

FinSESCo

Fintech Platform Solution for Sustainable Energy System Intracting and Contracting, Boosting Energy Saving and Renewable Energy

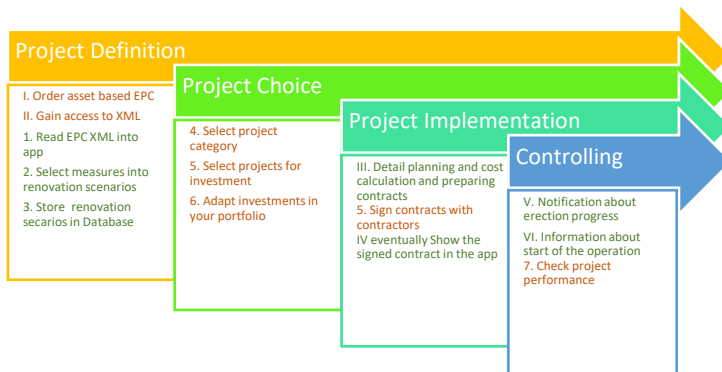
“ By adding end to end digitalisation FinSESCo supports efficient intracting and brings smaller projects to the energy contracting market allowing low risk private investments. ”

Dear readers!

We are happy to present to you the fourth newsletter with news from the project. In this newsletter we focus on two topics:

- Exploitation approach
- First evaluation results of the field work contributed by the Europe University Viadrina

But first we want to show the new flow chart when applying the FinSESCo tools for energy contracting showing versatility in the exploitation approach.



If you want to express your thoughts you might visit the social media channels listed at the next pages, or write to office@energycontracting.info Enjoy reading!

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Project Duration

01.05.2022 - 31.12.2024

Project Budget

Total Budget: € 1,032,760.-

Project Coordinator

effiziente.st (Austria)

Project Partners

- Europa University Viadrina (Germany)
- SEnerCon (Germany)
- BEIA International Consultants (Romania)
- Institute for Energy Studies Anna University (India)
- Velore Institute of Technology (India)

Project Website

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Exploitation

Preconditions

After having developed a prototypic system, we can come back to the enabling conditions shown in Figure 1. At the bottom we have two conditions which must be circumvented. In most EU member states, we have building element data from the Energy Performance Certification which we can use theoretically. In the few countries having consumption-based Energy Performance Certification project owners can buy such EPC for a small amount of money. If they buy it from one system operator data availability and software interoperability is guaranteed. The system operator must secure access to newest information about funding schemes. Funding is an important step to be able to decrease the running time of the crowd investing which is typically lower for investments into start-ups.

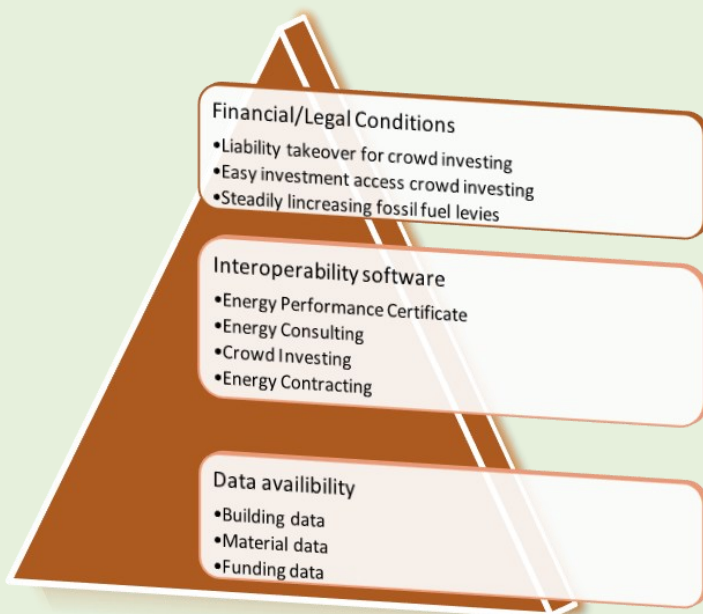


Figure 1 Enabling conditions

It is not very risky investing in energy saving projects but for acceptance of the crowd investing a liability takeover from public entities or an insurance company would be great. While energy contracting has a short repayment time, energy saving contracting is relying on steadily increasing energy prices, which is partly guaranteed by CO₂ pricing. However, repayment of the incurred money without linking to energy saving measures partly destroys the effect for buildings with low CO₂ emissions. Finally access to crowd investing should be made easier since it does not qualify to be used for money laundering.

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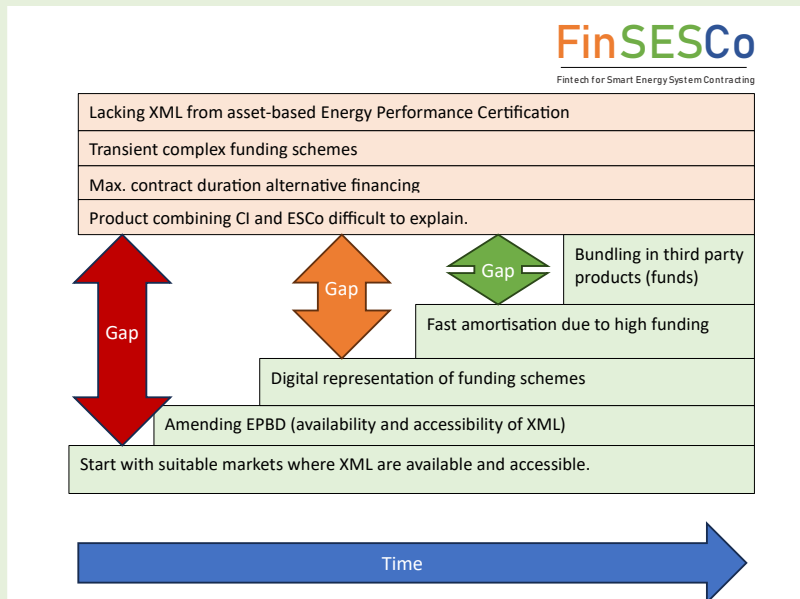


Figure 2 Closing the gap

In the exploitation work we first researched and analysed the energy contracting market to identify trends, opportunities, competition, and potential customers.

For the ramp up of the full blown FinSESCO approach Figure 3 shows a transition scenario starting with a crowd funding scheme targeting energy poverty. Basically, no repayment is planned, only in case of significant savings a repayment is made to the investors. This can be increased if social funds take over liability.

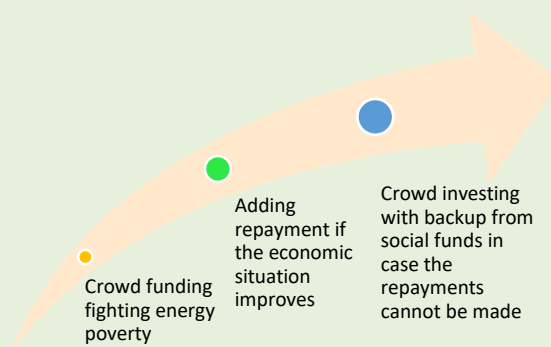


Figure 3 Transition scheme from crowdfunding into crowd investing

Since the fully fledged approach connecting at least three layers may not come to life in the first run we also depict scenarios where modules of the FinSESCO approach are exploited. Open Interfaces would allow to connect also third-party software. The main FinSESCO approach is file based i.e. the XML from the Energy performance certification is used as input for the project definition, the dXML contains the measures and is used for the project presentation in crowd investing, the contracting and the measuring and verification in energy contracting. We already have validated parsing of different XML, the dXML scheme should be standardised in the best scenario.

In the first scenario the crowd investing approach is left out for interacting. The production of the projects from the XML or other sources may remain identical, the measuring and verification is renamed to

monitoring and accounting. Some formalisations of the deep renovation process for public buildings will develop into such a scenario.

The most probable way of using FinSESCO modules is when reusing the data for energy consulting and defining renovation plans. In the financing scenario the crowd investing may be left out.

The fully blown approach re using EPC data for crowd investing is complex and needs some explanation therefore needs some precursor like the reuse of EPC data for energy consulting. Should there be less advantageous conditions from banks for money deposits, crowd investing may be switched on.

The last scenario using the data from EPC for commercial energy contracting is seen less success prone, since it focuses mainly on energy converters and energy contracting entities already have their own systems.

Table 1 Alternative development paths

Application	Details	Rating
Intracting for building stocks with one owner	The public entity uses building data, selecting the best roadmap for renovation and decarbonisation	Likely, since one EPC software used, savings mandatory and Crowd Investing may be optional (Feedback from Cities lacking to rank first)
Reuse of EPC data for energy consulting	EPC software includes the option for energy consulting. The drawback is the proprietary data format in most cases. Import from CAD is also fragmented	This is possible with some combinations of software and a valid use case to be developed as precondition for supporting crowd investing.
Reuse of EPC data for crowd investing for energy contracting	Exporting data from Energy Consulting Software to other tools is reducing the preparation time	The focus is not on the text for marketing, but the strength is the ability describing technical details. Manually altering the description should be no problem.
Reuse of EPC data for implementing energy contracting	A new XML scheme was introduced to be used for monitoring/controlling and eventual distribution of income	The success will depend on the ability to integrate XML into a contract, which is feasible since XML is human readable. Interoperability with controlling software is to be developed

Outlook:

In the operative phase it is important to build partnership, collaborating with energy suppliers, distributors, and other stakeholders to leverage their expertise, resources, and networks.

The operation of the platform is evaluated after a period of time and adapted to the results either from performance measurements or acceptance or feedback on usability.

Finally, customer relationship is developed, especially in the intracting scenario. But also, project owners are incentivized starting with a smaller project like PV and stepping up to deep renovation later.

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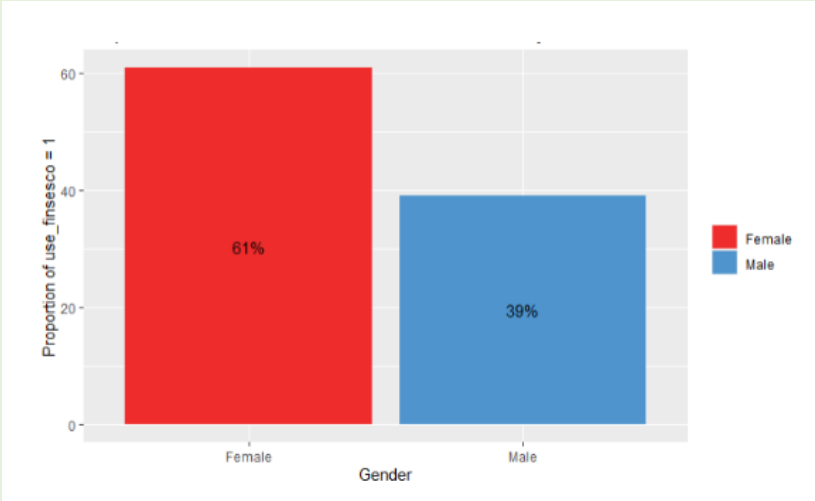
Sociodemographic analysis of the appreciation of the Finsesco services

The landscape of the energy transition, specifically focused on energy contracting, prosumership, and energy efficiency measures, is often stereotyped as having a homogeneous profile within its participants: predominantly male, with high levels of education and income. However, for the energy transition to effectively take place, it is necessary to include as many participants as possible, democratizing access to the necessary measures and innovations to reduce consumption. After all, the best kWh is the one not spent. Our research, however, presents interesting results for the democratization of the energy transition.

The study is based on a questionnaire conducted with a focus on measuring the energy efficiency behaviour and demand-side flexibility of renewable energy prosumers. The data was collected in order to address the interests of the FinSESCo, aiming to outline a profile of the main stakeholders interested in the platform, identify investment and interest gaps, and match overlooked groups with the platform's usage. Possible relationships between potential platform usage and prosumership were translated into questions on the platform to utilize the data as broadly as possible. The data allows for the correlation of interest in the platform, knowledge of energy efficiency contracting models, and past experiences in crowdfunding investing in energy efficiency behaviour, enabling a series of possible analyses for consumption habits to be tested in different econometric models in the future.

After explaining the FinSESCo method to the respondents, our preliminary analysis unexpectedly reveals a higher interest from women than men in utilizing the FinSESCo platform. The difference is significant, as in our sample, of those who demonstrated interest in using the platform, 61 identified as women. This fact may be explained by the composition of our sample, where 74% of those who showed some familiarity with the model were women.

Proportion of individuals who would use the FinSESCo platform by Gender



Despite only 33% of those familiar with not having a higher education degree, this portion represents 56% of the people who would use it. If we consider a positive correlation between a higher academic level and a higher income level, we begin to observe a potential

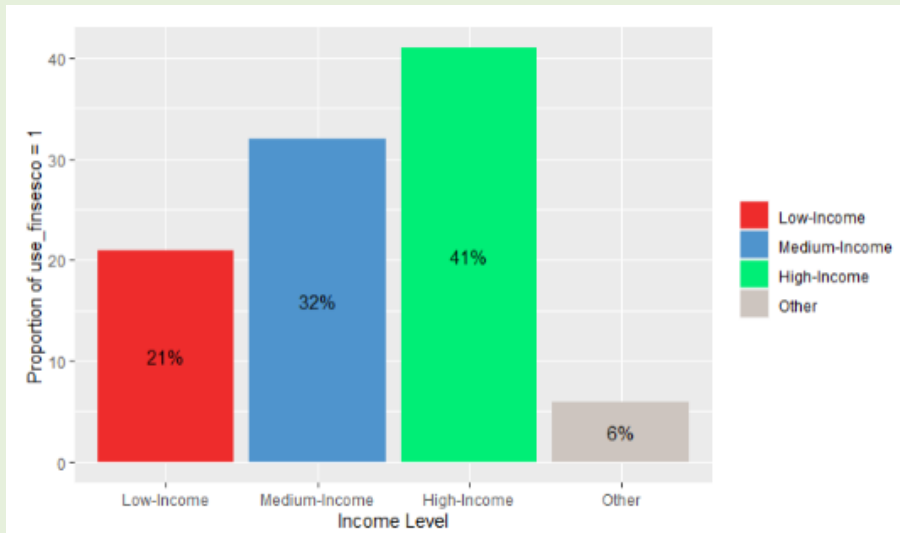


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untapped in lower income groups. When we analyse how it is distributed by income, we notice that although only 8% of those who said they were familiar with the model are from low-income groups, when presented with the proposal of the FinSESCO platform, the proportion rises. 21% of those who said they would use it are from low-income groups. Combining this with the medium-income groups, we have 53%, observing great motivation from lower-income groups to use the platform.

Proportion of individuals who would use the FinSESCO platform by income level



Another curious factor to note is that 47% of those who showed interest in using the platform are not homeowners - they rent. Similarly, 45% of the interested individuals actually live in apartments. Considering that the majority of the German population indeed resides in apartments, among our respondents, those who have the highest share among groups, that is, the internal proportion of each group interested in FinSESCO, we see that in fact, people living in multi-family houses (group 3 in the table) have a higher proportion, with results very close to those who live in apartments.

According to our sample, 5% of male respondents have invested in their own projects through crowd investments, while 7% of women have done so. Similarly, 20% of male respondents have invested in third-party projects via crowdfunding, while 22% of women have done so. Once again, we see a greater propensity for women to invest via crowdfunding, aligning with the interests and format of the FinSESCO platform.

The results so far present interesting paths to be taken and questions to be answered: how to engage women in participating in the FinSESCO platform? How to enable lower-income groups, which have great potential to be explored, to make investments in the platform? How to allow and streamline processes and remove barriers for people living in apartments and paying rent to make investments in energy efficiency measures that benefit them? We aim to deepen our analysis with the next steps and attempt to correlate the factors presented here in a more comprehensive manner.

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The project in a nutshell

Main Objectives

The aim of the project is to research technology and enabling factors for a platform supporting energy performance contracting. Individuals and investing entities may put their bids, financing implementation of small renewable installations and energy efficiency measures for individual single family building owners, apartment owners up to owners of several buildings. The applications utilising the platform components shall create trust by using secure transmission of meter data, automated publishing results for yields/ savings and payments.

Implementation

The FinSESCo platform supports, via end-to-end digitisation, the process of project definition, investor search, contracting and energy flow metering, quality control and payments. Using already existing data on buildings and energy saving measures, the definition of ESPCo/ESPCo projects can be done with less effort. The gamified investment process with a competitive component and the embedded networked meter-based repayment process with secured transmission is complemented by machine learning-based error detection, which aims to detect deviating yields for renewable energy in Energy Contracting projects, and lower savings in Energy saving contracting projects to be able to plan counteraction in due time.

The FinSESCo platform will include components for portals that focus on private projects but can also be used by companies and across sites to build an intracting solution. The project will explore the best use cases and test the acceptance and attractiveness among stakeholders, reaching TRL7 with the pilot implementation. The competences of the partners from 4 EU countries + India include the development of energy services, smart metering, machine learning, the implementation of energy contracting as a legal construct and social research.

Main Results

The outcome of the project is a specification validated through stakeholder acceptance, testing and technological assessments of the test implementations. Deliverables 2.1 Research analysis, 2.2 requirements manual prepare the pilots and a tool for interested parties to design a portal and test its suitability. Deliverable 4.1 Evaluation plan, 4.2 Evaluation summary, and 4.3 Exploitation plan follow. The dissemination comprises web site, newsletters, Social Media appearance, scientific articles, and conference posters.

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