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Mobilization of innovative design tools for refurbishing of buildings at district level

MODER develops methods and tools

The European project MODER develops methods, tools and process models for energy-efficient refurbishment at district level. MODER develops

- processes and practices that enable building owners to activate refurbishment at district and neighbourhood level with the help of energy management companies and engineering companies
- business models for engineering companies, consultants and energy managers to profitably offer these services for owners
- existing tools by adding new functionalities and improving the usability with the help of new visualisation.

The main objective of MODER is to increase business of engineering companies, energy managers and consultants in supporting municipalities and building owners in European and global markets for the refurbishment of buildings at district level.



Figure 1. MODER tests the processes and practices in real cases. The Kranj (Slovenia) case study will be based on the ongoing energy renovation project of existing public and apartment buildings. The MODER project also organised the first workshop in Kranj.

	POSSIBLE BARRIERS FOR REFURBISHMENT AT DISTRICT LEVEL
1	Town planning and building permission practices
2	Taxes and fees of energy generation
3	Presence of several owners <small>This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680447</small>
4	Simultaneous presence of several project actors
5	Lack of activators or integrators
6	Lack of proper business models
7	Lack of proper delivery models
8	Lack of energy assessment tools for district level
9	Lack of design procedures for district level
10	Lack of design methods for the optimization of grid interaction and load matching

MODER interviewed stakeholders about barriers for district level refurbishment

There are some differences between countries but the most important barrier is the involvement of several owners in the process of refurbishment at district level and the related difficulties to find an agreement. Important barriers are also problems related to the legislation with regard to town planning and lack of actors that would initiate the refurbishment project and motivate owners and other stakeholders are important barriers. Difficulties are also related to the current practices, taxes and fees of energy generation, lack of proper business models and lack of tools that support the optimization of grid interaction and load matching.

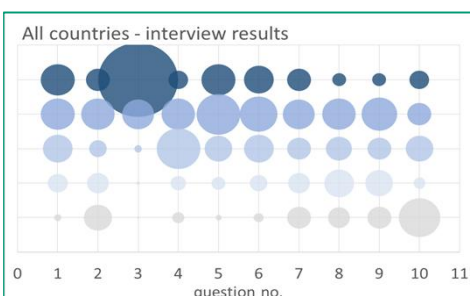


Figure 2. Importance of different barriers for energy-efficient refurbishment at district level.

Delivery models for refurbishment at district level

MODER studies the following delivery models that are preliminarily seen interesting for energy-efficient refurbishment at district level:

- Invite-to-project (one central actor as an initiator)
- Distributed Design-Build (coordination of separate DB projects)
- Public-private or private-private partnership
- Alliance.

MODER partners

- Sweco, Sweco Rakennetekniikka Oy, Finland, Coordinator
- VTT, Technical Research Centre of Finland Ltd, Finland
- Fraunhofer IBP, Fraunhofer Institute for Building Physics, Germany
- Siemens AG, Germany
- REM PRO, REM PRO limited liability company, Latvia
- W/E Consultants Sustainable Building, The Netherlands
- ertex solar, ertex solartechnik GmbH, Austria
- ZRMK, Building and Civil Engineering Institute ZRMK Ltd, Slovenia
- FinnEnergia, Finland
- LEAG, Local Energy Agency of Gorenjska, Slovenia.

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