

# Clean Energy Transition partnership

TRI 2 : Enhanced Power Production  
Francesco Basile & Rachele Nocera (MUR)

# Transition Initiatives (TRIs)



**TRI 1: Integrated Net-zero-emissions Energy System**



**TRI 2: Enhanced zero emission Power Technologies**



**TRI 3: Enabling Climate Neutrality with Storage Technologies, Renewable Fuels and CCU/CCS**



**TRI 4: Efficient zero emission Heating and Cooling Solutions**



**TRI 5: Integrated Regional Energy Systems**



**TRI 6: Integrated Industrial Energy Systems**



**TRI 7: Integration in the Built Environment**

## Results: CETP JC 2022

**112** pre proposals

**75** invited for the full proposal

**72** handed in their full proposals

**45** approved projects

**>80.000.000** Euros for the projects

... from more than **20+** countries

## CETPJC2023

**206 pre-proposal**

# Turning TRI2 objectives in Call Module priorities

2022

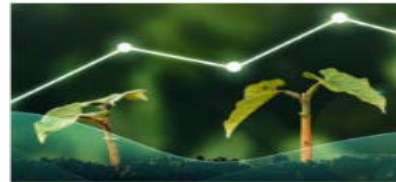
Two Call Modules on development of RE technologies for zero emission power production :

2.1) Objective: Cost reduction (high TRL)

2.2) Objective: Increased efficiency (Low TRL)

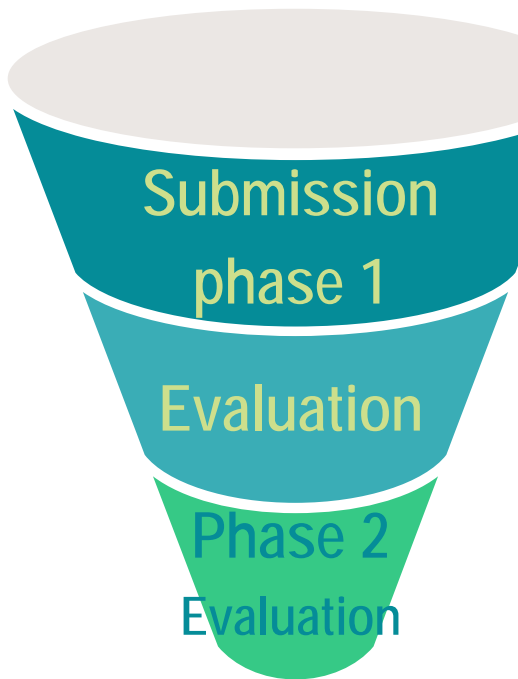


CM 2.1: Advancing RE technologies for power production through cost reduction



CM 2.2: Breakthrough R&D to increase RE power technologies efficiency

# TRI 2 Call Modules 2022: results



**Call Module: TRI2  
Advancing RE  
technologies for power  
production through  
cost reduction**

- 12 proposals submitted
- 9 proposals passing
- 75% success rate
- 9 Proposals sub 2<sup>nd</sup> stage
- 4 proposal approval

PV	1
WIND	1
Offshore RES	2

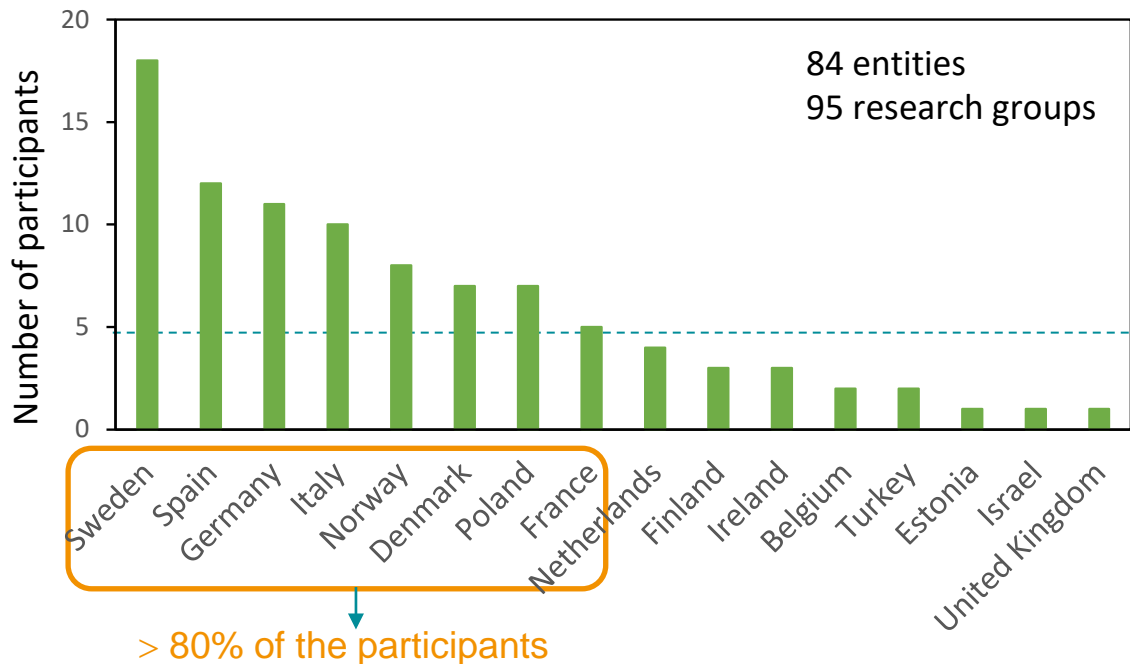
**Call Module: TRI2  
Breakthrough R&D to  
increase RE power  
technologies efficiency**

- 22 proposals submitted
- 15 proposals passing
- 68% success rate
- 12 Proposals Sub. 2<sup>nd</sup> stage
- 10 Proposal approved

PV	4
WIND	2
Offshore and ocean	2
CSP-ST	2

## Task 3.2.5 Progress monitoring and knowledge management

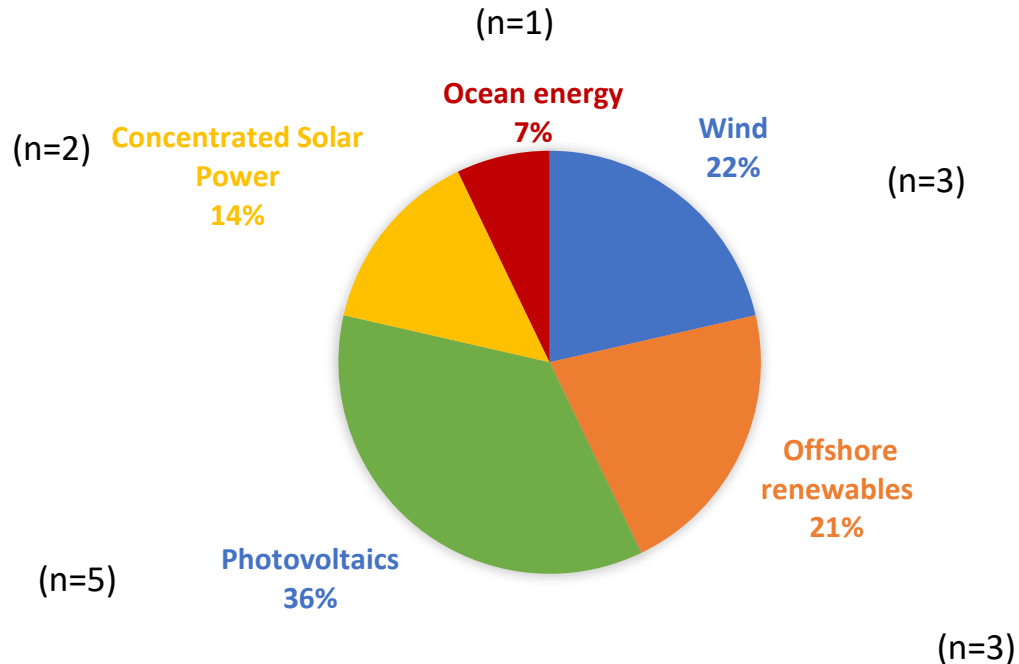
### Number of project participants per country



\*Data includes self-funded projects (1 entity/country for United Kingdom, Germany, Spain, and Norway and 2 entities/country for Sweden).

# Task 3.2.5 Progress monitoring and knowledge management

## TRI2 thematic areas



# Task 3.2.5 Progress monitoring and knowledge management

## Complementarity with HE

CSP				
Call module	Project ID	Title	Acronym	Topic
CM 2.2	Cetp-2022-00102	Sustainable Near-net-shape Fabrication of Low Environmental impact Receiver materials	Sunflower	-
CM 2.2	Cetp-2022-00131	Development of a novel Tube - bundle-Cavity Inlinear receiver for CSP applications	DETECTIVE	-

Call Module	Project Id	Acronyme	Ranking	Score	FUNDING REQUEST
CM 2.2	Cetp-2022-00102	Sunflower	5	12	1.163.323,90
CM 2.2	Cetp-2022-00131	DETECTIVE	9	11	778.747,00
					Total: 1.942.070,90
					<b>13.213.407,85</b>



# JOINT CALL 2023

TRI2

Leader MUR

CoLeader FECYT

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**206 pre-proposal (before  
eligibility check)**



# CETPartnership Joint Call 2023 Call topics

No.	Title
CM2023-02	Energy system flexibility: renewables production, storage and system integration
CM2023-03A/3B	Advanced renewable energy (RE) technologies for power production

02: 22 proposal

3A: 18 proposal

3B: 18 proposal

**TRL**

**CM 03A - ROA:** research and innovation action (final TRL $\geq$  4)

**CM 03B - IOA:** Innovation action (final TRL $\geq$  6)

# CETPartnership and Mission Innovation GPFM Joint Call Module

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



Call module developed with

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



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



### 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  $\geq 3$

Achieve TRL 5-6

Budget

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

# TRI2 Call Module Advanced renewable energy (RE) technologies for power production (3A/3B)

The Call Modules aimed at the development of a new generation of cost-competitive, scalable and transferrable RE technologies for power production with higher efficiency, enhanced performances, lifetime, reliability and sustainability

CM2023-03A calls for ROA (Research-Oriented Approach) projects targeting TRL4 or above

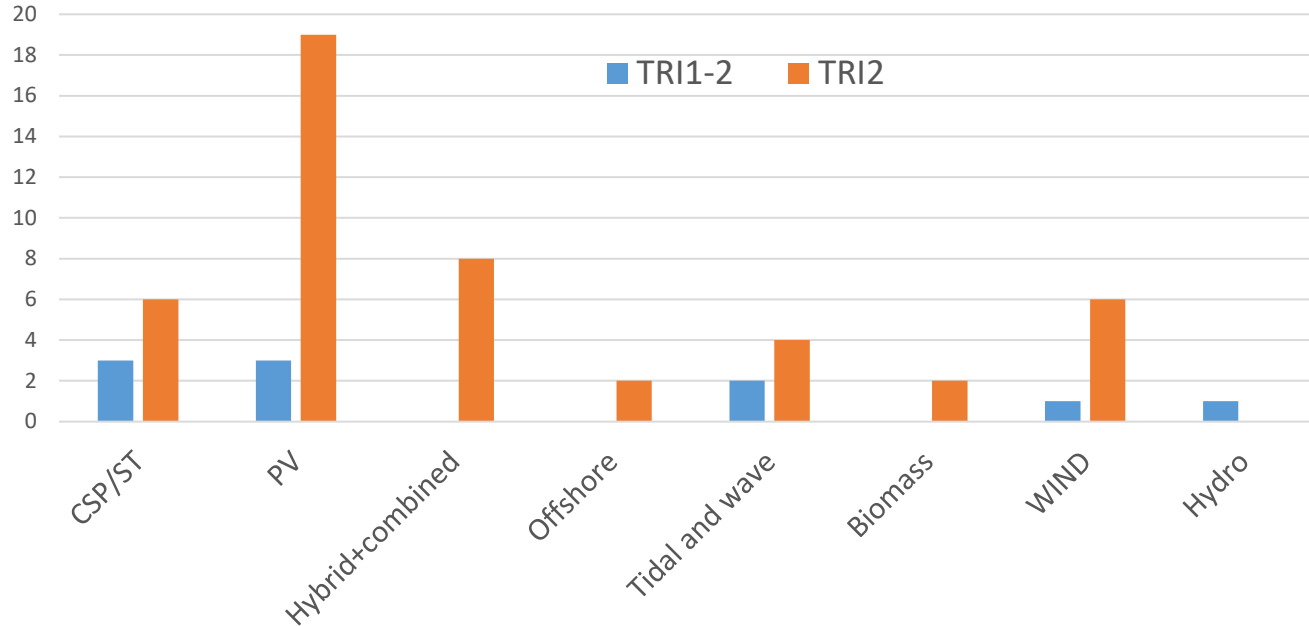
CM2023-03B calls for IOA (Innovation-Oriented Approach) projects targeting TRL6 or above

Bioenergy for power generation, Solar photovoltaics , Wind, Ocean energy, Offshore renewables (marine renewables, floating wind/PV, etc.)

**Concentrated solar power (CSP) / solar thermal energy (STE),  
Hybrid technologies**

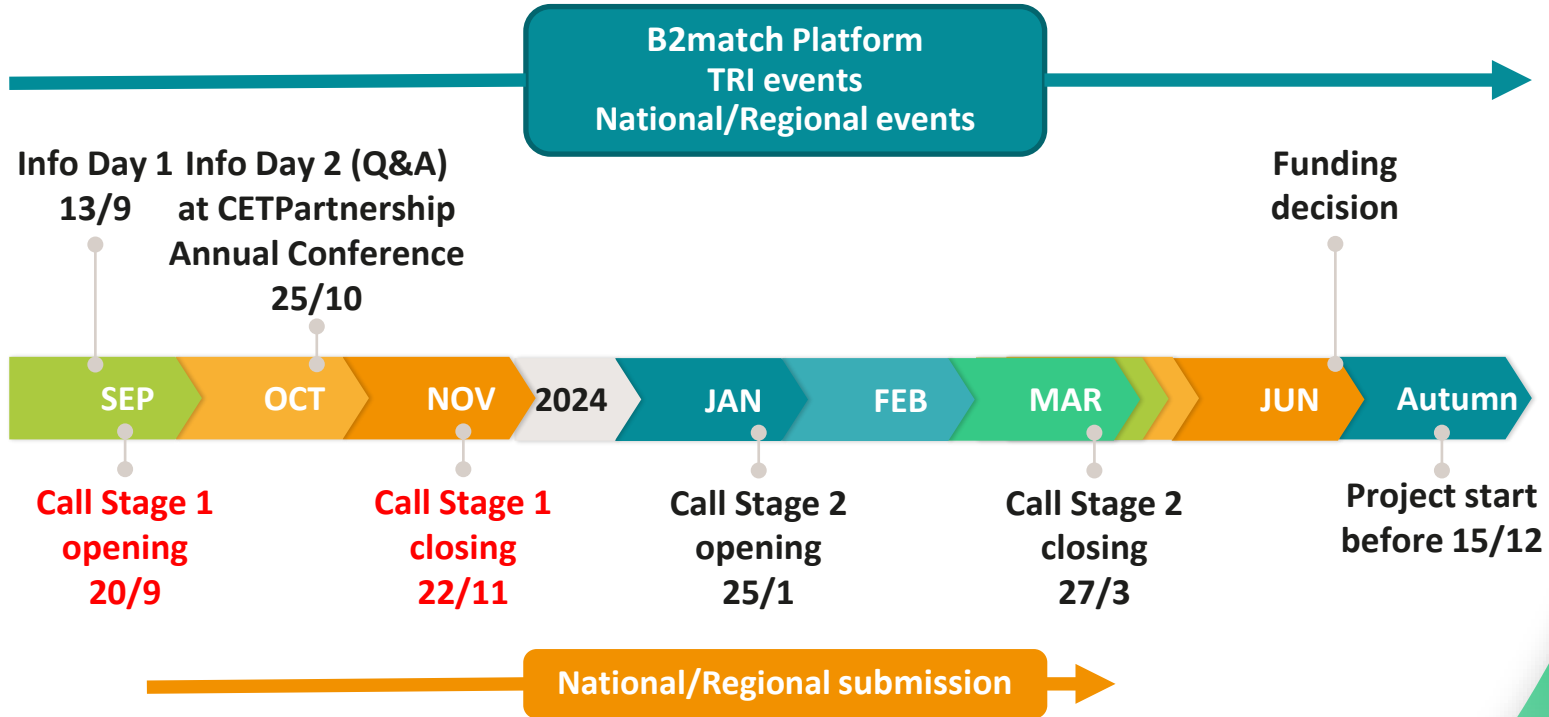
# TRI2: CM2023-03A/03B & TRI1-2: CM2023.02 call module

Preliminary assignment of project technology area



3 project in CM03A, 3 project in CM03B and 3 project in CM02

# Joint Call 2023 timeline





# Project implementation

