CDTI	1 500 000	x	x	x	x	x	x	x	x	x	x	x	x
Spain-Asturias	Fundación para el Fomento en Asturias de la Investigación Científica Aplicada y la Tecnología - Agencia de Ciencia, Competitividad Empresarial e Innovación Asturiana	FICYT - SEKUENS	250 000	x	x	x	x	x	x	x	x	x	x	x	x
Spain-Basque	Departamento de Desarrollo Económico, Sostenibilidad y Medio Ambiente. Eusko Jaurlaritza-Gobierno Vasco	EUSKADI	1 000 000	x	x	x	x	x	x	x	x	x	x	x	x
Spain-Basque	Ente Vasco de la Energía	EVE	1 000 000			x	x								
Spain-Cantabria	Regional Development Agency of Cantabria	SODERCAN	150 000	x	x	x	x	x	x	x	x	x	x	x	x
Sweden	Swedish Energy Agency	SWEA	7 000 000	x	x	x	x	x	x	x	x	x	x	x	x
Switzerland	Swiss Federal Office of Energy	SFOE	10 300 000		x		x	x	x	x	x	x	x		
Switzerland	Swiss National Science Foundation	SNSF	550 000					x				x	x	x	
Tunisia	Ministry of Higher Education and scientific R	MHESR	400 000	x	x	x	x	x	x	x	x	x	x	x	x
Türkiye	The Scientific and Technological Research Council of Türkiye	TUBITAK	1 000 000	x	x	x	x	x	x	x	x	x	x	x	x
UK-Scotland	Scottish Enterprise	SE	5 700 000	x	x	x	x	x	x	x	x	x	x	x	x
USA	Department of Energy	DoE	6 000 000					5 000 000 €	1 000 000 €						
	TOTAL		129 850 000												

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