

21/06/2023



MARINE ENERGY research activities in the Basque Country

IX MARINE ENERGY CONFERENCE. BILBAO



EUSKADI 2030 STIP

The **Science, Technology and Innovation Plan** is the reference framework in which all the policies and support activities for R&D&I carried out by the Basque Government are integrated and coordinated.



VISION 2030

- Euskadi stands among the most advanced regions of Europe in innovation by 2030, with a high standard of living and quality employment.

STRATEGIC PILLARS

- Scientific Excellence
- Technological Leadership of Industry
- Open Innovation

CORE ELEMENT

- Talent

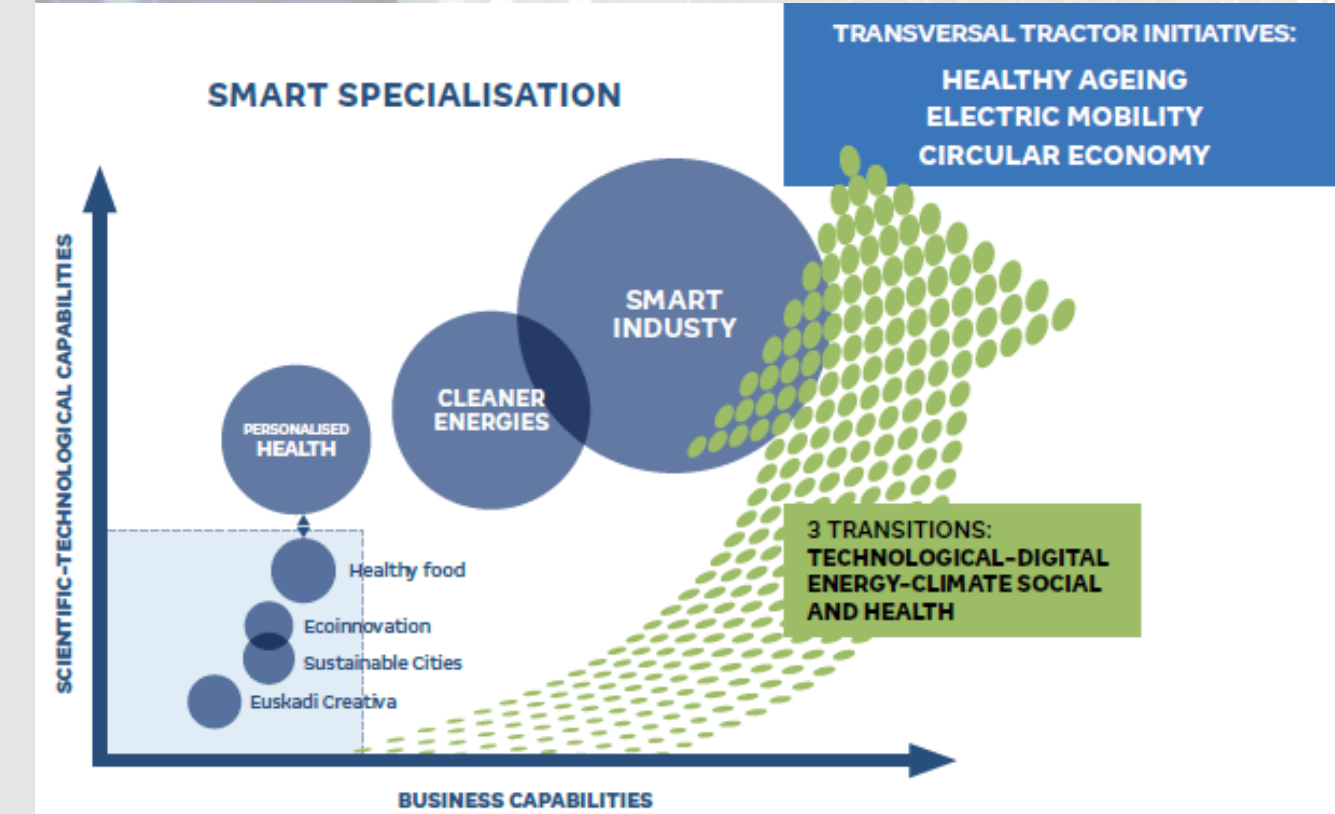
OPERATIONAL OBJECTIVES

- Results oriented
- Development and Innovation
- Internationalisation
- Promotion of Talent

RIS3 EUSKADI 2030

The Research and Innovation Smart Specialisation Strategy

It is a living strategy that evolves based on the context and vision of the Steering Groups and the other governing bodies, made up of stakeholders from the 'triple helix' (companies, universities, technology and research centres and the Administration) aim to drive the deployment of the general strategy and participate in its design or revision, facilitating alignment with the strategies of each stakeholder.



3 STRATEGIC PRIORITIES

- Smart Industry
- **Cleaner Energies**
- Personalized Health

4 AREAS OF OPPORTUNITY

3 TRANSITIONS

- Technological- Digital
- Energy-Climate
- Social-Health

+ MAP OF BASIC TECHNOLOGIES

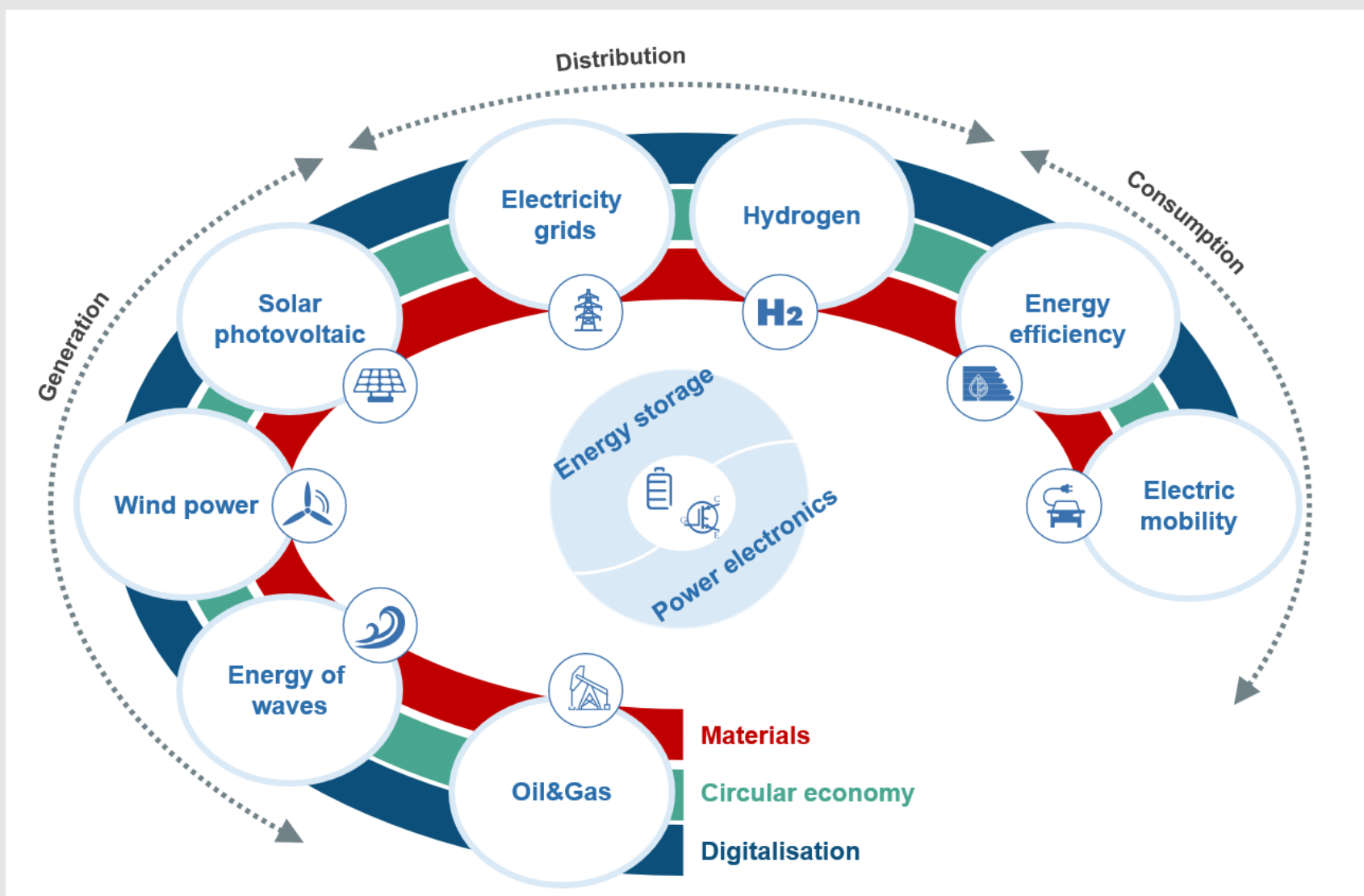
3 TRANSVERSAL TRACTOR INITIATIVES

- Healthy Ageing
- Electric Mobility
- Circular Economy



EnergiBasque's vision is to make Euskadi a leader in Europe for the development of technological and industrial initiatives in energy

Each strategic area has a series of objectives, which are deployed through the technological lines, transversal actions and proposed strategic initiatives



Wind Power

- Support the **development of a globally-competitive offering in the different wind value-chain segments**, both in systems and components of the wind turbine as well as in equipment and services associated with the wind farm.
- Encourage the **development of equipment, components and services** that meet the demanding technical and economic requirements of the **offshore wind market**.
- Facilitate the **digitisation of the various systems and components** that are integrated into a wind farm, so that **data management and analysis** become a source of competitive advantages for companies in the value chain.



Energy of Waves

- Promote projects and initiatives that support companies which develop **generation systems and components** for this emerging market, especially using BIMEP infrastructure as an area of testing and technology development.

R&D SUPPORT PROGRAMS

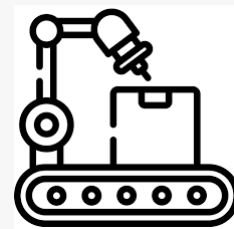
ELKARTEK >

Support for the performance of **Collaborative Research**, carried out by the **Research, Development and Innovation Entities integrated in the Basque Science, Technology and Innovation Network** of the Basque Country, in the areas of specialization framed in the Euskadi STIP 2030.

1. **COLLABORATIVE FUNDAMENTAL RESEARCH PROJECTS** (min. 1M€; 3 agents of 3#types)
2. **HIGH INDUSTRIAL POTENTIAL RESEARCH PROJECTS** led by a business R&D unit (min. 0,2M€)
3. **COMPLEMENTARY ACTIONS OF SPECIAL INTEREST** developed by technological supply and demand brokerage agents

AZPITEK >

Support for the **acquisition, installation and updating of scientific-technical equipment** necessary for the execution of quality research, the improvement of results and their scientific-technological, economic and social impact, as well as for the operation of the existing infrastructures.



Scientific-technical equipment is understood to be the set of physical means (equipment) and facilities (enclosure provided with the necessary physical means) that are required for the development of R + D + i activities

HAZITEK COMPETITIVE >

Support for carrying out **Industrial Research or Experimental Development projects BY COMPANIES in Euskadi**, aimed both at the development of new products and at the launch of New Scientific and Technological Based Companies NSTBC.

They can be **done individually or in cooperation** and require a **minimum total annual budget of € 100,000**.

HAZITEK STRATEGIC >

Support for carrying out **Industrial Research or Experimental Development BY COMPANIES in Euskadi**, and in the areas of specialization of the Euskadi STIP 2030.

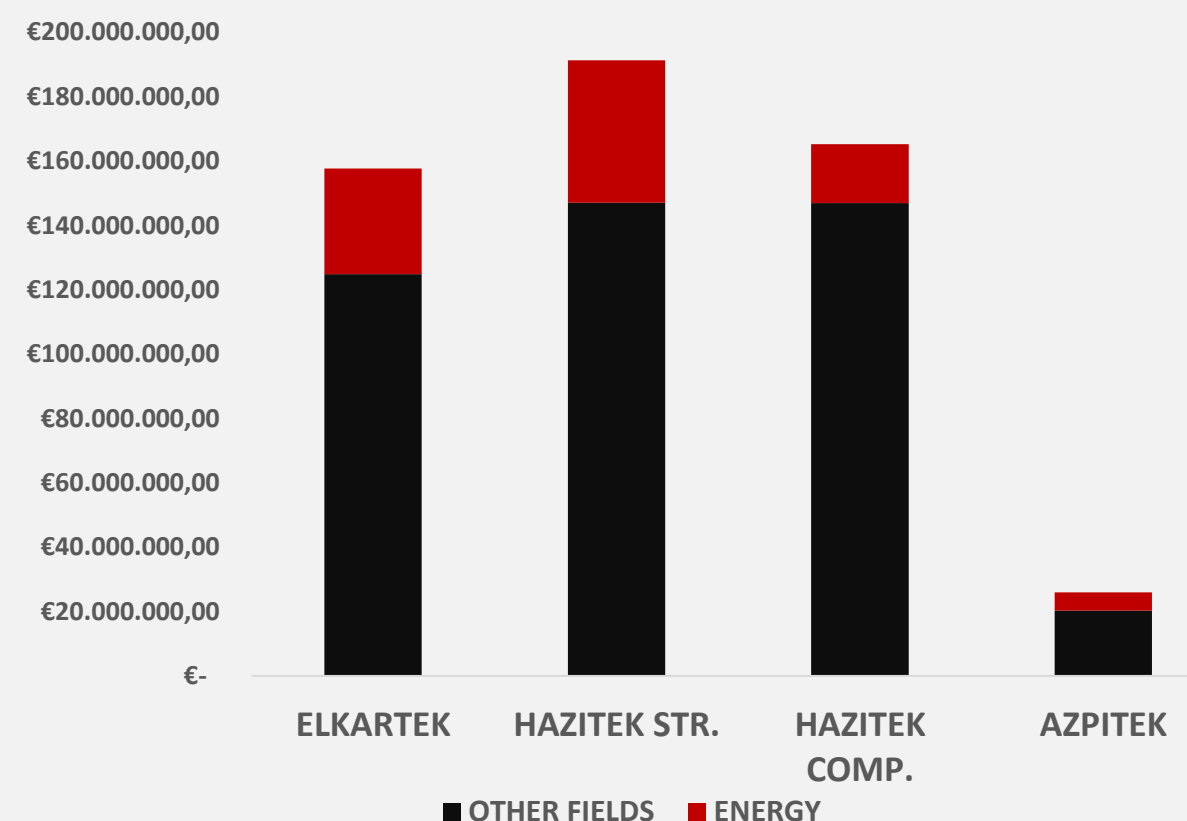
Arising from business leadership and with the use of scientific -technology capacities of the Basque Country, **carried out in cooperation with a minimum of 3 companies**.

They require a **minimum budget of € 4 million** and a **maximum duration of 3 years**

ENERGY R&D SUPPORTED ACTIVITY THROUGH THESE PROGRAMS

In the last 4 years, **almost 20%** of the resources allocated to support R&D through these programs have supported activities related to **ENERGY** with more than 100 M€ of grant

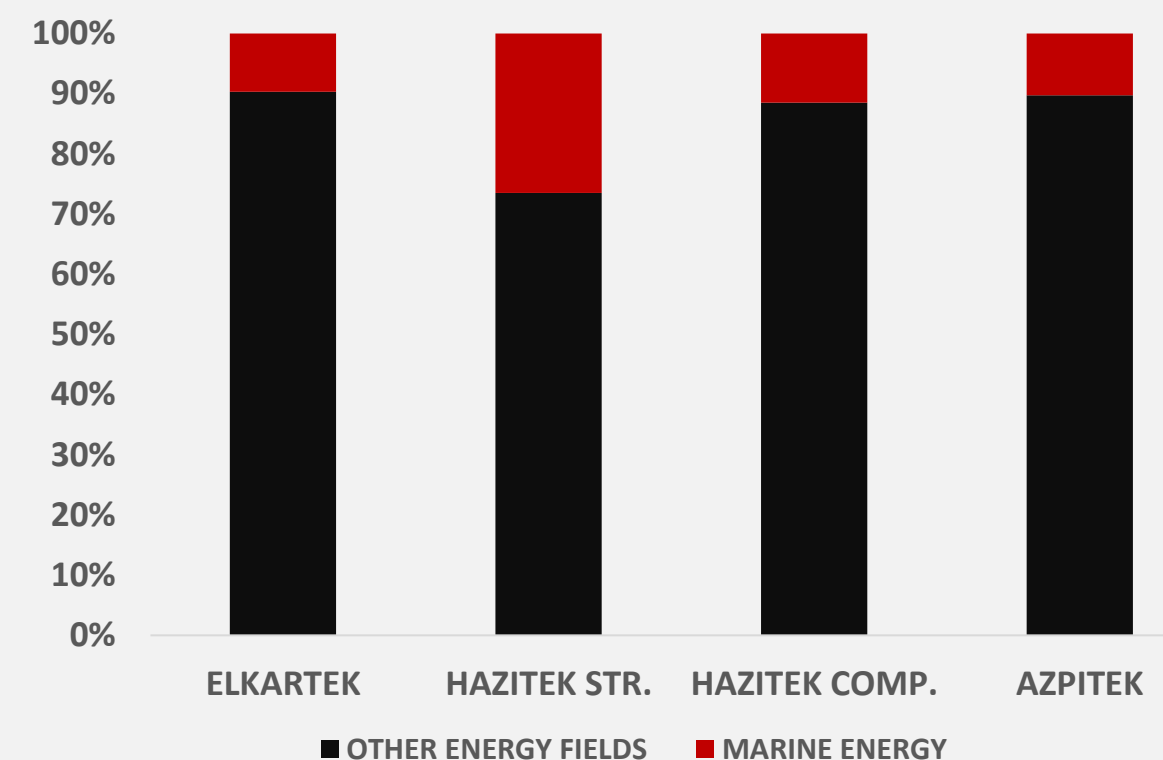
2019	TOTAL GRANT	TOTAL GRANT ENERGY	
ELKARTEK	35.350.000,00 €	6.796.403,87 €	19%
HAZITEK STRATEGIC	40.675.147,00 €	14.365.378,00 €	35%
HAZITEK COMPETITIVE	37.810.600,00 €	2.853.119,00 €	8%
2020			
ELKARTEK	38.000.000,00 €	6.988.779,47 €	18%
HAZITEK STRATEGIC	48.000.000,00 €	11.477.470,00 €	24%
HAZITEK COMPETITIVE	39.201.554,00 €	2.756.858,00 €	7%
2021			
ELKARTEK	39.966.641,00 €	8.686.832,29 €	22%
HAZITEK STRATEGIC	52.618.008,00 €	10.152.397,00 €	19%
HAZITEK COMPETITIVE	43.247.754,00 €	5.554.366,00 €	13%
AZPITEK	12.188.630,00 €	4.258.465,00 €	35%
2022			
ELKARTEK	44.413.067,00 €	10.362.744,00 €	23%
HAZITEK STRATEGIC	49.994.908,00 €	8.222.371,00 €	16%
HAZITEK COMPETITIVE	45.000.000,00 €	7.200.522,00 €	16%
AZPITEK	13.835.000,00 €	1.454.809,00 €	11%
TOTAL	540.301.309,00 €	101.130.514,63 €	19%



MARINE ENERGY R&D SUPPORTED ACTIVITY THROUGH THESE PROGRAMS

In the last 4 years, **MARINE ENERGY** accounts for more than **22%** of the R&D resources allocated to the field of energy through these programs with a **total grant of 22,5 M€**

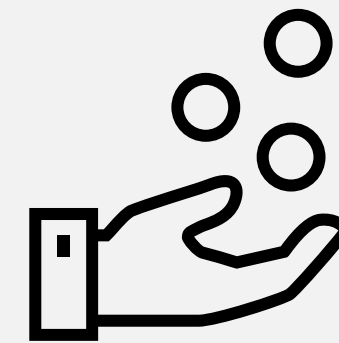
2019	TOTAL ENERGY GRANT		MARINE ENERGY GRANT	
ELKARTEK	6.796.403,87 €	19%	697.998,97 €	10%
HAZITEK STRATEGIC	14.365.378,00 €	35%	7.681.429,00 €	53%
HAZITEK COMPETITIVE	2.853.119,00 €	8%	431.957,12 €	15%
2020				
ELKARTEK	6.988.779,47 €	18%	- €	
HAZITEK STRATEGIC	11.477.470,00 €	24%	2.144.661,00 €	19%
HAZITEK COMPETITIVE	2.756.858,00 €	7%	729.466,77 €	26%
2021				
ELKARTEK	8.686.832,29 €	22%	1.195.002,98 €	14%
HAZITEK STRATEGIC	10.152.397,00 €	19%	4.380.122,00 €	43%
HAZITEK COMPETITIVE	5.554.366,00 €	13%	511.024,25 €	9%
AZPITEK	4.258.465,00 €	35%	655.115,01 €	15%
2022				
ELKARTEK	10.362.744,00 €	23%	1.634.779,93 €	16%
HAZITEK STRATEGIC	8.222.371,00 €	16%	1.729.983,00 €	21%
HAZITEK COMPETITIVE	7.200.522,00 €	16%	715.975,53 €	10%
AZPITEK	1.454.809,00 €	11%	- €	
TOTAL	101.130.514,63 €	19%	22.507.515,56 €	22%



MARINE ENERGY R&D SUPPORTED ACTIVITY THROUGH THESE PROGRAMS

These 64 **MARINE ENERGY R&D** projects have mobilized more than **57 million €** in the last 4 years

MARINE ENERGY GRANT	NR. PROJECTS	MOBILIZED BUDGET
697.998,97 €	1	697.998,97 €
7.681.429,00 €	4	20.703.896,74 €
431.957,12 €	12	2.399.787,24 €
		MOBILIZED BUDGET
- €	-	-
2.144.661,00 €	1	4.305.955,12 €
729.466,77 €	13	3.830.667,01 €
		MOBILIZED BUDGET
1.195.002,98 €	1	1.195.002,98 €
4.380.122,00 €	3	13.617.007,09 €
511.024,25 €	11	2.096.850,47 €
655.115,01 €	1	900.500,00 €
		MOBILIZED BUDGET
1.634.779,93 €	3	1.758.004,08 €
1.729.983,00 €	1	3.484.241,00 €
715.975,53 €	13	2.329.941,23 €
- €		
22.507.515,56 €	64	57.319.851,93 €



22 M€



57 M€



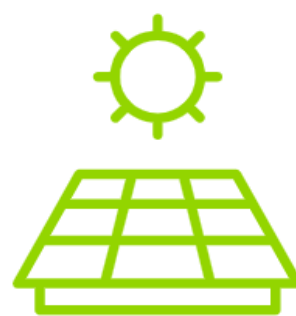
CLEAN ENERGY TRANSITION PARTNERSHIP

Clean Energy Transition Partnership (CETP)

- Multilateral and strategic partnership of national and regional research, development and innovation (RDI) programmes in European Member States and Associated Countries, aiming to boost and accelerate the energy transition and to support the implementation of the European Strategic Energy Technology Plan (SET Plan).



Building innovation ecosystems that support capacity building at all levels



Developing and demonstrating technology and solutions for the transition of energy systems



Building a transnational transformative Joint Programming Platform

- 55 programme owning or managing organisations from 30 Member States, Associated and other Countries, have committed national and regional budgets for the funding of transnational projects of ~700 Mio EUR for the entire programme period of 2022 – 2028.

CETP Call 2023 Call modules

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

TRI2:
Enhanced
zero
emission
Power
Technologies

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

- 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 are a reference for these Call Modules.
- Target Topics:
 - **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; 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

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

- Target Topics:
 - **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 optimized 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

 - **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

Call 2023 Calendar

<u>CETPartnership Joint Call 2023 Infoday 1 (online)</u>	13 September 2023, ONLINE
Stage 1 Opening: Pre-proposal submission	20 September 2023
Stage 1 Closing: Deadline for Pre-proposal submission	22 November 2023, 14:00 CET
Stage 2 Opening: Full Proposal submission	25 January 2024
Stage 2 Closing: Deadline for full proposal submission	27 March 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

We are part of your value chain



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ETA INGURUMEN SAILA

DEPARTAMENTO DE DESARROLLO
ECONÓMICO, SOSTENIBILIDAD
Y MEDIO AMBIENTE