



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
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Bundesamt für Energie BFE

brenet

Building and Renewable Energies Network of Technology
Nationales Kompetenznetzwerk Gebäudetechnik und Erneuerbare Energien
Réseau national de compétence technique du bâtiment et des énergies renouvelables
Rete nazionale di competenza tecnica per gli edifici e le energie rinnovabile

Buildings as Power Plants

MicroPolygen

Initial Conditions

The European Union has set the goal that on average, new buildings do not consume energy throughout the year by 2019. This goal can only be achieved through a further reduction of the power energy demand and with the help of de-centralised energy supply. The building infrastructure is integrated into the power supply network.

Research

In its theme Kraftwerk Haus (Power Plant House), the Swiss National Network of Excellence in Construction Technologies and Renewable Energies - brenet - uses the potential of the buildings as part of a virtual power plant.



This research project, which was funded by the Swiss Office of Energy (BFE), investigated new concepts for a sustainable, building-integrated polyvalent energy supply for three years. The project expanded the limits of the energy systems of residential units by their induced mobility. In order to evaluate the system's efficiency, widely applicable simulation models were used, with the goal of evaluating new, future-oriented system combinations of buildings, energy supplies, and mobility.

The results clearly showed that in order to achieve high levels of energy efficiency, both the residential unit and mobility must be considered in an integrated manner.

Publications: http://www.bfe.admin.ch/forschungsbaeude/02/07/02/134/index.html?lang=de&dossier_id=04590

brenet-Projektteam



Materials Science & Technology

Lucerne University of Applied Sciences and Arts

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