

## European Energy Research Alliance (EERA) JP “Clean Energy tranSition for Sustainable Society (e3s)”

### WORKSHOP

### *Fostering changes in energy consumption: a pathway to demand reduction*

University of Padova (Padova, Italy)  
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With the economic rebound after the pandemic and Russia's manipulation of the EU's energy markets (gas supply volumes were reduced from 2021), the EU faces significant energy supply problems that turned into a full-blown energy crisis following the Russian full-scale invasion of Ukraine in February 2022. In response to the hardships and energy market disruption that followed, the EU presented the [REPowerEU plan](#) to rapidly reduce its dependence on Russian fossil fuels by fast forwarding the green transition and joining forces to achieve a more resilient energy system and a true Energy Union. Building on the [Fit for 55 package](#) of proposals and completing the actions on energy security of supply and storage, the plan stands on three main pillars: i) saving energy; ii) accelerating clean energy transition; iii) diversifying energy suppliers.

Concerning energy savings, REPowerEU includes an [EU save energy plan](#), outlining short-term and long-term measures to reduce energy consumption by private households as well as industry. Short-term energy-saving measures focus on voluntary choices and habit changes, while structural energy efficiency measures are foreseen for the mid- and long-term. This highlights how, in addition to investments in energy efficiency technologies, there is the need for a change of end-users' behaviour and lifestyle to obtain additional energy savings by reducing the demand for services.

Traditionally, energy efficiency policies have mainly targeted and promoted energy efficient technologies and infrastructures. However, in most cases, the energy savings achieved have been less than expected, due to several factors, such as rebound effects or to the so-called energy efficiency paradox. The “traditional” energy efficiency policies are still very necessary but are not sufficient for reaching a rapid reduction of the energy demand. Policies focusing on behavioural change and energy sufficiency can complement energy efficiency policies, in particular those aiming at changing end-user consumer behaviour and lifestyle.

The combination of: i) individual and collective behavioural change, ii) energy efficiency, and iii) energy sufficiency would help in meeting the demand reduction objectives of the REPowerEU plan as well as other related policies and strategies (e.g. EU Green Deal, Paris Agreement).

The research needs are highlighted in the literature in such topics:

- i. **Individual and collective behavioural change:** addressing the challenge of understanding determinants of behavioural change and identifying effective strategies to promote it at individual and collective level;
- ii. **Energy efficiency:** investigating energy efficiency measures, reduced and effective energy use, by taking into account the risk of rebound effects and the energy paradox and identifying strategies to promote their diffusion in different domains;
- iii. **Energy sufficiency:** improving the understanding of the potential of energy sufficiency actions for lowering consumption and identifying opportunities to promote it.

So far, the above issues have mostly been guided by perspectives focusing on costs, discount rates and technological aspects, often disregarding other factors accounting for the interconnection between social systems and citizens overlooking how citizens and (public and private) organizations actually perceive the problem of demand reduction.



Therefore, there is a need for an interdisciplinary approach understand how to foster demand reduction and limit the related existing issues (rebound effects and the energy efficiency gap). The Workshop “*Fostering changes in energy consumption: a pathway to demand reduction*” is a starting point for initiating and stimulating a research work on the topic of energy demand reduction that will culminate in the writing and publication of a **White Paper** in the spring of 2024.

For each of the below topics, contributions on the subtopics listed below are welcome.

## TOPICS & SUB-TOPICS

### Individual and collective behavioural change

- Determinants of energy behaviours
- Influence of individual's characteristics on behavioural choices
- Impact of social norms and culture in demand reduction
- Individual vs collective demand reduction approaches
- Beyond behaviours: social practices

### Energy efficiency

- The role and limitations of energy engineering
- Prebound and rebound effects
- Spill-overs from improved energy efficiency
- Energy efficiency gap
- Energy sharing and flexibility

### Energy sufficiency

- The relationship between energy consumption, economy and well-being
- Environmental/climate change-oriented behaviour
- Just Energy Transition (energy poverty, gender issue, inclusion, ...)
- Needs for definition and analysis
- Open issues: scale, time, equity
- Role of technologies in helping energy sufficiency

### Timeline:

- 31 August 2023 – Abstract\* submission deadline
- 15 September 2023 – Acceptance notification
- 20 September 2023 – Deadline to apply for the “Early-career Researcher” open position in EERA\*\*\*
- 15 October 2023 – Short paper\*\* submission deadline

### \*Abstract proposal requirements:

- The abstract must be submitted in English;
- Between 400-500 words (Times New Roman 12, 1,5 line-spacing);
- The abstract should be developed according to the following structure:
  - Title;
  - Main topic and subtopics;
  - Background and motivation;
  - Methodology;
  - Main results and implications.
- It must be sent to:
  - EERA JP e3s coordinator: [alessandro.sciullo@unito.it](mailto:alessandro.sciullo@unito.it)
  - EERA JP e3s manager: [m.menon@eera-set.eu](mailto:m.menon@eera-set.eu)
  - Padova conference organizer and host: [mara.thiene@unipd.it](mailto:mara.thiene@unipd.it)

**\*\*Short papers requirements:**

- Short papers must be submitted in English;
- Between 1500-2000 words (Times New Roman 12, single line-spacing)
- The Short paper should follow the same structure required for the abstract, further expanding and detailing each section.
- Only authors who have received notification of acceptance of their abstract and who also wish to be considered for being part of team that will work on the White Paper on Demand Reduction are required to submit the short paper within the due deadline.  
Submission of the short paper does not automatically give guarantee of being part of the White Paper working group. Indeed, following the evaluation of the Scientific Committee, the authors will be notified whether they will be member of the working group or not.

**\*\*\*Early-career Researcher open position in EERA:**

The [European Energy Research Alliance](#) (EERA) is looking for an **Early-career Researcher** to support for **6 months** the working team of the EERA [Joint Programme on “clean Energy tranSition for Sustainable Society – e3s”](#) in the writing of a **White Paper on energy demand reduction**. The Early-career Researcher will work independently at the EERA AISBL headquarter in **Brussels** and must be available for short assignments in Europe. Starting period: **January 2024**.

More detailed information about the vacancy, the requirements and the procedure to apply are be available [here](#).

**Scientific Committee:**

- Michael Belsnes – SINTEF Energy (Norway)
- Tiina Koljonen – VTT (Finland)
- Izaskun Jimenez Iturriza – TECNALIA (Spain)
- Manfred Paier – Austrian Institute of Technology (Austria)
- Witold-Roger Poganietz – Karlsruhe Institute of Technology (Germany)
- Alessandro Sciallo – University of Turin (Italy)
- Ayşen Sivrikaya – Hacettepe University (Turkey)
- Mara Thiene – University of Padua (Italy)

**Questions:**

For questions or additional information, please contact the EERA JP e3s Operations and Communication Manager by email: [m.menon@eera-set.eu](mailto:m.menon@eera-set.eu)