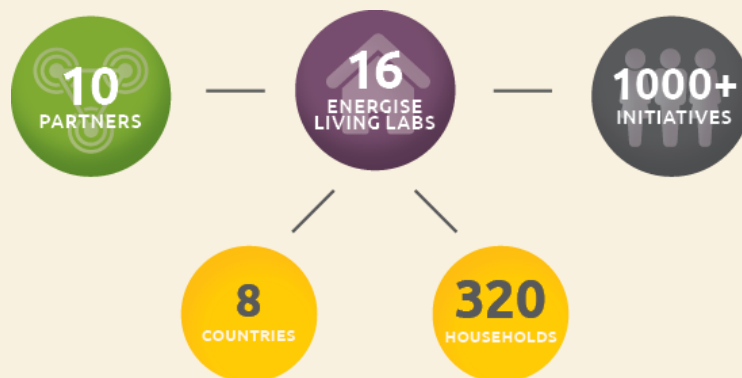


## CONSTRUCTING TYPOLOGIES FOR SUSTAINABLE ENERGY CONSUMPTION INITIATIVES

### POLICY BRIEF AND RECOMMENDATIONS



## FRAMING THE ENERGY CHALLENGES

Our current lifestyles and energy consumption patterns have an unsustainable impact on our world and environment.

There is an increasing realization that energy demand has to be reduced and several sustainable energy consumption initiatives (SECI) have been established over the last decades in order to address these challenges. However, the current scale of change is insufficient to achieve the necessary sustainability transition in the energy system (COP21; Geels et al, 2017) and European final energy consumption levels have stagnated or increased in recent years, offsetting energy efficiency measures taken (Thomas and Rosenow 2019).

**Energy demand across Europe needs to be reduced in order to mitigate climate change problem – but energy demand is once again on the rise.**

Labanca and Bertoldi (2018) argue that the main ingredients of current policies concerning energy use can be described as understanding changes in energy consumption as a mix of behaviorally, economically or technologically driven energy efficiency improvements. This tradition has taken hold in spite of the fact that an increasing number of studies show that technological (efficiency) improvements alone will not meet the required reductions in carbon emissions, and targeting individual behaviors brings about limited changes in actual energy consumption patterns (e.g. Fuchs and Lorek, 2005; de Konig et al, 2016; Foulds and Christensen, 2016; Bjørn et al, 2018; Southerton and Welch, 2018; Thomas and Rosenow, 2019). There is thus an increasing realization that meeting energy targets is highly dependent on several complex aspects of final energy consumption patterns. Current endeavours to implement energy efficiency policies are not appropriately dealing with social and cultural aspects of energy use, thereby limiting their potential for initiating long-term transformation (e.g. Foulds and Christensen, 2016; Shove 2017; Genus et al., 2018; Southerton and Welch, 2018).

Understanding the aim and form of recent and current sustainable energy consumption initiatives (SECI) is key to understanding how transformative change can be furthered.

**Energy demand reduction is understood and targeted in different ways, depending on problem framing, which in turn has implications for the end-results.**

### Typologizing energy problem framings

In order to undertake identification and assessment of the SECI and their embedded problem framings, a database template was developed through which specific aspects of each SECI could be explored and described. In total 30 categories were established (a more detailed description of which can be found in Jensen et al (2018)). These categories enabled exploration of the SECIs according to several themes. Central to the assessment was if and how the SECIs take practices or socially-embedded situations as targets for intervention for sustainability, rather than targeting individual behavior, 'choice', or technical innovation in isolation (as recommended by Shove, 2010; Spurling et al., 2013; Labanca and Bertoldi, 2018; Foulds and Christensen 2018). To conduct such an assessment, categories were established to make inquiries about scale, stated objectives, methods of evaluation, governance and types of outputs. Thus, the database enables a multifaceted exploration of the 'problem framings' within which actors (including initiators, partners, funders, etc.) in the SECIs might operate.

It is important to note that while the framework enables an assessment of potential problem framings embedded in the SECI, and across actors involved, it is not designed to facilitate a comprehensive cross-evaluation of their successfulness.

### The resulting problem framings typology:

- **Changes in Technology:** This problem framing assumes that changing levels in energy use is a matter of technological change
- **Changes in Individuals Behavior:** This problem framing assumes that changing levels of energy use is a matter of changing individuals' behavior in terms their energy use, and choices related to energy efficiency
- **Changes in Everyday Life Situations:** This problem framing assumes that changing levels of energy use is a matter of changing material components, images/norms and competences related to specific energy intensive practices.
- **Changes in Complex Interactions:** This problem framing assumes that changing levels of energy use is a matter of changing interactions between several actors and sectors. This includes assuming that resource (e.g. water, heat and energy) consumption happens because of certain ways of organizing daily life across domains, sectors and practices.

## POLICY RECOMMENDATIONS

### Problem framings are important for actualized reductions in energy demand

- Applying the problem framing typology to SECIs exemplify the dominance of interventions rooted in a theory of change which emphasises the importance of individual behaviour, which comprise over 48% of the initiatives, and technical solutions, which make up over 26% of the total. In contrast there is a minor role for policy interventions that address the substructure of individual choices and behaviour.
- A fundamental insight is that policy-makers may benefit from exploring and working with how particular institutionalised configurations of social practices hold particular energy consumption patterns in place. Fundamentally, this requires the application of a different theory of change from those that have typified energy demand reduction policy in Europe to date.
- To effectively address energy challenges, policy-makers need to adopt hitherto marginalised theories of change that enable certain problem framings. They need to design and to implement measures adapted to the task of changing practices which are rooted in everyday activities, undertaken in particular socio-material and temporal spaces, commingled with and shared though contextually delimited meanings and knowledge.
- Including a variety of actors from different sectors in planning and implementing initiatives that may reduce energy demand derived from energy-intensive practices may create longer-term energy use reductions. Defining upper and lower limits for energy consumption related to energy intensive practices is one way to achieve this goal.

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