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SOCIAL ACCEPTANCE OF INNOVATIVE RENEWABLE HEATING AND COOLING SYSTEMS

During the past two years, the [TRI-HP EU funded](#) project has been thoroughly studying issues related to the social acceptance of innovative renewable heating and cooling systems. The knowledge collection process commenced with a desk research and stakeholders’ mapping, followed by one-to-one interviews with key stakeholders in each focus country (DE, CH, ES & NO) to verify, adjust and enrich the initial assumptions. A series of stakeholders’ workshops in each country allowed for more focused discussions and obtaining tangible insights of the most crucial social issues. The most important social barriers and hindrances identified at national level were communicated with relevant stakeholders at EU level via workshops and one-to-one meetings, providing an EU-level perspective. The collection of all this information and knowledge enabled the development of recommendations of drivers and incentives to assist overcoming these barriers and improve the market uptake of innovative renewable heating and cooling systems. A summary of these drivers and incentives linked to each barrier category is listed on the table below:

Economic-financial aspects	
Barriers and hindrances	Drivers and incentives
<ul style="list-style-type: none"> • high investment and upfront costs • additional costs, e.g. for drilling or refurbishment measures • uneven distribution of costs and gains between investor and buyers/tenants (landlord–tenant dilemma) • high operating costs due to high electricity prices 	<ul style="list-style-type: none"> • low operating costs due to high self-consumption of electricity generated on-site • higher taxation of fossil fuels • public funding and subsidies • new business models, such as energy contracting or housing cooperatives • flexible electricity tariffs for heat pumps • promoting an assessment of total costs and revenues over the entire lifetime of a system
Practical implementation and feasibility	



Barriers and hindrances	Drivers and incentives
<ul style="list-style-type: none"> • high heating demand in existing buildings • additional effort for refurbishment measures in existing buildings • challenging on-site composition of various technological components • high space requirements inside and outside the building (especially in densely populated areas) • lack of understanding of complex renewable heating and cooling systems • complicated approval procedures and funding applications 	<ul style="list-style-type: none"> • new generation of high-temperature heat pumps • low temperature radiators instead of underfloor heating in refurbished buildings • standardised, simple solutions (off-the-shelf modules, plug'n'play sub-systems) • ensuring compatibility of components from different manufacturers by standardisation • offer compact heat pump systems to avoid work on the refrigeration circuit for installers • certification schemes for installers or tradesmen • closer and trusted cooperation between planners, tradesmen and manufacturers • easy-to-use manuals for installation and operation • cooperation with local planning authorities • making funding applications simple, low-threshold (digital) but also accessible for all ages

The detailed reports with the complete list of barriers and hindrances per country along with the detailed recommendations can be found in the following reports, while the analysis of EU-level stakeholders' views will be summarized in a policy brief in the future.

- [Social issues of novel renewable energy heating/cooling systems](#)
- [Social acceptance of innovative renewable heating and cooling systems: Barriers, hindrances, drivers and incentives](#)
- [Enhancing stakeholders' acceptance of trigeneration heating and cooling systems: Recommendations from the TRI-HP stakeholder process](#)

TRI-HP's project coordinator Daniel Carbonell from SPF-OST stated: *"The demonstration of the effectiveness and the benefits of TRI-HP systems is a key step towards a wider market acceptance. Effective policies at local and EU level will be crucial for providing fertile ground for innovative*

technological breakthroughs by European SME's and equip the market with high performance heating and cooling systems that are totally aligned with renewable energy and efficiency targets of the European Union."

For more information visit <https://www.tri-hp.eu/> & follow the TRI-HP project on [Twitter](#) and [LinkedIn](#).

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