

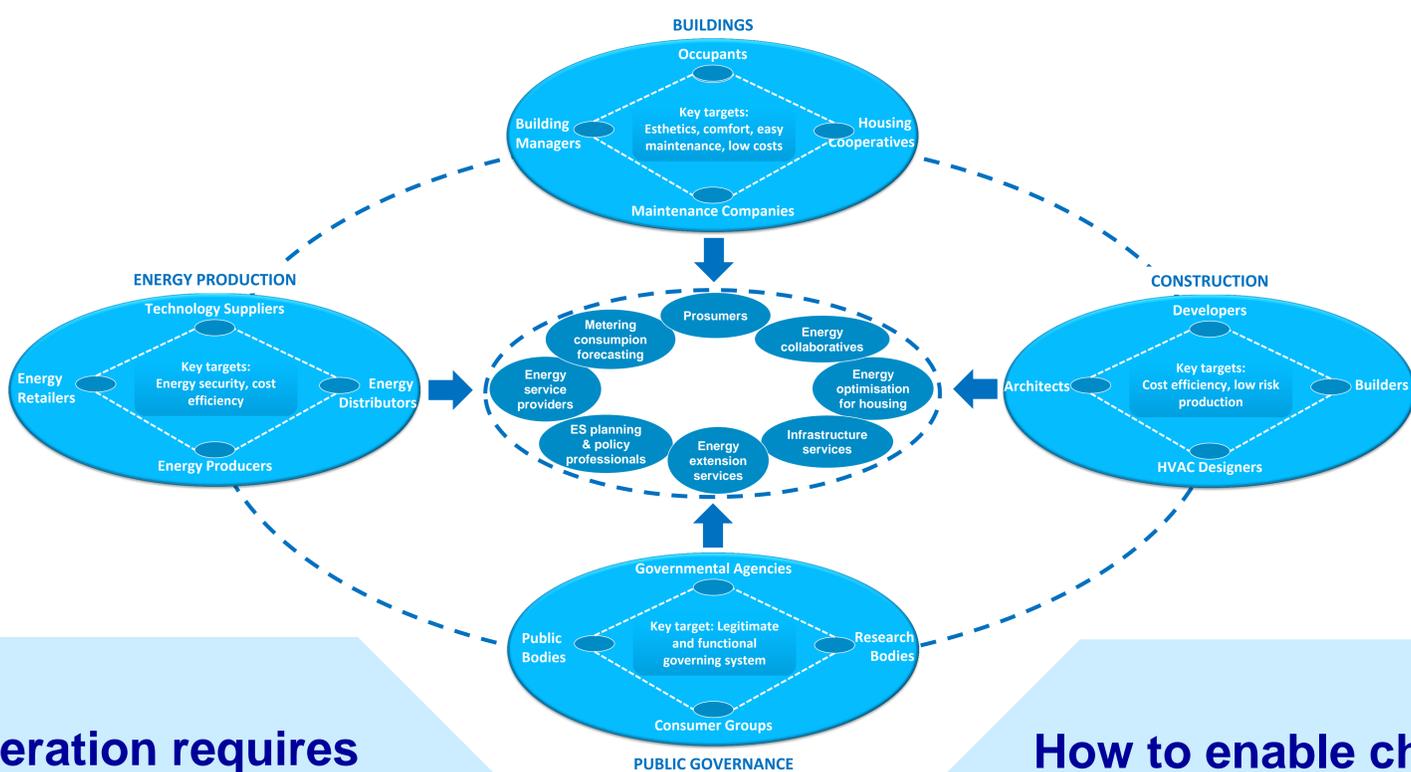


Towards local energy service ecosystems

Change in Business Ecosystems for Local Renewable Energy and Energy Efficiency - Better Energy Services for Consumers (USE), Funded by the Academy of Finland 2015-2018

BACKGROUND In the EU, buildings cover as much as 40 % of the total energy consumption. Diverse policy measures have been launched in different member states to reduce the energy consumption of housing. Recently, attention has been increasingly put into the energy generation and energy efficiency choices made at the construction and renovation phases of buildings. Consumers are still hesitant in adopting novel distributed renewable energy solutions and whole house approaching in reducing energy demand despite the recent rapid technical development in the field. The USE project generates novel insights into the possibilities to accelerate the emergence of local and national energy efficiency and renewable energy ecosystems providing services for consumers. It investigates the barriers and enablers for scaling up of innovative service solutions and identifies measures to enhance the acceleration of business ecosystems promoting disruptive renewable energy and energy efficiency innovations.

EMERGING BUILDING ENERGY SERVICE ECOSYSTEMS



Acceleration requires

- Systemic change towards customer centric service thinking in several separate but inter-related fields including: energy production, buildings, construction and public governance.
- Holistic energy design practices which integrate energy solutions during the entire life cycle (cradle to grave).
- Hybrid actors that are able to create linkages between different spheres of action.
- Developing and testing novel value co-creation and appropriation mechanisms
- Overcoming the main barriers facing building energy service companies: lack of technical skills, disinterest in energy efficiency improvement, and non-functional regulation.
- Coherent, consistent and comprehensive policy mixes to support building energy service providers.

How to enable change?

- Strengthening of actor networks through collective goal setting and knowledge exchange
- Public support to enable experimentation of new value propositions, ecosystems roles, and digital platforms
- Boosting innovation and novel PPPs through experimental urban development platforms
- Improving policy implementation processes and reorienting organizational practices (e.g. in building inspection) to match with the intentions of policies.
- Innovative public procurement & revision of urban planning principles
- Holistic, integrated energy design services
- Support for peer to peer learning networks of consumers

Publications

Kivimaa, P., Kangas, H-L., Lazarevic, D., 2017. Client-oriented evaluation of 'creative destruction' in policy mixes: Finnish policies on building energy efficiency transition. *Energy Research & Social Science*, in press.
 Kangas, H-L., Lazarevic, D., Kivimaa, P., 2017. Technical Skills, Disinterest and Non-Functional Regulation: Energy Efficiency Barriers Viewed in an Ecosystem of Energy Service Companies. *SPRU Working Paper Series, SWPS 2017-04*, University of Sussex, Brighton;
 Martiskainen, M., Kivimaa, P., 2017. Creating innovative zero carbon homes in the United Kingdom – intermediaries and champions in building projects. *Environmental Innovation and Societal Transitions*, in press.
 Åkerman, M., Halonen, M., Wessberg, N. 2017. How consumers face novel hybrid energy options in housing? Lessons from the new detached houses construction cases in Finland. Paper presented in *NESS Conference 6-8th June 2017*.

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