



# Project Final Results

## The FASUDIR project

The traditional approach to the building energy efficient retrofitting brings poor results in relation to the urban sustainability, resource efficiency and economic return. Although the district retrofitting approach is frequently the most sustainable and cost-effective, the complexity of decision making grows exponentially when the intervention targets larger scale, even more when considering the fragmentation of the construction sector.

The FASUDIR project ran from September 2013 to August 2016 to support the necessary building-retrofitting market mobilization in Europe to fulfill EU-targets in 2020 and 2050. The key result is the Integrated Decision Support Tool (IDST), developed to help decision makers to select the best energy retrofitting strategy to increase the sustainability of the whole district.

The IDST is supported by a robust methodology and a repository of retrofitting technologies for building and district retrofitting, and has been demonstrated in three case study areas, in Budapest, Frankfurt and Santiago de Compostela, representing the diversity of climate zones and construction typologies of residential districts found across Europe.

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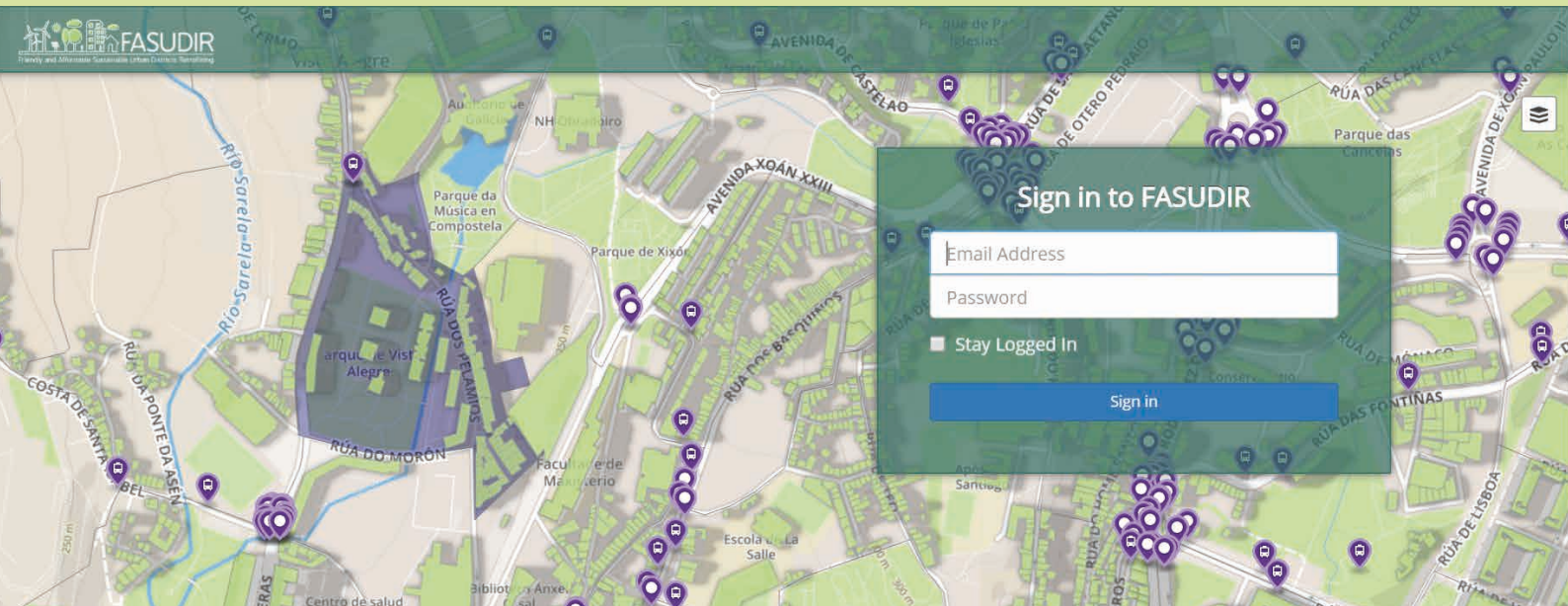
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## Features

The Integrated Decision Support Tool is based on a building/district energy model integrated with the functionality of calculating the sustainability KPIs, and includes an innovative decision making/optimisation module that supports the retrofitting solution selection process through an online user-friendly graphic interface.

The IDST allows the end-users to perform on-line calculations concerning the possible retrofitting technologies and mechanisms on building/district level by taking into consideration different technological scenarios.

Beyond the decision support tool, other tools are available to aid the analysis of results and to guide the end user in reaching the most appropriate retrofitting solutions depending on their preferences and constraints, such as:

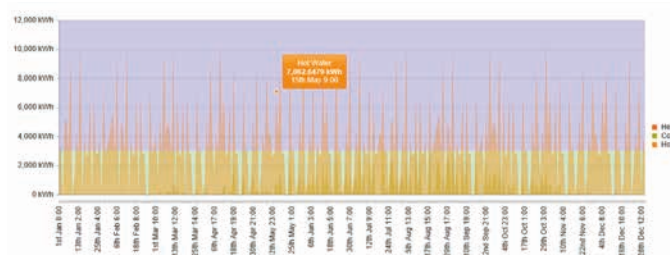
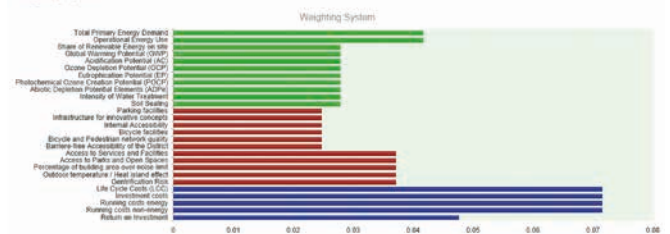
- Assessing energetic weak points of buildings
- Assessing feasibility of heat networks
- Synergies and interactions
- Solar potential of surface areas of buildings
- Consideration of financial mechanisms

### Sustainability Issue Priorities

You can also set your own priority levels by changing the referring score.

Priority Issues	Priority Level	Referring Score
Energy Demand	High	9.00
Impacts on the environment (CO2)	Medium	6.00
Environment (Land use, Water use)	Medium	6.00
Accessibility	High	9.00
Quality of Life	High	9.00
Mobility and Infrastructure	Medium	6.00
LCC	High	9.00
Investment Costs	High	9.00
Operational Costs	High	9.00
Return on Investment / Payback	Medium	6.00

### Weighting System

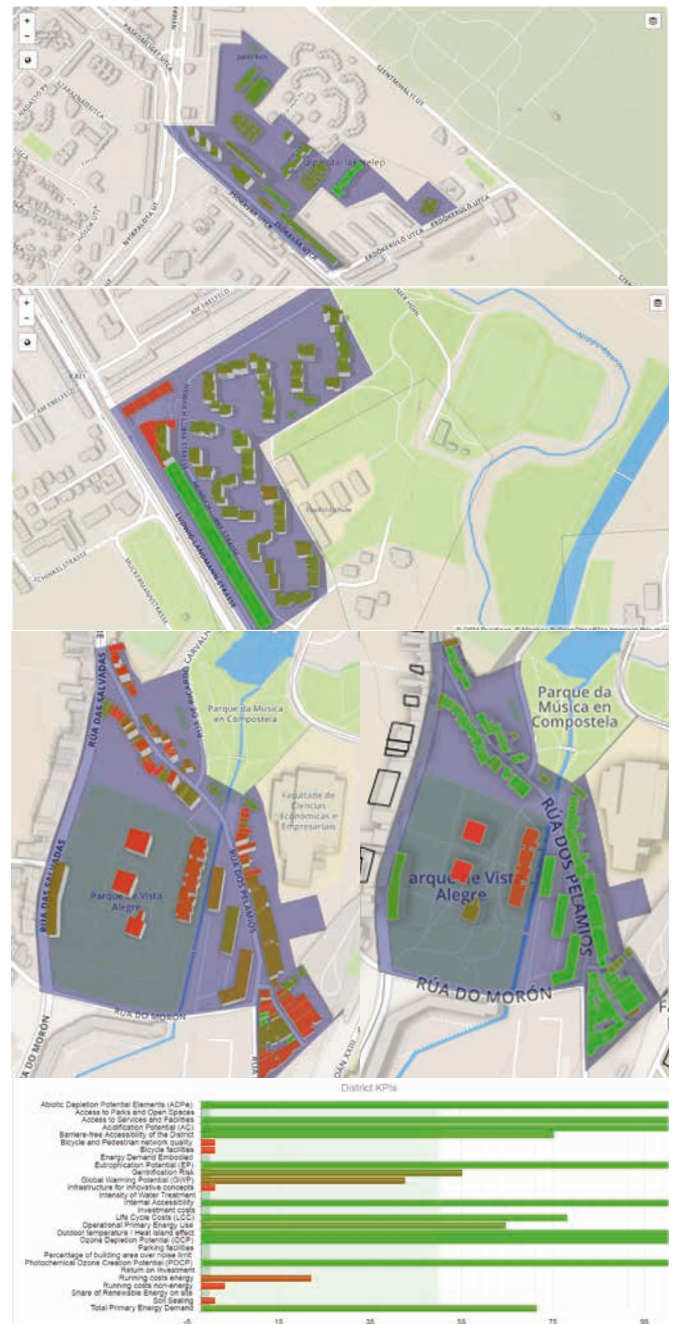


## Case studies: testing results

The purpose of the case study demonstration and evaluation process was to further develop the tool from prototype to a stable, tested and useable tool for all the three districts in Budapest, Frankfurt and Santiago de Compostela. As part of this, where case study Leaders, members of the FASUDIR consortium and Local Project Committee (LPC) members have been invited to test the tool's functionality and usability from many different perspectives and viewpoints.

These activities have shown that the tool follows FASUDIR methodology and is able to evaluate different retrofitting solutions at a building and district level. The software can identify the most appropriate measures, given differing technical, political, environmental, legal, financial and commercial stakeholder interests and constraints.

Case study demonstration and evaluation activity has also produced draft "instructions for application" which guide on where and how to implement the model efficiently, who should use it, the impact related to its use, and resources and organisation required for optimal use.



## FASUDIR Policy Recommendations


Policy Makers workshops have produced 6 Policy Recommendations at urban scale to improve the sustainability of existing districts. These recommendations are targeted primarily to municipal governments and are based on the use of the FASUDIR methodology and tools.


The 6 Policy recommendations are:

1. Holistic approach to sustainability
2. Integrated multi-level approach
3. Participatory planning
4. Innovative business models
5. Assessment systems in urban plans
6. Multilevel governance

# The FASUDIR Consortium




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 **FASUDIR**  
Friendly and Affordable Sustainable Urban Districts Retrofitting

