

Solution 2.4/2: White paper on GIS- and data driven-tools for identifying and planning energy efficient building renovations in Switzerland

White paper: GIS and data driven tools for identifying and planning energy efficient building renovations in Switzerland

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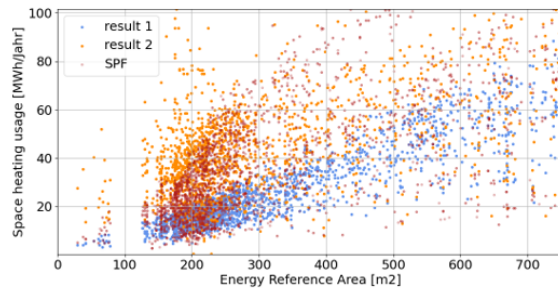


Figure 2: Comparison of heat demand for space heating between the SPF and two anonym company results (building up to 750 m² energy reference area shown).

Issue / Challenge

The Swiss building stock is responsible for 50 % of the country's energy demand. Many buildings need to be renovated in the next years to reach the agreed-upon climate goals. To find affected buildings and to get optimal solutions for each renovation case, GIS-based planning tools can bring benefits. However, the data basis for such tools needs to include all relevant information and to be up to date, which is not necessarily the case today.

Description

The white paper being prepared within this task aims to give recommendations on GIS-based data management to aid the renovation of the Swiss building stock. We give an overview on the data needs, the missing information and their (potentially missing) representation in today's tools and how to get to their integration into the tools. We show examples of existing tools and their need for data through the result of a questionnaire among such tool developers and a case study of the municipality of Stäfa. The white paper will give a framework and recommendations for a data-driven building renovation process.

Type of solution:

- ☐ Service ☐ Tool ☒ Other: White paper
☐ Product ☐ Guidelines

Involved partners

- Research: OST-SPF, ZHAW-IFM
- Implementation: GeoImpact AG, SolarCampus, Intep GmbH, Sympheny

Implementation and Distribution

End users

Policy makers, municipalities (data record keepers / data privacy concerns), companies working with GIS-data, companies that develop renovation improvement tools

Added value

- Identifying the available building related and GIS-based data, and summarize their availability, shortcomings, and potential usages
- Showcasing the importance of accurate input data through the case study

- Recommendation for necessary improvements on the data-level for an efficient renovation strategy in Switzerland

Implementation

The published white paper will be freely available so that the entities in charge of collecting and making data available can better understand the need for accurate and uniformly available data. In turn with improved data availability, the companies that develop the planning-tools for renovations can give more accurate estimates that will benefit the renovation process.

Ownership and Distribution

Ownership:

- ☐ Single owner ☒ Multiple owner ☐ Other: ...

Type of distribution

- ☒ Free ☐ Monetarized ☐ Other: ...

Status of development

Achieved so far (May 2024)

- Draft of white paper
- Questionnaire conducted among the implementation partners
- Results of questionnaire incorporated in white paper
- Case study of the municipality of Stäfa: heat demand model comparison from various sources

To be done

- Formulate key recommendations and conclusions
- Publish the white paper

Risks / Mitigation

- Risk: Lack of diverse contributions to the white paper
- Mitigation: Reach out to more implementation partners within the Renowave project or find further contributors outside