Risk Reduction For Building Energy Efficiency Investment

NEWSLEITER



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Dear Readers,

EEnvest project has just passed its turning point and in early June the project's partners shared their activity progress status in the 4th project meeting.

The technical-financial risk evaluation methodology has been completed and it is now undergoing the testing phase based on data from the two demo cases in Italy and Spain.

An innovative methodology to evaluate investments in energy efficiency is being developed. Based on technical-financial risk analysis, the methodology considers both energy and non-energy related benefits, including comfort, well-being and health, and will be implemented into EEnvest Search&Match web platform, coming in Q4/21.

Other useful services are being integrated to support investors and building owners, as a blockchain-based reporting tool and self-assessment tool for benchmarking project quality.

Cristian Pozza, EEnvest project coordinator (Eurac Research)











Interview with Graziano Salvalai, PoliMi

What is the role of PoliMi in this project?

As a Consortium Partner of the EEnvest project, Politecnico di Milano is mainly involved in the development of specific tasks within Work Packages 2 and 5. These two WPs are respectively focused on the analysis of the technical risk evaluation and the development of the search and match platform. In that context, the contribution of PoliMI focuses on the identification and characterization of the input-output data selection according to the objectives and findings of the different WPs. The data selection is then used for populating and structuring the EEnvest platform and for providing clear and easy-to-read key performance indicators (technical, financial and multi-benefit) to characterise building energy renovation investments.



Graziano Salvalai

Associate Professor in Architectural Engineering **Politecnico di Milano**

What are the technical risks of investing in buildings' renovation that you detected?

Due to the general complexity of building energy renovation projects, different risk factors normally arise during the implementation of energy conservation measures. Among the most common risks, the technical ones are frequently due to faulty installation or components damage, hence affecting the overall reliability of the financial investment. Considering that all of those factors have an important impact on the overall performance loss of the building and on the comfort perceived by the users, their identification during the design/construction process is a key factor to increase the confidence and attractiveness of energy efficient renovation investments.

What has been your strategy in defining the methodology for structuring data in the EEnvest platform?

The input-output data of the EEnvest platform have been structured considering different aspects, among which the most important are data availability, typology and scalability. Considering the complexity of the building system, different descriptors and parameters are normally used to characterise the specific building performance. In this respect, a clear, representative and concise list of technical descriptors of the building components (representing the inputs to the EEnvest platform) has been identified and selected, taking also into account the potential data interoperability with commercial software (e.g. existing building energy simulation tools). The platform output data have been defined by filtering multiple descriptors and selecting among them specific measurable and robust parameters.

www.polimi.it

Interview with Emil Martini, UIPI

What is the role of UIPI in this project?

UIPI role is to bring to the consortium the building owners' viewpoint and feedback on the creation and implementation of a platform to evaluate the risk of investment in energy efficiency for buildings. More precisely, UIPI's task is to identify necessary requirements to replicate the EEnvest approach outside of the reference market targeted during the project, to set the foreground for ease of replicability after project ends in other geographic and building use markets, with a specific focus on residential buildings. Being building owners one of the key categories to which the project relates, UIPI's practical perspective is a fundamental contribution for the future success of the platform.



Emil Martini

Legal and Policy Affairs Officer UIPI

How do you intend to replicate the EEnvest platform to the residential sector? What are the main factors to consider?

Currently UIPI is working on how to adapt the desktop due diligence tool and the platform to be replicable in the residential sector and in relation to small-scale commercial buildings markets. The main purpose remains to identify the necessary requirements to replicate the EEnvest approach and define gaps and actions for replication. The key concept is simplification, as both the platform and the due diligence tool must be simplified in order to be usable in the residential/small businesses markets. UIPI is providing recommendations on how to adjust the platform to these potential markets and investigating if some recommendations can already be implemented during the project, depending on complexity and time needed.

What kind of dissemination activities are you planning to organize in the next months?

UIPI's dissemination activities during next months will mainly consist in the preparation of the fourth dissemination workshop. This workshop will take place in Belgium with the aim of sharing results and recommendations with the stakeholder community. It will be mainly dedicated to the players of building network, to attract a vast community of property owners and show them the various possible uses of the platform. In preparation to this event, UIPI will continue to update and inform its network of members on the opportunities provided by the Eenvest project with internal expert meetings on specific issues.

www.uipi.com

EEnvest Webinar



This webinar hosted by GNE Finance as a part of the EEnvest Project, helps to explore the present and consider the future of Multiple Benefits for investors and reviews valuation methodologies, screening criteria and KPIs based on the experience of key market actors from the United States and Europe, with a focus on **best practices** and **replication opportunities**. <u>Watch the webinar</u> to learn more from experts at Fraunhofer Institute for Systems and Innovation Research ISI, GNE Finance, BNP Paribas, and the European Commission.

Each presentation touched upon the relevance of multiple-benefits for enhancing the energy efficiency investment case and highlighted how the multiple-benefit arena is still **uncertain** as there is no standardized definition, classification, nor quantification method.

Although this context of uncertainty and lack of common agreement on the topic, the following key points are transversal for all stakeholders in the EU and beyond:

• Multiple-benefits are a **game-changer** as they serve as a means of reporting all impact dimensions of a specific renovation project. These areas of impact may refer to a higher level of comfort and productivity, enhanced mental and physical well-being as well as CO₂ emission reduction -which accrues to society as a whole.

- Multiple-benefits are of interest not only for the competent business owner and tenant but also for **investors**. In specific, some multiple-benefits such as CO₂ emission reduction, SDG alignment and EU Taxonomy compliance are foreseen as an input for corporate reporting and thus greener portfolios.
- Nowadays, multiple-benefits are being assessed and communicated rather at in-house level than as an external source of information. This is mainly due to the fact that there's **no unique methodology** to measure these benefits. Project promoters and investors are using their own means to interpret and assess this information. Nevertheless, in the short-term, this should change due to increasing efforts at EU-level to demystify the multiple-benefits arena.

All in all, the event showcased how experts are addressing multiple-benefits and most importantly, the short-term and medium-term opportunities that may arise from such a topic. It's expected to see strong improvements in the upcoming years.

4th General Assembly and Mid-Term Conference

Mid-term Conference Promoting investments in energy efficiency for buildings through the EEnvest's framework

The 4th General Assembly and the Mid-Term Conference took place between 7th and 9th June 2021. On 7th and 8th June, the project's partners met virtually to provide updates on the status of the project and to discuss the next steps in terms of milestones and dissemination activities. The project coordinator, Cristian Pozza (Eurac Research), highlighted the expected impacts of EEnvest and what should research focus on. He stressed how it is important to reach and engage stakeholders, particularly investors, to provide data evidence of financial returns of energy efficiency investments and test market acceptance, taking into account quality and reliability, and eventually to pave the way to replication.

The other partners then presented their last developments and future outcomes. Among these, the **technical risk evaluation framework** (WP2) was presented along with the specification of the **Italian demo case** in Rome - Italy (Eurac Research). The data elaborated in this technical risk framework is needed for the **financial risk modelling** (WP3) and **investments evaluation framework** which is developed by SINLOC and GNE Finance. Moreover, GNE Finance still plan to develop the Energy Efficiency Business Model and the valuation methodology for EE investments, including multiple benefits and incorporate them into the platform (WP4). Concerning the platform (WP5), IES has presented the workflow of data and the **first prototype**. Other tasks in progress and to be completed include the definition of energy efficiency renovation strategies for demo-case, the execution of a **technical/financial due diligence** on the asset (WP6 - Energinvest), and **replication** potential outside the commercial buildings market (UIPI). Finally, within WP7, communication, dissemination and exploitation results and milestones have been highlighted by R2M Spain and France.

The <u>EEnvest mid-term conference</u>, entitled "Promoting investments in energy efficiency for buildings through the EEnvest framework" took place virtually on 9th June. The conference was free and open to the public and it represented the opportunity to disseminate knowledge and engage stakeholders from the financial and building sector. The consortium presented the project and in particular the developments and first results in the last 2 years. Moreover, three other R&I H2020 projects have been invited to present their research: Triple-A, QUEST and LAUNCH projects.

The presentations started with Dimitris Ntimos (IES) who introduced the **EEnvest platform** by also giving a glimpse of the first prototype.



The platform is a user-friendly online platform to promote investments in energy efficiency building retrofits and acts as a match-making service, connecting building owners to potential investors, using an innovative de-risking model.

In the following "Project Data" session, Graziano Salvalai (PoliMi) discussed input and output data, which means the identification and characterization of data sets to structure the EEnvest platform and the development of a correlation methodology for the definition and representation of EEnvest's KPIs. Then, Miguel Casas (Energinvest) presented the project quality self-assessment which is a questionnaire providing an indication of the quality of set-up and implementation of an EE project and covering six themes: design of Energy Efficiency Assets and energy saving calculations, implementation of Energy Efficiency Assets, maintenance and operation of the Energy Efficiency Assets, monitoring of the Energy Efficiency Assets and their energy consumption, measurements and verification of the energy savings, and communication/training of users/occupants.

In the following "Risk analysis" session, Giulia Paoletti (Eurac Research) explained the **methodology of the technical risk** starting from the identification of renovation measures of commercial buildings to the identification of the problems – occurrences (probability – impacts) and mitigation measures, and eventually to financial outputs, such as energy gaps and damages. The technical risk calculation was then explained as the structured process able to determine reliability of a renovation project based on technical risk level. The Italian demo-case in Rome, Italy was also presented.

Gabriele Fregonese and Linda Tso (SINLOC) then illustrated the **methodology of the financial risk analysis**. Starting from the technical risk identified in the previous methodology, this financial risk analysis also identifies financial risk, such as gas price and electricity price, and climate risks. Hence the model combines all these inputs to define an overall distribution of the revenues and other KPIs. The process of data is done through the Monte Carlo simulation.

The final session of the conference was dedicated to the presentation of three H2020 projects focused on de-risking energy efficiency investments and facilitating financing of energy efficiency projects through the presentation of their methodologies and tools. Philip Mexis (National Technical University of Athens) presented the Triple-A project whose main aim is to identify and promote bankable and sustainable investments already from the first stages of investments generation and pre-selection/pre-evaluation. Then, Stefan Plesser (Synavision) presented the **QUEST** project whose main goal is to promote investments in sustainability and energy efficiency by identifying and empirically risk-grading factors that influence energetic performance of buildings, making it more profitable for investors. Last, but not least, Michael Pachlatko (Joule Assets Europe) presented the LAUNCH project whose framework will enable large scale aggregation of sustainable energy assets for financiers and will support contractors in accelerating pipeline growth.

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Activities 2021/2022

2021

May

1st dissemination workshop by GNE

June

- 4th General Assembly
- Mid-term Conference

September

- 2nd dissemination workshop by SINLOC
- 1st webinar on risk calculation

December

- 3rd dissemination workshop by R2M
- 2nd webinar on barriers and business cases with ENERGINVEST
- 3rd webinar on the EEnvest platform with GNE and IES

2022

March

- 4th dissemination workshop by UIPI
- 4th webinar on project follow-up

June

Final conference

CONSORTIUM



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