



MINISTÈRE  
DE L'ENSEIGNEMENT  
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*Liberté  
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# Présentation de l'appel 2023 du partenariat co-financé Clean Energy Transition, 8/09/2023

*Le Webinaire est enregistré ; il va commencer dans quelques minutes.*



# Ordre du jour

- 14h00 – 14h10 : Présentation du partenariat Clean Energy Transition (CETP)
- 14h10-14H20 : Résultats de l'appel 2022
- 14h20 – 14h50 : Présentation de l'appel 2023 du CETP et de ses calls modules
- 14H50-15H00 : les règles de participation et la plate-forme de mise en relation
- 15H00-15H20 : témoignage d'un lauréat de l'appel 2022, Pr. Hussein Mroueh, université de Lille
- 15H20-15H30 : Questions/réponses

# Ordre du jour

**Présentation du partenariat Clean Energy Transition (CETP) et des résultats de l'appel 2022**

# What is the CET Partnership?

**C**lean  
**E**nergy  
**T**ransition  
**P**artnership

# A transnational initiative for clean energy

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

# The CETPartnership in a nutshell



## WHAT

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

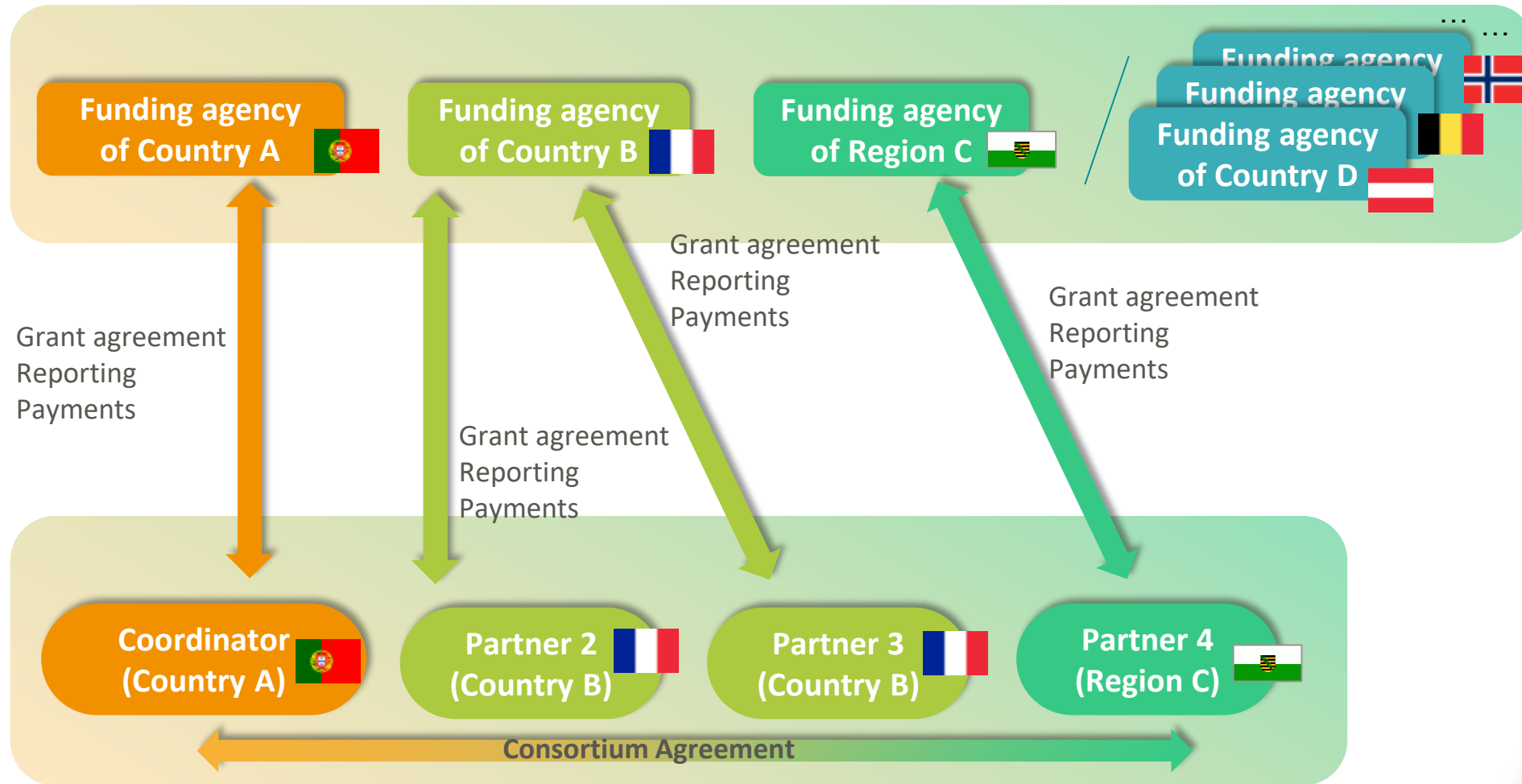


## HOW

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

## Annual Joint Calls

# CETPartnership



## Funded Project

# Where do we come from?





# The CETPartnership builds on energy ERA-Nets

Builds on **15 years of transnational cooperation** in 9 energy relevant **ERA-Nets**

Build up of **trust and established practices** in:

- conducting joint calls,
- monitoring progress,
- sharing data, information and knowledge beyond the projects
- deducing strategic knowledge,
- maximising the impact of funded projects and their established European and international relationships



# Annual Joint Calls

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

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



# CETPartnership Joint Call 2023

# General information about the call

## Participating Funding Agencies:

	Austria	Austrian Research Promotion Agency (FFG)
	Belgium	Fonds Innoveren en Ondernemen (FIO)
	Belgium	Service Public de Wallonie (SPW)
	Canada	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)
	Denmark	Innovation Fund Denmark (IFD)
	Estonia	Estonian Research Council (ETAg)
	Estonia	Ministry of Economic Affairs and Communications (MKM)

	Finland	Innovaatorahoituskeskus Business Finland (BF)
	France	Agence de la Transition Écologique (ADEME)
	France	Agence Nationale de la Recherche (ANR)
	France	Pays de la Loire Region Council ( RPL)
	Germany	Forschungszentrum Jülich GmbH (BMWK) ( FZJ (BMWK))
	Germany	Forschungszentrum Jülich GmbH (MWIKE) (FZJ (MWIKE))
	Germany	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)

	Ireland	Sustainable Energy Authority of Ireland (SEAI)
	Israel	Ministry of Energy (MoE)
	Italy	Ministero dell'Università e della Ricerca (MUR)
	Italy	Ministry of Economic Development (MIMIT)
	Latvia	Latvian Council of Science (LZP)
	Lithuania	Ministry of Energy of the Republic of Lithuania (ENMIN LITHUANIA)
	Malta	Malta Council for Science and Technology (MCST)
	Netherlands	Dutch Research Council (NWO)
	Netherlands	Netherlands Enterprise Agency (RVO)
	Norway	The Research Council of Norway (RCN)
	Poland	National Centre for Research and Development (NCBR)
	Portugal	Fundação para a Ciência e a Tecnologia (FCT)

	Romania	Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI)
	Spain	Agencia Estatal de Investigación (AEI)
	Spain	Centre for the Development of Industrial Technology (CDTI)
	Spain	Departamento de Desarrollo Económico, Sostenibilidad y Medio Ambiente. Eusko Jauriaritza-Gobierno Vasco (EUSKADI)
	Spain	Ente Vasco de la Energía (EVE)
	Spain	Fundación para el Fomento en Asturias de la Investigación Científica Aplicada y la Tecnología (FICYT)
	Spain	Regional Development Agency of Cantabria (SODERCAN)
	Sweden	Swedish Energy Agency (SWEA )

	Switzerland	Federal Department of the Environment, Transport, Energy and Communications (DETEC-SFOE)
	Switzerland	Swiss National Science Foundation (SNSF)
	Türkiye	The Scientific and Technological Research Council of Türkiye (TUBITAK)
	United Kingdom	Scottish Enterprise (SE)
	United States	Department of Energy (DOE )

# General information about the call

## Call Calendar

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

# Résultats de l'appel 2022

## Résultats AAP 2022, projets sélectionnés avec un financement par l'ANR :

- ⇒ **2 projets dans le cadre du call module 2.2 : Breakthrough R&D to increase RE power technologies efficiency**
  - EPoBoC : Easy to fabricate, both sides poly-Si passivating contact bottom cell for Perovskite/Silicon tandem devices
    - Partenaires français : CEA, SEMCO SMARTECH, ECM GREENTECH, Coordinateur : Fraunhofer Institute for Solar Energy Systems ISE (Allemagne), durée : 36 mois, Budget total : 2 093 923 €
  - SMARTMOORING : Smart mooring for safe and efficient ocean energy production
    - Partenaire français : Université Gustave Eiffel, Coordinateur : RISE Research Institutes of Sweden (Suède), durée : 24 mois, Budget total : 1 517 250 €
  
- ⇒ **2 projets dans le cadre du call module 3.2: Hydrogen and renewable fuels**
  - HyLife : Microbial risks associated to hydrogen underground storage in Europe
    - Partenaires français : BRGM, Inria, GEOSTOCK, Coordinateur : Norwegian Research Center As (Norvège), durée : 36 mois, Budget total 3 052 010,67 €
  - UNICORN : Unlocking the Full Potential of Electrolysis with Next-Generation Proton Exchange Membrane Stacks
    - Partenaires français : IEM, INSTITUT DE LA CORROSION, Coordinateur : SINTEF AS (Norvège), durée : 36 mois, Budget total: 2 940 602,37 3€
  
- ⇒ **1 projet dans le cadre du TRI4 : Efficient zero emission Heating and Cooling Solutions**
  - LEG-DHC : Large-scale climate neutral Energy Geostructures in District Heating & Cooling systems/networks
    - Partenaires français : LGCgE (Université de Lille), 3SR (Université Grenoble Alpes), ENTREPRISE PINTO, Coordinateur : Université de Lille (France), durée : 36 mois, Budget total : 3 158 135,49 €

## Résultats AAP 2022, projets sélectionnés avec un financement par l'ADEME :

### ⇒ 2 projets dans le cadre du call module 1.1 : PowerPlanningTools

- RESILIENT : Resilient Energy System Infrastructure Layouts for Industry, E-Fuels and Network Transitions
  - Partenaire français : EDF, Coordinateur : Technische Universitat Berlin (Allemagne), durée : 36 mois, Budget total : 2 572 924,17€
- Man0EUvRE : Energy System Modelling for Transition to a net-Zero 2050 for EU via REPowerEU
  - Partenaire français : EDF, Coordinateur : SINTEF ENERGI AS (Norvège), durée : 36 mois, Budget total : 3 777 945,94€

### ⇒ 1 projet dans le cadre du call module 1.2: RESDemoPowerFlex1

- CoPRESS : Cooperative Platform for Renewable Energy Storage Systems
  - Partenaire français : Entech, Coordinateur : CSEM Centre Suisse d'Electronique et de Microtechnique (Suisse), durée : 36 mois, Budget total : 2 962 203€

### ⇒ 4 projets dans le cadre du call module 3.1 : CCU/CCS technologies

- SENSATION : Sorbent Assisted Carbon Capture Tailored for Low CO2 Concentrations from Air and Low Industrial CO2 Emissions
  - Partenaire français : Corning, Coordinateur : SINTEF AS (Norvège), durée : 36 mois, Budget total : 4 117 559,5€
- DRIVE : Deep Removal of CO2 and InnoVative Electrification concepts
  - Partenaire français : Total Energies Onetech, Coordinateur : TNO (Pays-Bas), durée : 36 mois, Budget total : 4 314 618,66€
- LEGACY : Field studies for de-risking existing wells and CCS site geology
  - Partenaire français : FEBUS OPTICS, Coordinateur : SINTEF AS (Norvège), durée : 36 mois, Budget total : 3 532 085€
- CO2RR : Carbon Rhine Route
  - Partenaire français : Carbon Impact, Coordinateur : South Pole (Suisse), durée : 36 mois, Budget total : 19 071 479€



- 1 projet lauréat en phase 2 en juin 2023 : **SEASNAKE +**
  - Industrial upscale of surface protection system & fibre optic-based condition monitoring for the SEASNAKE MVC (Medium Voltage Cables)
  - Porteurs de projets en Pays de la Loire : l'Université Gustave Eiffel et l'entreprise D-ICE ENGINEERING.

**SEASNAKE+ fera la démonstration de nouveaux systèmes de surveillance et de solutions de protection de surface haut de gamme qui vont au-delà des pratiques actuelles. Le projet se concentrera sur le besoin commun de tous les dispositifs d'énergie offshore mobiles et flottants, assurant la fiabilité et la fonctionnalité des câbles dynamiques.**

### Quelques chiffres clés

- 17 partenaires (Coordonnateur : Institut de Recherche de Suède-RISE)
- Durée : 36 mois
- Budget total du projet : 3,2 M€

# Présentation de l'appel 2023 du CETP et de ses calls modules

# CETPartnership Joint Call 2023 Call Modules

TRI	N° CM	Title	ANR	ADEME	Région Pays de la Loire
TRI 1 « Integrated Net-zero-emissions Energy System »	CM2023-01	Direct current (DC) technologies for power networks	X	X	-
TRI 1 « Integrated Net-zero-emissions Energy System » & TRI 2 « Enhanced zero emission Power Technologies »	CM2023-02	Energy system flexibility: renewables production, storage and system integration	-	X	-
TRI 2 « Enhanced zero emission Power Technologies »	CM2023-03A/3B	Advanced renewable energy (RE) technologies for power production	X (3A)	-	X (3B)
TRI 3 « Enabling Climate Neutrality with Storage Technologies, Renewable Fuels and CCU/CCS »	CM2023-04	Carbon capture, utilisation, and storage (CCUS)	X	X (only on CCS/CCU) & no cofunding on DAC&DACCS	
TRI 3 « Enabling Climate Neutrality with Storage Technologies, Renewable Fuels and CCU/CCS »	CM2023-05	Hydrogen and renewable fuels	X	-	-
TRI 4 “Efficient zero emission Heating and Cooling Solutions”	CM2023-06	Heating and cooling technologies	X	-	-
TRI 4 “Efficient zero emission Heating and Cooling Solutions”	CM2023-07	Geothermal energy technologies	X	-	-
TRI 5 « Integrated Regional Energy Systems »	CM2023-08	Integrated regional energy systems	-	-	-
TRI 6 « Integrated Industrial Energy Systems »	CM2023-09	Integrated industrial energy systems	-	X (only on CCS/CCU)	-
TRI 7 “Integration in the Built Environment”	CM2023-010A/10B	Clean energy integration in the built environment	X (10A)	-	-

# TR1-Integrated Net-zero-emissions Energy System Call modules 1 and 2



Leading Expert

Michele de Nigris, RSE, IT

# CM2023-01 – DC technologies for power networks



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



**ETIP SNET**  
PLAN. INNOVATE. ENGAGE.



**ETIP Wind**  
EUROPEAN TECHNOLOGY & INNOVATION  
PLATFORM ON WIND ENERGY



Target groups

Need owners / potential applicants

- Offshore wind farms/energy islands
- Grid operators (TSO, DSO and industrial/residential DC grids)
- Industry and SMEs in the fields of components, systems and devices for energy systems as well as software (services)
- Universities and research institutes

TRL

TRL jump of 1-2 classes

Budget

Budget of 10 M€: 2-3 projects shall be funded with 2 - 4 M€ each. Projects addressing planning and markets are expected in the range of 1 - 2 M€



## Domain

### **HVDC, MVDC and LVDC deployment**

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



## Objective

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



## Call main focus

### **Operation, control and protection**

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

### **Verification, test and maintenance**

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

### **Planning and markets**

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



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



Call module developed with

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



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



## Domain

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

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



## Objective

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



## Call main focus

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

Target groups

- Private/regulated sector actors such as
- system operators
  - SMEs and spin-off companies
  - Research Technology Organisations (RTOs)

TRL

Start from TRL ≥3  
Achieve TRL 5-6

Budget

A contribution ranging from 0.5 to 1.5 M€ would allow to co-fund sound project proposals



# TRI2-Enhanced zero emission Power Technologies

## Call modules 3A and 3B



Leading expert

Francesco Basile, University of Bologna, IT

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

## Objectives of the Call Module

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

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

## Scope of the Call Module

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

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

## Expected impact

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

## Project consortia

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

## TRL

- **ROA:** research and innovation action (final TRL ≥ 4)
- **IOA:** Innovation action (final TRL ≥ 6)



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

✉ [tri2@cetpartnership.eu](mailto:tri2@cetpartnership.eu)



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

# TRI3-Enabling Climate Neutrality with Storage Technologies, Renewable Fuels and CCU/CCS

## Call modules 4 and 5



Leading Expert

Aage Stangenland, RCN,NO

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

## Objectives

Facilitate the emergence of CO<sub>2</sub> Capture, Utilisation and Storage (CCUS) technologies via funding of transnational projects

## Scope

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

- CO<sub>2</sub> capture from energy intensive or heavy industry
- Advancing lower cost CO<sub>2</sub> capture technologies
- CO<sub>2</sub>-storage sites
- Enabling CCUS technologies
- Transport and injection of CO<sub>2</sub>
- Reuse of existing energy assets for CCUS
- Negative emission technologies (NETs)

## Expected impact

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

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

## Project consortia

In addition to standard CETP criteria of eligible partners from at least three CETP-countries, consortia submitting applications within CCU/CCS must demonstrate the interest of industry partner(s) by actively involving them in the project as formal partners.

## TRL

Projects should aim at TRL 5-9. Parts of projects (e.g. one WP or a certain task) may address lower TRL.

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

 [tri3@cetpartnership.eu](mailto:tri3@cetpartnership.eu)

## What we expect from new projects

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

# CM2023-05: Hydrogen and renewable fuels

 [tri3@cetpartnership.eu](mailto:tri3@cetpartnership.eu)



## Objectives

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

## Scope

International projects targeting technological solutions for end users.

## Expected impact

Renewable fuels and the deployment of the hydrogen society will be important contributions to climate neutrality by 2050.

## Project consortia

Research organisation, higher education institutions and industry (small and large private companies). Public and private organisations, associations and NGOs are also welcome to be involved.

## TRL

Projects should aim at TRL 5-9. Parts of projects (e.g. one WP or a certain task) may address lower TRL.

# CM2023-05: Hydrogen and renewable fuels

## R&D areas

- New or improved processes for hydrogen production (green and blue hydrogen).
- Storage of hydrogen through ammonia or other hydrogen liquid carriers.
- Hydrogen infrastructure and distribution aspects.
- New or improved processes and technologies for production of renewable fuels with low or zero carbon footprint (biofuels or synthetic fuels).
- End-use technologies using hydrogen or renewable fuels.

# TRI4-Efficient zero emission Heating and Cooling Solutions

## Call modules 6 and 7



Leading Expert

Gerdi Breembroek, RVO, NL

# CM2023-06: Heating and cooling technologies



[tri4@cetpartnership.eu](mailto:tri4@cetpartnership.eu)



## Objectives

- Provide enhanced and improved heating and cooling technologies and systems for all major parts or climate zones of Europe by 2030 to enable 100% climate-neutral heating and cooling by 2050
- Geothermal energy: module 7
- Relaunch 2022

## Scope

Research and innovation for the geothermal production chain:

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

## Expected impact

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

**Consortia**

Private sector and research organisations

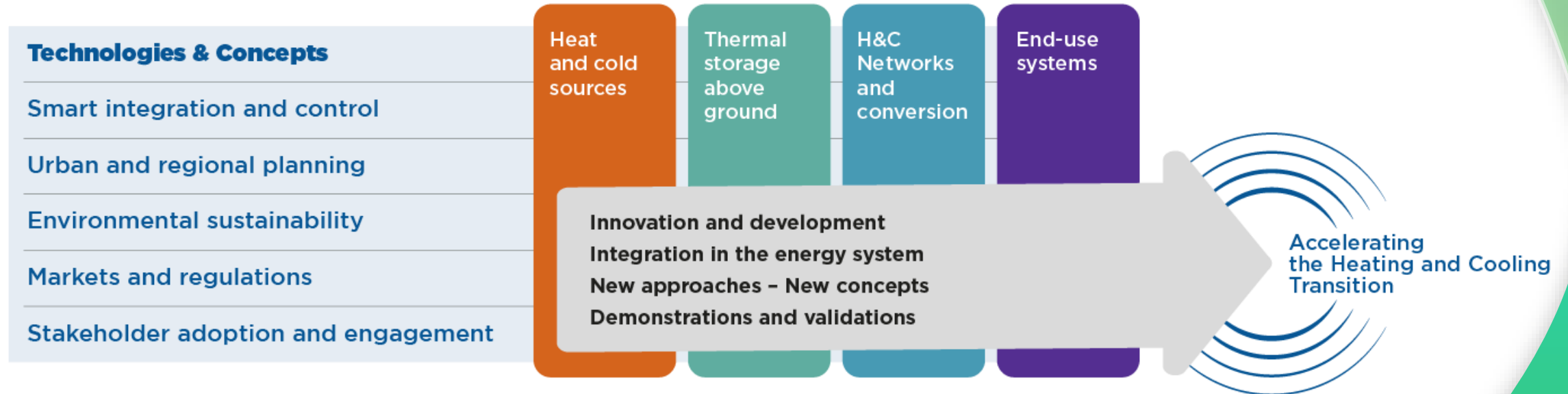
**TRL**

4-8





# CM2023-06: Heating and cooling technologies



# CM2023-07: Geothermal energy technologies

## Objectives

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

## Scope

- Technological solutions, for all end users including industry
- Identification and assessment
  - Resource development
  - Operation and integration in the energy system

## Expected impact

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

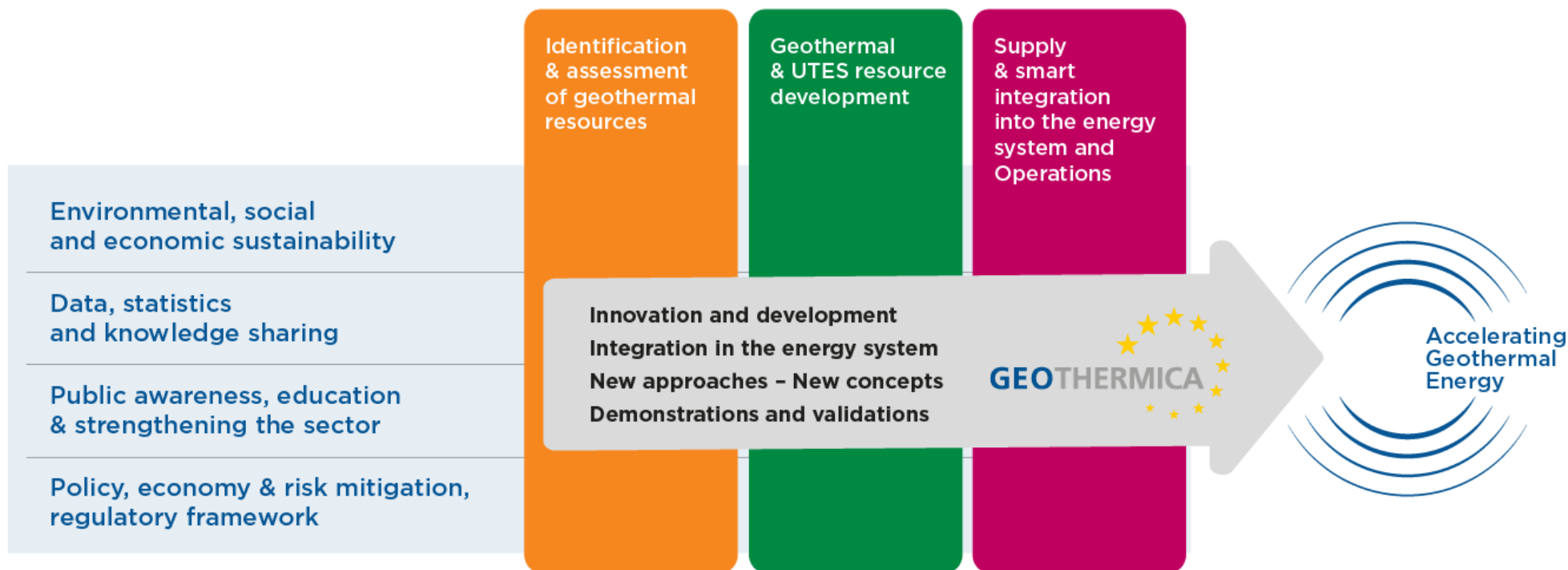
### Consortia

Private sector and research organisations

### TRL

4-8

# CM2023-07: Geothermal energy technologies



# TRI5-Integrated Regional Energy Systems

## Call module 8



Leading Expert

Kristina Starborg, SWEA, SE

## Objectives

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

## Scope

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

## Expected impact

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

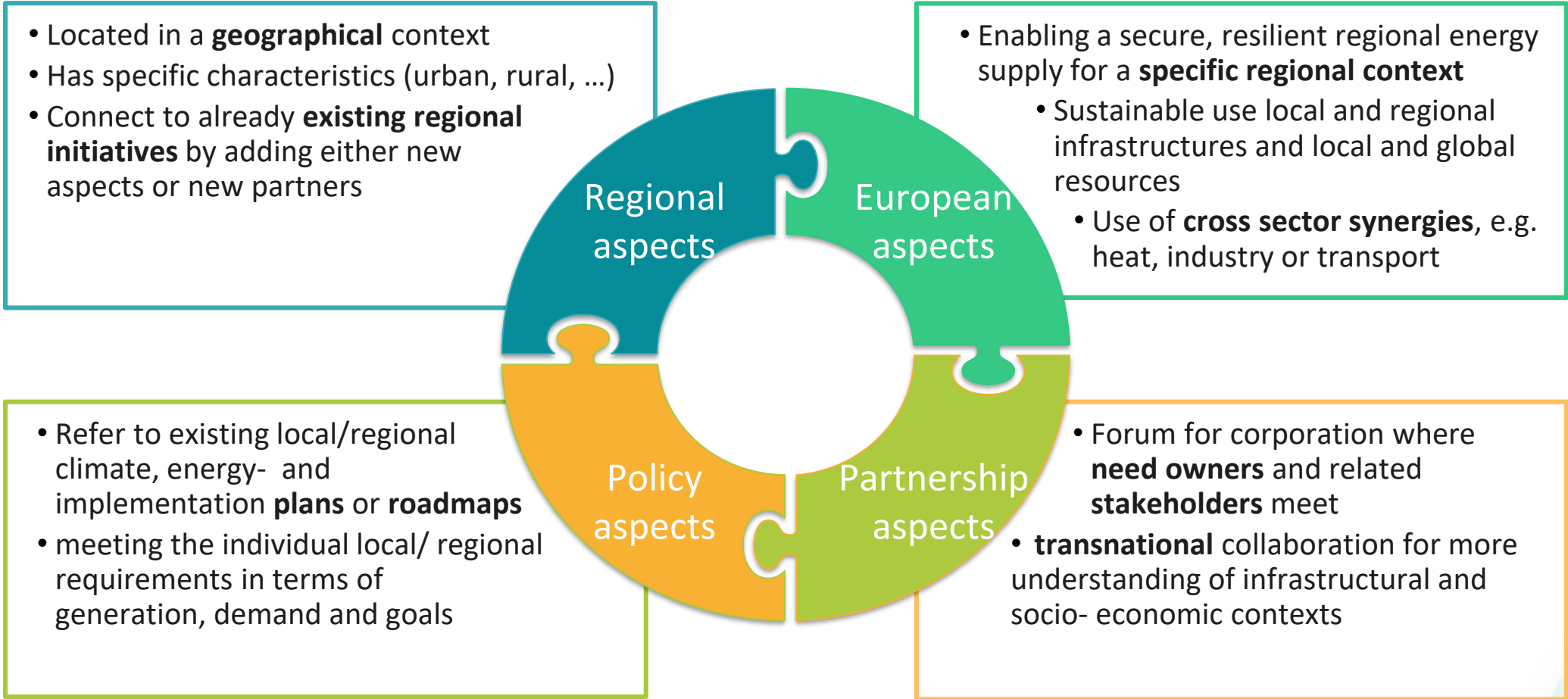
## Project consortia

- Encourage consortia to further develop already **existing regional initiatives** by adding new aspects
- Connect to ongoing or recently finished **demonstration projects**
- Cooperate on **existing test infrastructure** and **knowledge**

## TRL

**5-9**  
Activities with TRL levels 3-5 may be included if they contribute to the higher project goal

# Characteristics of local / regional Energy Transition Ecosystems



# TRI6-Integrated Industrial Energy Systems

## Call module 9



Leading Expert

Fredrik Backmann, SWEA, SE

# CM2023-09: Integrated industrial energy systems

## Objectives

Support and link R & I between different actors with focus on existing needs/problems within industry.

## Scope

International projects targeting industrial systems solutions for end users.

## Expected impact

Many technologies are developed and ready for use (or close to) but integrating these technologies into industrial processes on a system level is lacking (Changed processes).

## Project consortia

Research organisation, higher education institutions and industry (small and large private companies). Public and private organisations, associations and NGOs are also welcome to be involved.

## TRL

Projects should aim at TRL 3-7. Parts of projects (e.g. one WP or a particular task) may address lower TRL.



# CM2023-09: Integrated industrial energy systems

## 1 Call module with industrial process focus:

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

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

# TRI7-Integration in the Built Environment

## Call module 10



Leading Expert

Stefan Nowak, NET Nowak Energy, CH

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

## Objectives

Two call modules (ROA / IOA)

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

## Scope

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

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

## Expected impact

Based on the projects and their results:

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

## Project consortia

Energy, building and construction research (public and private research organisations, higher education institutions, etc.) and private industry (SMEs, large companies, etc.)

## TRL

**ROA:** research and innovation action (final TRL  $\geq$  4)

**IOA:** Innovation action (final TRL  $\geq$  6)

## Focus of TRI 7

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

# Les règles de participation

# Summary of transnational eligibility criteria

1	Submit <b>via CETPartnership Submission Platform</b> before deadlines, using templates. The proposal must be written in English.
2	<b>&gt;=3 independent entities</b> applying for funding from <b>&gt;=3 countries participating in the call</b> (>=2 EU Member States or HE Associated Countries)
3	<b>Maximum 60%</b> of the consortium effort (measured in person months) for a single partner
4	<b>Maximum 75%</b> of the total project efforts (measured in person months) in one country/region
5	Organisations <b>involved</b> in the CETPartnership are <b>ineligible</b> for proposal submission
6	Project start before <b>15 December 2024</b>
7	Project duration max. <b>36 months</b>
8	Proposal workplan must include work package called <b>Reporting and Knowledge Community</b>

# Evaluation & Eligibility

- The Call is performed **in two stages**; a pre-proposal stage (Stage 1- deadline : 22/11/2023) and a full proposal stage (Stage 2-deadline : 27/03/2024, 14H00 CET). 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.
- **Evaluation** criteria (chapter 5 in CETP joint call 2023)
  - Excellence
  - Impact
  - Quality and efficiency of the implementation
- **Eligibility check of pre-proposals** (chapter 6)
  - Transnational eligibility criteria (chapter 4) by the Call Management (slide précédente)
  - Call Module requirements 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 each Call Module**, the evaluation of pre-proposals passing the former steps will be done according to the evaluation criteria described in section 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.

# Evaluation & Eligibility

- **Submission of full proposals** (chapter 6)
  - 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.
- **Eligibility check of full proposals** (chapter 6)
  - 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.
- 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.
- 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
- 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.



# Les règles spécifiques ANR, ADEME, Région Pays de la Loire

# Les règles spécifiques ANR, Pascal Bain

# Règles spécifiques à l'ANR

L'ANR financera les partenaires français impliqués dans les projets sélectionnés, lui demandant une aide et réalisant la majeure partie de leur activité à des niveaux de TRL compris entre 3 et 5.

L'aide demandée doit se conformer au règlement financier de l'ANR (cf. <https://anr.fr/fr/rf/>).

Conditions d'éligibilité spécifiques :

- **Périmètre scientifique** : le projet doit correspondre à un des **Call modules** sur lesquels l'ANR s'est positionnée :
  - *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)*
- **Niveaux de TRL** : entre 3 et 5 essentiellement (les activités à TRL supérieur à 5 sont possibles mais doivent être marginales pour les partenaires demandant un financement de l'ANR).

# Règles spécifiques à l'ANR

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- **Entités éligibles** : les organismes publics de recherche tels que les Universités, les EPST, les EPIC, ainsi que les entités privées telles que les entreprises, les collectivités publiques, les ONG et les fondations peuvent être éligibles, **à condition qu'au moins un organisme public de recherche français demandant un financement à l'ANR soit impliqué dans le consortium**; Les entreprises en difficulté économique sont exclues des subventions de l'ANR.
- Les partenaires originaires de pays faisant l'objet de sanctions applicables au domaine de recherche par les autorités de l'Union européenne sont exclus du présent appel à projets de l'ANR. L'ANR déclarera inéligibles les Partenaires sollicitant son soutien s'ils candidatent avec des Partenaires établis dans ces pays.
- Pas de financement de projets (ou activités de recherche) similaires;
- Pour la deuxième étape, les partenaires sollicitant un financement de l'ANR devront également déposer leur candidature sur la plateforme de soumission de l'ANR.

# Règles spécifiques à l'ANR

---

Budget total ANR pour cet appel de 3 M€.

Objectif : financer entre 8 et 10 projets (l'ANR s'est positionnée sur 7 Call Modules).

Recommandations concernant la demande d'aide :

- L'ANR s'attend à une demande d'aide typique par projet située en 200 et 350 k€, en fonction de l'ambition du projet, du nombre de partenaires demandant une aide à l'ANR et si le coordinateur du projet est financé par l'ANR ;
- L'aide maximale qui peut être demandée à l'ANR par projet est fixée à 500 k€, dans des cas exceptionnels et parfaitement justifié ;

Prendre contact avec l'ANR en cas de doute ou pour toute question.

# Les règles spécifiques ADEME, Samira Kherrouf

**Budget de l'ADEME pour l'appel à projets** (=montant total d'aides pouvant être attribuées) : *1 M€ avec un montant d'aide max. par projet de 300k€*

**Périmètre scientifique ciblé par l'ADEME** : le projet doit correspondre à un des Call modules suivants

- *TRI1 CM1 : DC technologies for networks, CM2 : Power production technologies, storage and system integration*
- *TRI3 CM4 : CCU/CCS*
  - ⇒ *l'ADEME ne financera pas les projets portant sur DAC (Direct Air Capture) et DACCS (Direct Air Carbon Capture and Storage)*
- *TRI6 CM9 : Integrated Industrial Energy Systems (Financement ADEME uniquement projets portant sur CCU)*

## Financement

- L'ADEME financera les partenaires français impliqués dans les projets sélectionnés, la majeure partie de l'activité devant porter sur de **la recherche appliquée/industrielle ou du développement expérimental (TRL 5 à 8)**
- L'aide demandée doit se conformer au règlement financier de l'ADEME - voir les Règles Générales et les Aides à la connaissance sur <https://www.ademe.fr/nos-missions/financement/>
- **Entités éligibles** : organismes publics de recherche tels que les Universités, les EPST, les EPIC, entreprises (de PE à GE), collectivités, associations, ONGs

# Les règles spécifiques Région Pays de la Loire, Gaëlle Frostin





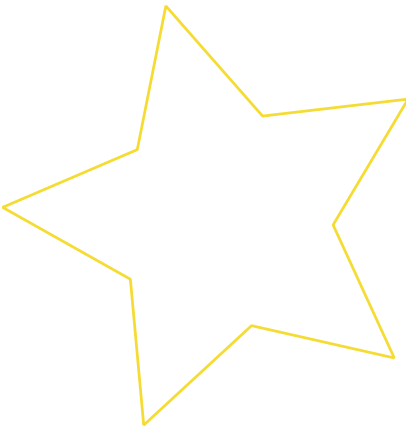
## Projets attendus :

- Projets collaboratifs entre organisations européennes (au moins 3 participants de 3 États membres différents de UE ou pays associés pour former un consortium)
- Activités du projet : doivent être développées en Pays de Loire
- Niveau de TRL à atteindre : **6 et au-delà**

**Acteurs éligibles** : (au moins un an d'existence légale avec chiffre d'affaires significatif)

- **Entreprises (PME, grandes entreprises) ligériennes** du domaine de la R&D et de la filière des ENR
- Autres organisations (Universités, centres de recherches, associations...) ligériennes si et seulement si une entreprise ligérienne éligible se positionne dans le même consortium

## Taux de financement



	Recherche industrielle/appliquée	Développement expérimental/innovation
Grandes entreprises	65%	40%
Moyennes entreprises	75%	50%
Petites entreprises	80%	60%
Universités, centres de recherches	75% des coûts totaux éligibles ou 100% des coûts marginaux	75% des coûts totaux éligibles ou 100% des coûts marginaux
Autorités publiques	-	-
Associations, ONG	-	-

### A NOTER :

- Les taux de financement seront déterminés en fonction du statut juridique du demandeur, de la taille de l'entreprise et de l'activité proposée.
- Le niveau de soutien pourra varier d'un work package à l'autre du projet
- Une partie du financement pourra provenir de prêts.
- Le niveau final de soutien et sa forme seront définitivement définis après la phase de pré-sélection.

**Find your partners on the  
matchmaking platform!**

# CETPartnership Event and Matchmaking Platform

- Event platform:
  - central events
  - thematic events (Joint Call 2023)
- Matchmaking
  - find and get in touch with
    - potential project partners for CETPartnership Joint Calls
    - TRI leaders
- Newsletter

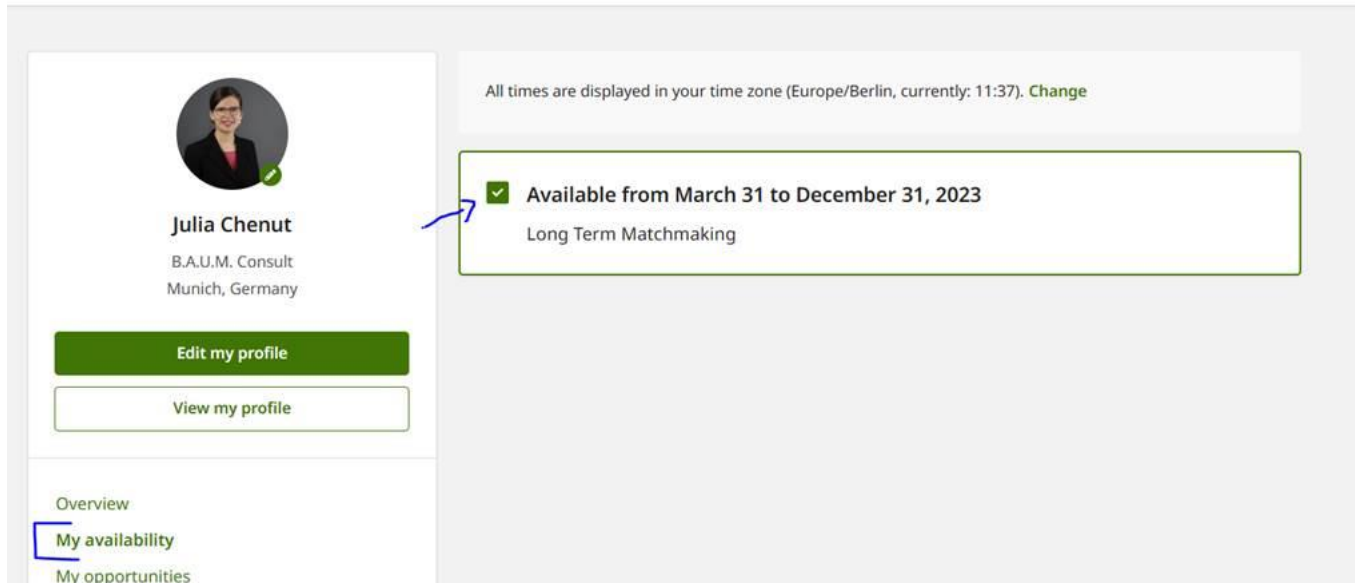


<https://clean-energy-transition-partnership-2023.cetp.b2match.io/home>

# How to find a match? – Step 1

- If not done already, make yourself available for **longterm matchmaking** under your profile

## My availability



All times are displayed in your time zone (Europe/Berlin, currently: 11:37). [Change](#)

Available from March 31 to December 31, 2023  
Long Term Matchmaking

Julia Chenut  
B.A.U.M. Consult  
Munich, Germany

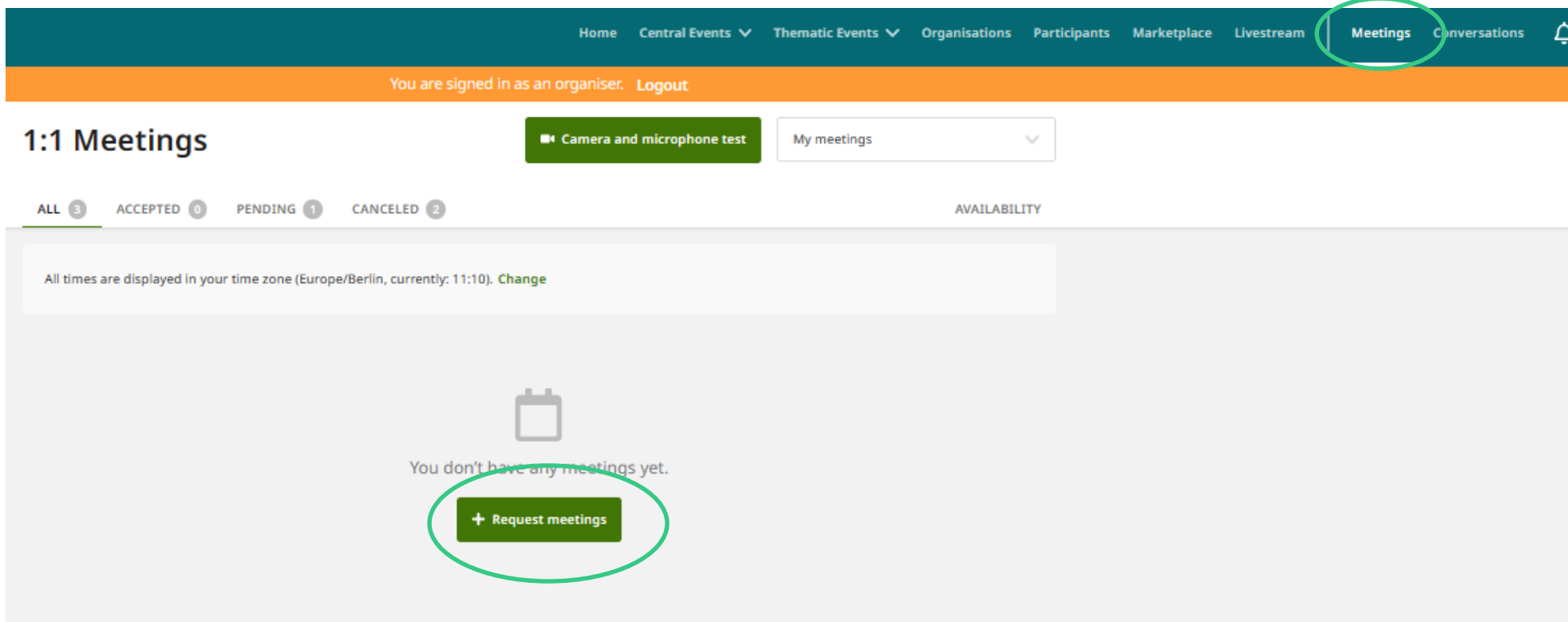
[Edit my profile](#)


[View my profile](#)

Overview  
**My availability**  
My opportunities

# How to find a match? – Step 2


- Go to “**Meetings**” and request meetings



Home Central Events ▼ Thematic Events ▼ Organisations Participants Marketplace Livestream **Meetings** Conversations 


You are signed in as an organiser. [Logout](#)

## 1:1 Meetings

 Camera and microphone test My meetings ▼

ALL **3** ACCEPTED **0** PENDING **1** CANCELED **2** AVAILABILITY

All times are displayed in your time zone (Europe/Berlin, currently: 11:10). [Change](#)

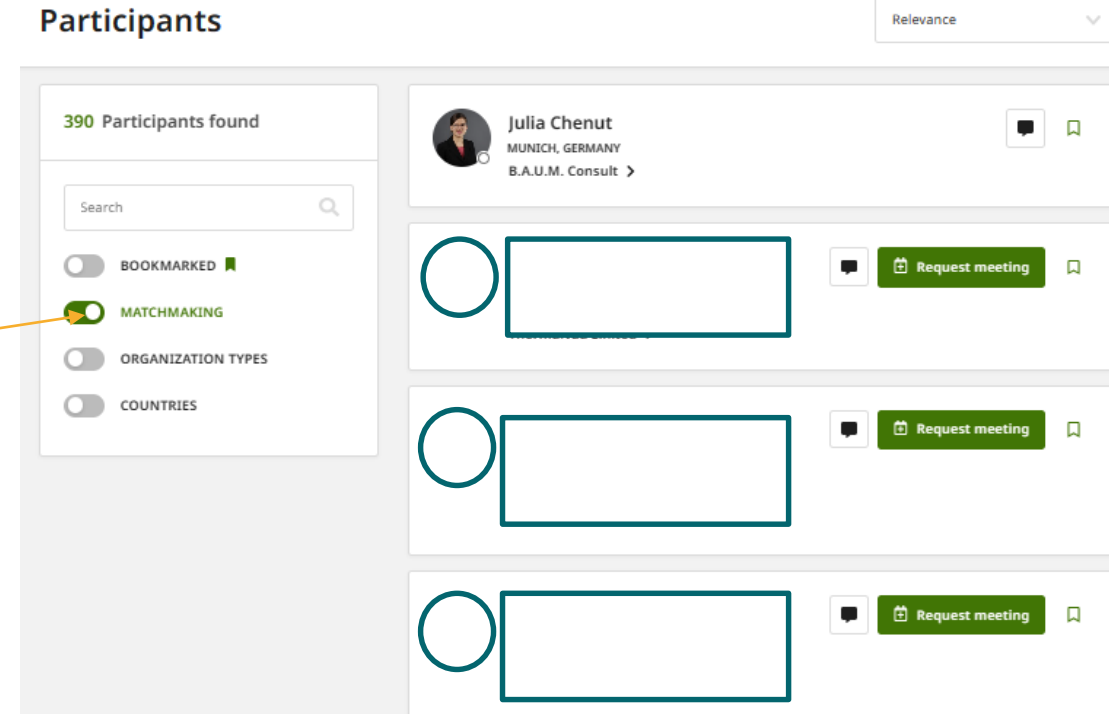


You don't have any meetings yet.

[+ Request meetings](#)

## How to find a match? – Step 3

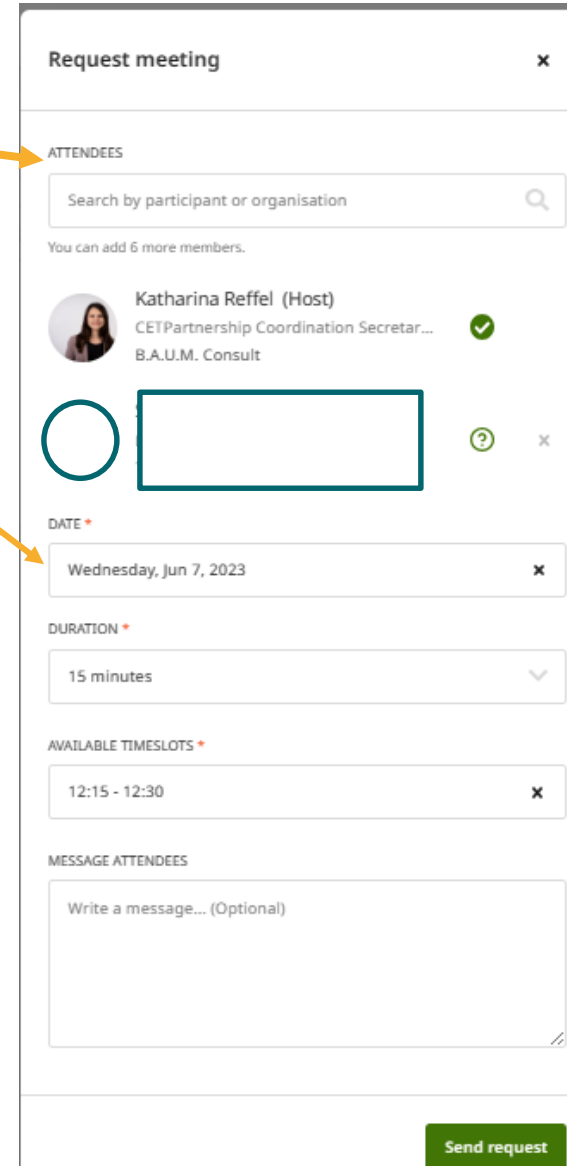
- After clicking on „request meeting“ you will see the **participants** list
- On the left you can filter participants by
  - Being available for matchmaking
  - Organization type
  - Countries
- Click on green button **“request meeting”**



The screenshot shows a web interface titled "Participants". On the left, there is a filter panel with a search bar and four toggle switches: "BOOKMARKED" (off), "MATCHMAKING" (on), "ORGANIZATION TYPES" (off), and "COUNTRIES" (off). An orange arrow points from the "MATCHMAKING" toggle to the corresponding bullet point in the text on the left. The main area displays a list of participants. The first participant is "Julia Chenut" from "MUNICH, GERMANY" at "B.A.U.M. Consult". Below her name are three rows of participant cards, each with a circular profile picture placeholder, a rectangular name placeholder, a chat icon, and a green "Request meeting" button. A "Relevance" dropdown menu is visible in the top right corner.

## How to find a match? – Step 4

- You can invite up to 6 further attendees
- You can **arrange meetings**
  - send a meeting request for a specific date, time and duration
- other person will be informed via mail and need to accept your suggestion (automatic time zone consideration)



The screenshot shows a 'Request meeting' form with the following fields and annotations:

- ATTENDEES**: A search bar with the placeholder 'Search by participant or organisation'. Below it, a note says 'You can add 6 more members.' One attendee is listed: Katharina Reffel (Host), CET Partnership Coordination Secretar..., B.A.U.M. Consult, with a green checkmark. A second attendee slot is empty, with a red box around it and an arrow pointing from the text 'other person will be informed via mail and need to accept your suggestion'.
- DATE**: A dropdown menu showing 'Wednesday, Jun 7, 2023' with a red asterisk and a close button.
- DURATION**: A dropdown menu showing '15 minutes' with a red asterisk and a close button.
- AVAILABLE TIMESLOTS**: A dropdown menu showing '12:15 - 12:30' with a red asterisk and a close button.
- MESSAGE ATTENDEES**: A text area with the placeholder 'Write a message... (Optional)'.
- Send request**: A green button at the bottom right.

Two orange arrows point from the text in the list to the form: one points to the 'ATTENDEES' section, and the other points to the empty attendee slot.



# Meeting overview

- To not lose sight you also have a **overview** about your meetings and its status.

1:1 Meetings Camera and microphone test My meetings

ALL 2 ACCEPTED 1 PENDING 1 CANCELED 0 AVAILABILITY

The meetings and sessions schedule is displayed in the Europe/Berlin time zone (the current time is 12:02). [Change](#)

Next meetings

[Redacted]

JC Julia Chenut, B.A.U.M. Consult GmbH

16:30 - 16:50  
Wednesday, June 09  
Online Video Meeting

MEETING SCHEDULED Cancel Reschedule Invite guests Starts in 4 hours

Received requests

[Redacted]

JC Julia Chenut, B.A.U.M. Consult GmbH

15:15 - 15:30  
Friday, June 11  
Online Video Meeting

MEETING INVITATION RECEIVED Cancel Reschedule Accept

# Marketplace

## Marketplace

Add an Opportunity

51 Opportunities found

Search

PROJECT COOPERATION (26)

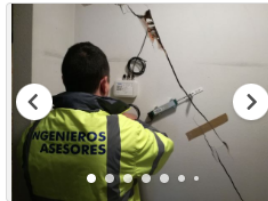
SERVICE (25)

SERVICE

Updated on June 06, 2023

### IoT Monitoring and Structural Health Engine...

We provide global solutions to the needs and demands of the Construction and Industry sectors. Our services include physical simulation, IoT monitoring and professional advice in a wide range of construction, and related bussiness activities, includ...



Digital Platform Services



FERNANDO LLANO MARTÍNEZ

R&D Manager at INGENIEROS ASEORES (OVIEDO, Spain)



Request meeting

SERVICE

Updated on June 06, 2023

### Geothermal consulting and engineering

We are consulting engineers with decades of experience in geothermal.

Opened for any cooperation opportunity where our expertise can add value.

Project Conception and/or Coordination

The **marketplace** gives participants the chance to add an opportunity for:

- project cooperation
- specific service

Other participants can easily request meetings



# Témoignage d'un lauréat de l'appel 2022, Pr. Hussein Mroueh, université de Lille

## Présentation du Pr. Hussein Mroueh

Professeur des universités, Université de Lille, Laboratoire Génie Civil et géo-Environnement de Lille LGCgE

Axe de Recherche : Génie Civil, Géotechnique, Environnement, Smart-City

Thématiques de Recherche : Etude du comportement des géo-structures et infrastructures du génie civil, Développement d'outils pour la Modélisation des ouvrages et pour la gestion des systèmes urbains

Projets de Recherche en cours :

- ANR **E-PILOT** (2022-2026), ANR **COOP** (2023-2027)
- projet ciblé 10 Chantier Bassin parisien – Ressources et usages du sous-sol urbain du PEPR Sous-Sol : bien commun (2023-2030) → Sous-projet « **Potentiel géothermique des tunnels et gares dans le bassin parisien** »
- COST ACTION **FOLIAGE** (2022-2026) : european network for FOstering Large-scale ImplementAtion of energy GEostructure

## Le projet LEG-DHC en quelques mots

Large-scale climate neutral Energy Geostuctures in District Heating & Cooling systems/networks :  
Développer des approches et des outils pour une meilleure maîtrise des géostructures énergétiques,  
et favoriser leur déploiement à plus grande échelle (hybridation, couplage, réseaux individuels et  
collectifs de chauffage)

### TRI4 - Call module 4: Heating & Cooling

CETP : une plateforme/outil pour concrétiser le partenariat établi par les Actions **COST (FOLIAGE** et  
avant **GABI** 2014-2018) :

- Créer un nouveau réseau européen de chercheurs et d'ingénieurs
- Partage des connaissances, transfert et diffusion (YRI, stakeholders, etc.)

## Comment s'est passée la recherche de partenaires?

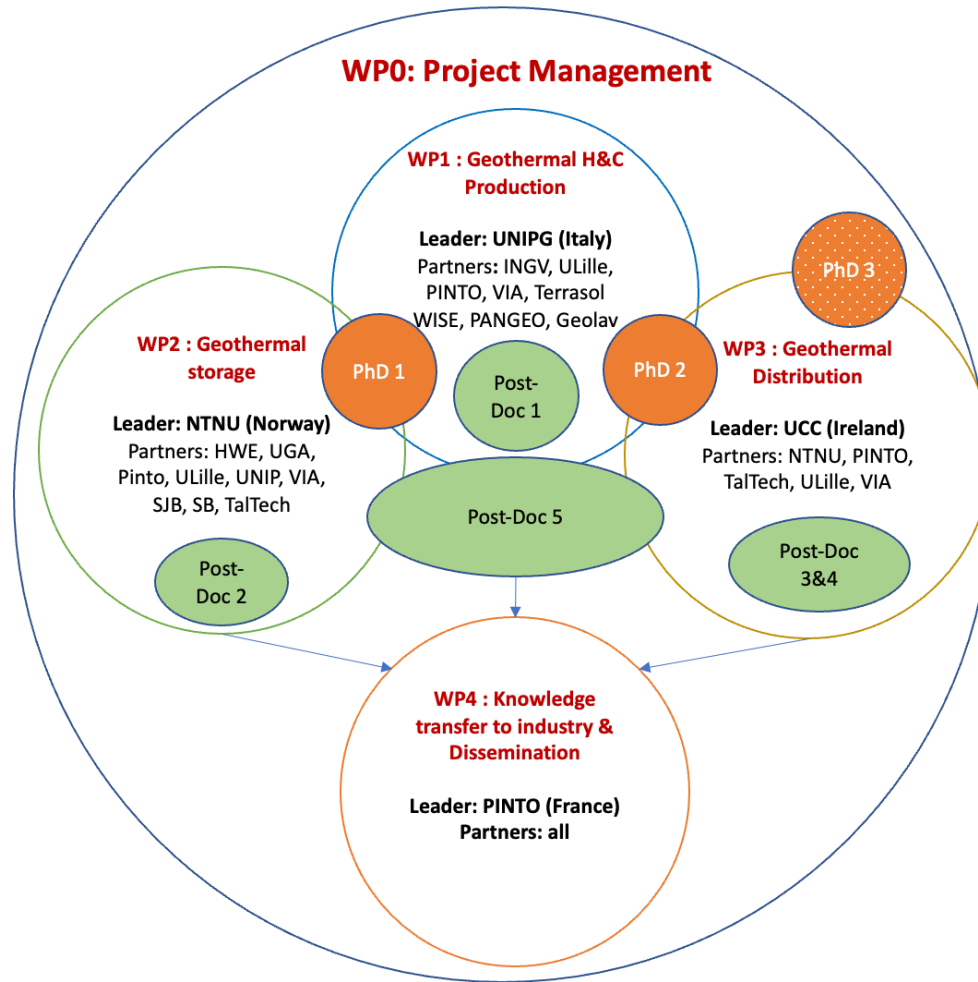
Noyau dur constitué de partenaires de l'Action COST, lesquels ont invité leurs partenaires : **16 partenaires**









France : **A. Di Donna** (UGA), **H. Mroueh** (ULille), **R. Vasilescu** (Pinto) → SETEC

Irlande : **Z. Li** (UCC) → TII, CODEMA

Italie : **D. Salciarini** (UNIPG) → WISE, INGV, GEOLAV

Norvège : **R.M. Singh** (NTNU) → Sandness and Jaerbetong, Seabrokers Fundamentering AS, Huth & Wien Engineering AS, TALTECH (Estonie), VIA (Danemark)



- 
**PhD 1** Hired by NTNU, with co-supervision of UNIPG
- 
**PhD 2** Hired by UNIPG, with co-supervision of ULille
- 
**PhD 3** Hired by TalTech, self-funded
- 
**Post-Doc 1** Supervised by UNIPG, with collaboration of WISE and INGV
- 
**Post-Doc 2** Supervised by UGA, with collaboration of UNIPG and NTNU
- 
**Post-Doc 3** Supervised by UCC, with collaboration UGA and ULille
- 
**Post-Doc 4** Supervised by TalTech, with collaboration of UNIPG, UCC and NTNU
- 
**Post-Doc 5** Supervised by ULille, with collaboration of UNIPG, Pinto and NTNU

## Comment s'est passé le montage du projet ? Des difficultés ? Si oui, comment les avez-vous surmontées ?

Participation à la présentation de l'appel

Lecture détaillée des documents pour :

- Comprendre le fonctionnement de cet appel : financeurs/pays et leurs particularités
- Comprendre Les enjeux scientifiques
- Proposer un sujet qui répond aux enjeux

Réunions hebdomadaires (2-3h/réunions) + « devoirs maison »

Difficultés rencontrées :

- Convaincre certains partenaires
- Convaincre le secteur industriel → avant-projet sommaire d'une page qui définit les grandes lignes





## Votre rôle en tant que coordinateur ? Et intérêts, avantages pour vous, votre structure de coordonner un tel projet ?

**Rôle du coordinateur** : Animer les réunions - Rédiger les comptes-rendus – Rédiger un avant-projet sommaire d'une page - Répartir les tâches entre partenaires – Management scientifique du projet – Veiller au respect du Cahier des charges

**Intérêts** : Créer un partenariat fort entre les différents établissements - Fédérer les E/C et C les compétences et mutualiser les moyens – Cotutelles de thèses, et co-direction des post-docs

**Intérêt pour la structure** : Engagée dans une procédure globale de transition énergétique + Campus Scientifique comme démonstrateur

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## Un ou des conseils pour la communauté française qui souhaite se positionner sur un call module 2023?

**Bien concevoir son partenariat** → Veiller un un bon équilibre des moyens et investissements des partenaires

**Prendre contact** avec les financeurs locaux pour s'assurer de la bonne adéquation du projet → éviter de perdre des partenaires entre phase 1 et 2

## Le PCN Climat/Energie

- **Pour vos questions relatives au cluster 5 en lien avec le climat et l'énergie**
  - [pcn-climat-energie@recherche.gouv.fr](mailto:pcn-climat-energie@recherche.gouv.fr)
- **Pour vos questions sur l'appel CETP**
  - ANR : [Pascal.BAIN@agencerecherche.fr](mailto:Pascal.BAIN@agencerecherche.fr) ; [Elisa.meriggio@agencerecherche.fr](mailto:Elisa.meriggio@agencerecherche.fr) ;  
[Thamires.MOREIRA@agencerecherche.fr](mailto:Thamires.MOREIRA@agencerecherche.fr) ; [Negar.NAGHAVI-FLEURY@agencerecherche.fr](mailto:Negar.NAGHAVI-FLEURY@agencerecherche.fr)
  - Ademe : [samira.kherrouf@ademe.fr](mailto:samira.kherrouf@ademe.fr)
  - Région Pays de Loire : [charlotte.noblot@paysdelaloire.fr](mailto:charlotte.noblot@paysdelaloire.fr) ; [e.mathieu@solutions-eco.fr](mailto:e.mathieu@solutions-eco.fr) ;  
[gaelle.frostin@paysdelaloire.fr](mailto:gaelle.frostin@paysdelaloire.fr)
- **Rester informé**
  - LinkedIn : <https://www.linkedin.com/company/pcn-climat-energie>
  - S'inscrire à la liste de diffusion : <https://www.horizon-europe.gouv.fr/inscription-liste-climat-energie>
  - [Page de l'appel CETP 2023](#) ; à noter : infoday européen sur l'appel 2023, **le 13/09**
  - [Plate-forme de matchmaking](#)

# Questions/Réponses