

# 2023 National Energy Research and Policy Conference

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SEAI National Research, Development & Demonstration Funding Programme

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## Session 3

# Future Perspectives on Energy Security

2.00 – 4.00pm

**Yamina Saheb (Slide 3)**

- *Energy Sufficiency and the Future of Energy Security*

**Matthijs Soede (Slide 11)**

- **The Clean Energy Transition Partnership**

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# Energy sufficiency and the future of energy security

2023 SEAI National Energy Research and Policy Conference

*Addressing Ireland's Energy Security into the Future*





# Sufficiency is about a metamorphosis of our vision of the world

Sufficiency	Efficiency
Doing the right things	Doing things right
Tackles causes of climate change and the ecological crises	Tackles symptoms of climate change
Requires strong policy intervention	Driven by market actors
Requires system change	Incremental improvement of individual technologies
Absolute reduction of the demand for all natural resources	At the best relative reduction of energy and materials consumption
The cost of climate neutrality is shared	Individuals bear the cost of efficiency improvement
Equity and fairness considerations	Competition and profits considerations

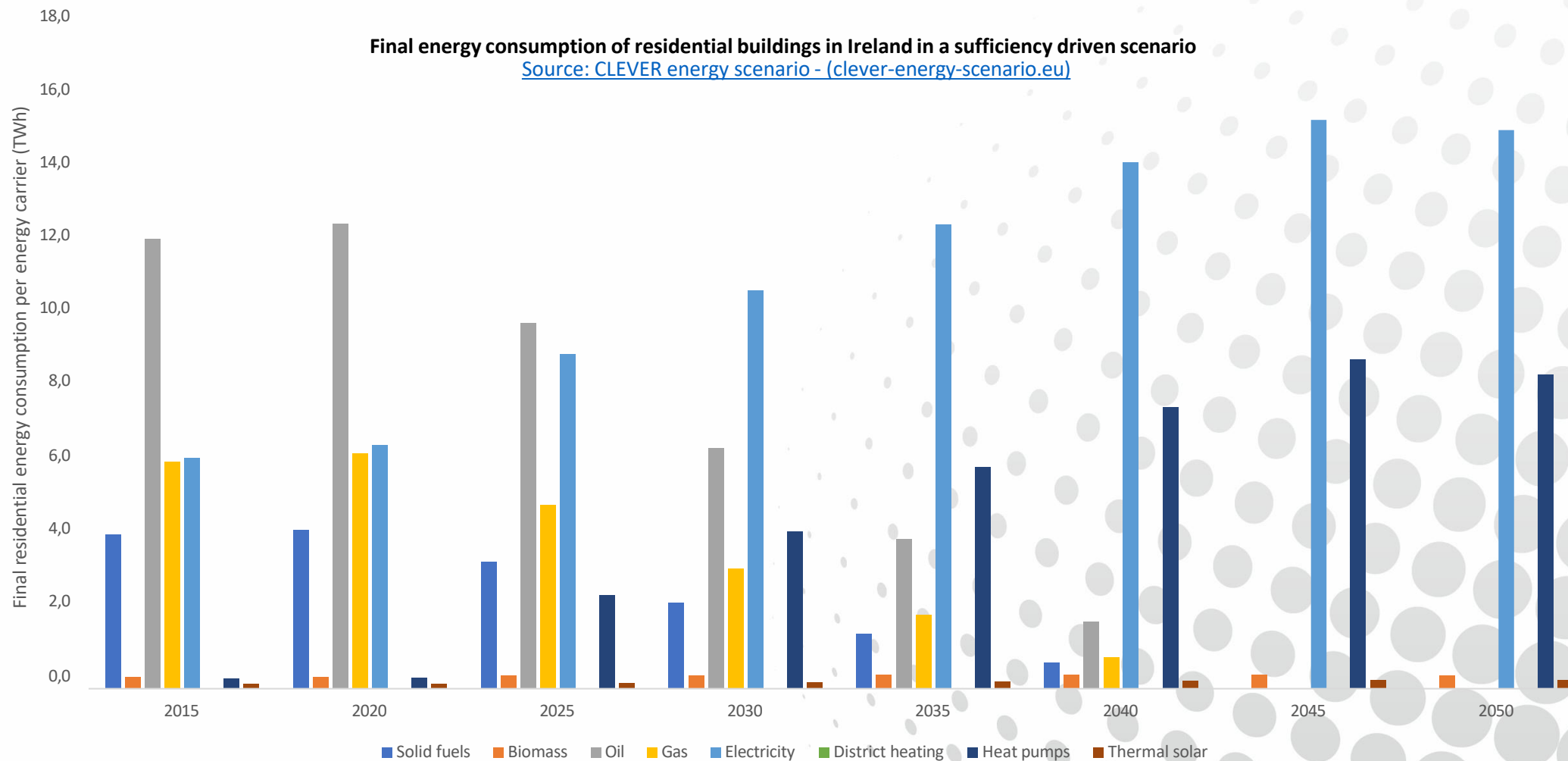


# Sufficiency, as included in the IPCC report, is articulated around 4 pillars

*“Sufficiency policies are 1) a set of measures and daily practices that 2) avoid demand for energy, materials, land and water while 3) delivering human wellbeing for all within 4) planetary boundaries.”*

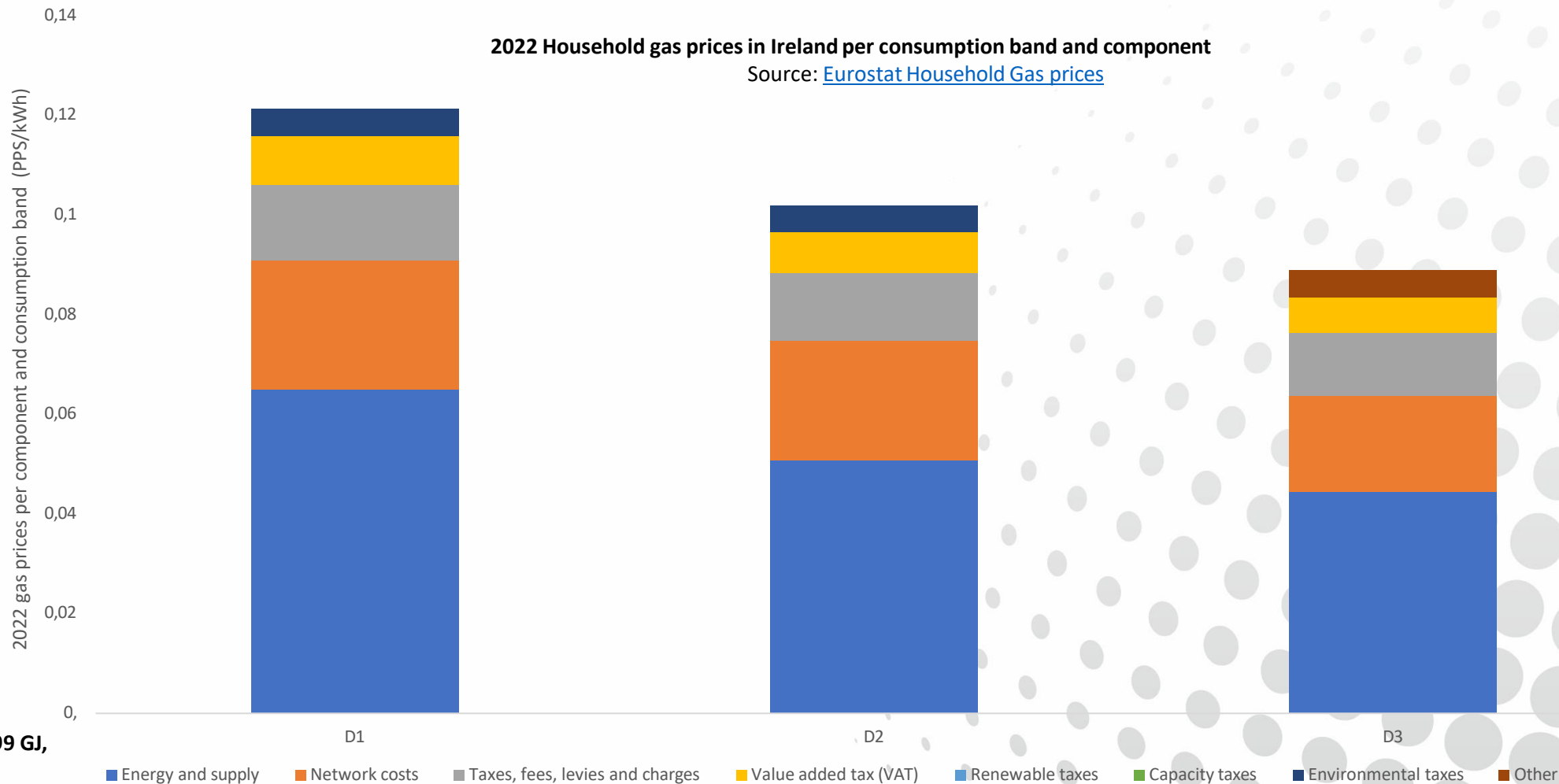


# Sufficiency will make an end to Ireland energy dependency





# Sufficiency requires designing energy prices to protect the poorest ones



**D1: Consumption < 20 GJ,**  
**D2: 20GJ < Consumption < 199 GJ,**  
**D3: Consumption > 200 GJ**





**Thank you for your attention**

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# The Clean Energy Transition Partnership





# Clean Energy Transition Co-funded Partnership

- The CETPartnership is a multilateral and strategic partnership of national and regional research, development and innovation (RDI) programmes in the EU 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).

- Goals:



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

- The partnership intends to contribute to the achievement of the EU decarbonisation targets set in [A Clean Planet for all communication](#) and lastly in the [Fit-for-55 package](#) and to support the implementation of the EU energy and climate strategy such as the [EU strategy for energy system integration](#), the [EU strategy on hydrogen](#), the [EU strategy on offshore renewable energy](#) and the [REPowerEU Plan](#).

- Budget: ~ **EUR 700-800 mln** where **EUR 210 mln** (up to 30%) for 2021-2027 from the [EU](#)



# CETPartnership expected outcomes

The partnership is expected to contribute to all of the following expected outcomes:

- **Increased directionality** of clean energy transition R&I in Europe in line with the SET Plan by a shared pan-European vision regarding the goal and direction of the required system transformation processes adapted to regional needs and availability of renewable energy resources.
- **Evidence based energy and climate policy formulation.**
- A **wider systemic transition and energy supply** required for the climate transition in all sectors of society; enabling the transition of the built environment, transport, industry and other sectors to clean, low carbon energy.
- An **innovation ecosystem for Europe's transition to clean energy** and contribute to a resource-efficient energy system, both from an ecological and economic standpoint.
- A **building block to a zero-emission energy system for the decarbonisation** of transport, buildings, industry, agriculture in the specific European environment.
- **Increased engagement of consumers and prosumers** and in appropriate demand-response mechanisms and its integration in the energy system.
- An **energy system that meets the needs** of different parts of society, in different geographical locations (urban and rural) and different groups.



# CETPartnership Transition initiatives

- 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.

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

# CETPartnership Transition initiatives

## **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<sub>2</sub> 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<sub>2</sub>-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.



# Increased security of the energy system

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

**An Energy Transition Ecosystem can have specific characteristics such as:** 11. Identify priority dataset for system **security** (GPFM IP 3.2.2)

- Located in a geographical context and has specific characteristics (urban, rural, industrial, islands, etc.)
- Enabling a secure, resilient and CO<sub>2</sub>-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

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.

## CM2023-05 Hydrogen and renewable fuels

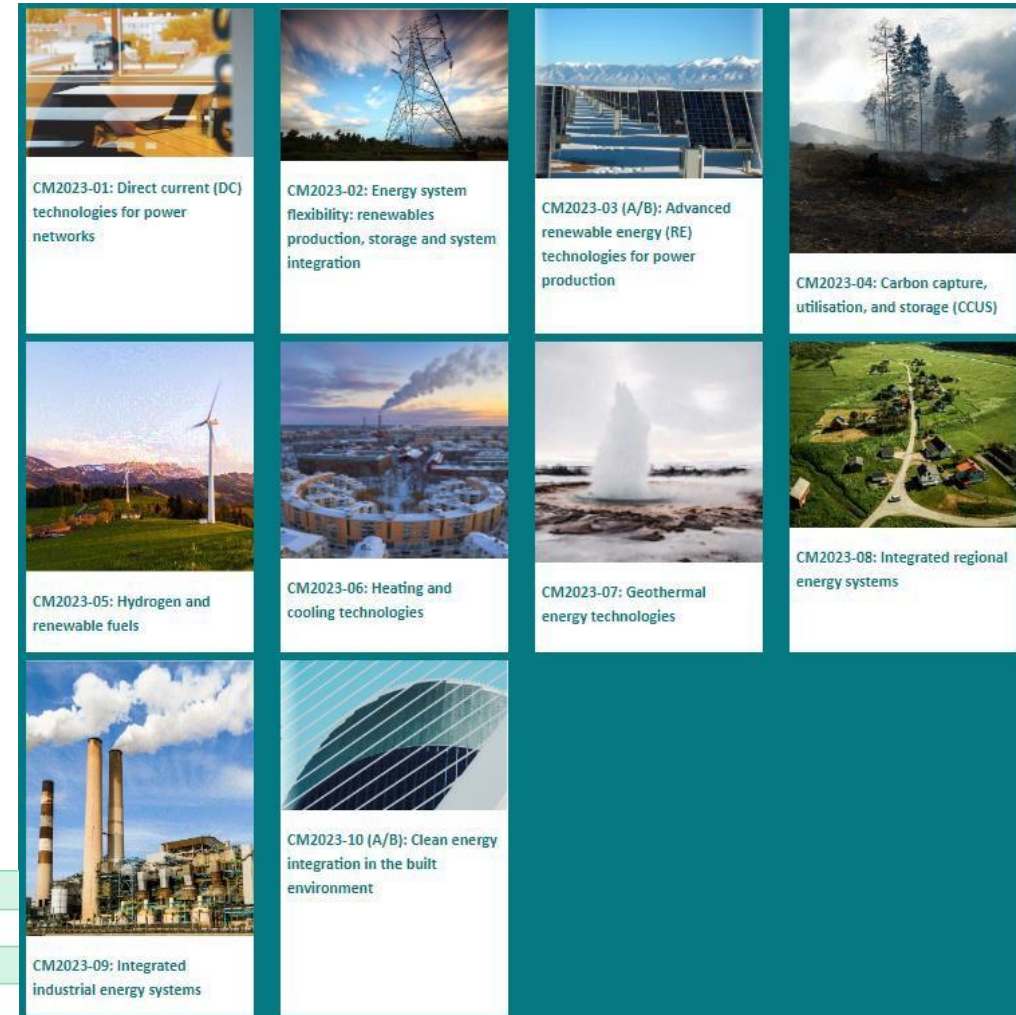
### Objectives

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.



# CETPartnership Joint Call 2023

- The second annual co-funded call under the CETPartnership.
- The Call is structured into 12 Call Modules, aimed at different energy technologies and/or systems as well as both research and innovation oriented approaches on different Technology Readiness Levels (TRLs), complementing and completing each other.



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

# CETPartnership Funding Organisations

2<sup>nd</sup> Joint call (13 September 2023)

- 48 funding organisations from **31 countries**.
- 22 EU Member States (not yet Bulgaria, Croatia, Luxembourg, Slovakia, Slovenia).
- 5 Associated countries: Iceland, Israel, Norway, Tunisia, Türkiye.
- 5 International partners: Canada (Alberta), Switzerland, UK (Scotland), USA and India.



# Thank you

CLEAN  
PLANET  
DIRECTORATE

