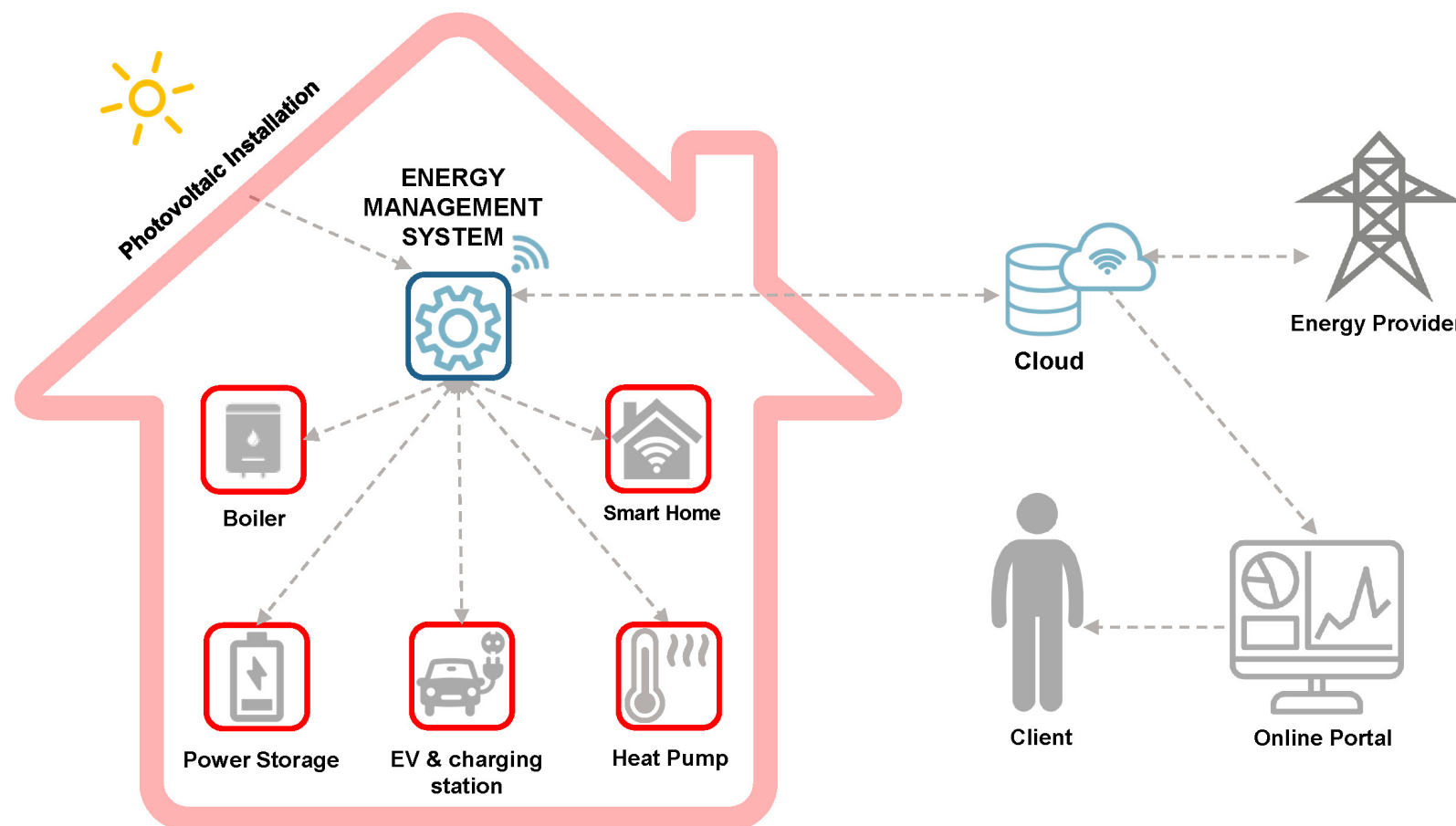


InnoNet-Energy Update

February 2022

The project focuses on the **diffusion of Energy Management Systems (EMS)** in Switzerland linking photovoltaics and e-mobility. The main goal is to better understand the actor and information networks on both the supply and demand side, as well as between them. The project aims to identify the **key actors, communication channels and leverage factors** to promote the implementation of EMS. It takes an explicit geographical approach focusing on the role of **geographical and social proximity** relevant for the diffusion of innovations.



Energy Management System (EMS)

EMS manage and visualize the energy consumption and production in a building. It enables the **automatic control of several appliances** such as heating systems, photovoltaic panels, batteries or electric vehicles' charging stations. EMS relieve power grids during demand time by shifting the usage periods of non-essential appliances to an off-peak time. This prevents an overload of the house connection and stabilizes the electricity grid as a whole.

In this project we focus on **EMS installed in residential single- or multi-family buildings**, looking especially at those that link **photovoltaics and electric vehicles' charging stations**. These two technologies are relevant as photovoltaics has the largest potential to expand renewable energies and the share of electric vehicles increased significantly, particularly in multi-family housing that puts pressure on the house connection and the electricity grid.

More information about the project can be found in epfl.ch/labs/herus/.

If you want to be informed about further project updates, please send an email to gloria.serracoch@epfl.ch with the subject "InnoNet-Energy subscription".



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Bundesamt für Energie BFE
Swiss Federal Office of Energy SFOE

EPFL

ENERGIE
ZUKUNFT
SCHWEIZ

Protoscar

The project runs from 2020 to 2023 and is carried out with the support of the Swiss Federal Office of Energy (SFOE). This booklet presents preliminary findings from 26 guided interviews with key actors on the supply side of EMS (i.e. energy utility companies, energy technology providers, academia, consultancy and advocacy) and actors who implemented EMS in three linguistic areas in Switzerland. The authors bear sole responsibility for its conclusions and findings.

Communication channels

Interpersonal communication, including informal exchanges, is highly relevant between supply side actors but also to build a relationship with the consumers.

For **social media** there seems to be a mismatch between supply side actors (high use) and demand side actors/consumers (low use); exploring it further can be relevant to close the communication gap.



Leverage factors

The **quality of information** as well as its cohesiveness and effectiveness is key for promoting EMS (awareness about technology, functions of technology etc.).

Understanding **existing infrastructure**, conditions and their regional differences seems key to promoting EMS projects.

A **clear regulation framework** seems necessary, particularly regarding energy legislation; additionally, more flexible regulations are required to allow for innovative solutions.

The **business model** for EMS needs to be straightforward with clear profitability.



Key actors

Energy utilities occupy a unique position towards the consumer and seem to have an untapped potential to promote EMS.

Energy technology providers need to coordinate and be informed about other building technologies to make use of their unique position to introduce EMS to potential consumers.

Public entities, particularly associations, have important visibility but lack a cohesive message and approach.

Engineers and architects can act as a catalyst for adoption right at the moment of investment considerations; their knowledge about existing regulatory and technical challenges is key.

Institutional investors have a large impact to scale-up the implementation of EMS.

Need for
partnerships
between different
actors involved



Need for an
actor acquiring
a coordinating
role between
actors involved

Proximity effects

Consumers seem to value **geographic proximity** when deciding to work with specific professionals.

Social proximity plays a role, as consumers use their existing professional and personal relationships to inform themselves about EMS; the relationships build on trust, competence and knowledge, reliability and innovativeness.



Outlook

These results serve as a basis for preparing a representative and quantitative survey with supply and demand actors. The data enables to derive **recommendations for action** to promote EMS in Switzerland.

