Deliverable D2.2

Report on Specifications for Project Entries, User Profiles, Use Cases and User Ranks-V1

June 2023

ENERGATE
ENERGY EFFICIENCY MARKETPLACE

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List of Abbreviations

AaS	As a Service
BMS	Building Management Systems
BPMN	Business Process Model and Notation
CAPEX	Capital Expenditure
CHP	Combined Heat and Power
EE	Energy Efficiency
EPC	Energy Performance Certificate/Contract
ESCO	Energy Service Company
ESG	Environmental, Social, Governance
HVAC	Heating, Ventilation & Air Conditioning
ICT	Information & Communication Technologies
IRR	Internal Rate of Return
JV	Joint Venture
KPI	Key Performance Indicator
MEP	Mechanical, Electrical, Plumbing
MUSH	Municipal, Universities, Schools, Hospitals
M&V	Measurement & Verification
OBF	On Bill Finance
PBT	Profit Before Tax
P/L	Profit and Loss
PPA	Power Purchase Agreement
PV	Photovoltaic
RES	Renewable Energy Systems
ROI	Return on Investment
UC	Use Case
US	User Story
VAT	Value Added Tax

Definition of Terms

User Story	A general description of a platform functionality from the perspective of the user
Use Case	An explanation of how users perform tasks or interact in the platform
User Requirement	Requirements/needs expressed by the platform's users
Zero Stage	The platform stage where users register in the platform
Fetch Stage	The platform stage where users enter building related information, technical, commercial and risk related aspects of the project.
Process Stage	The platform stage where projects are aggregated based on similarities, to create bundles that can be matched with financiers
Deliver Stage	The platform stage where users follow up on realised projects to enhance the flow of "real" information on energy efficiency and energy services results

Executive Summary

Energy efficiency in buildings has been recognised by the EU as one of the pillars for reducing carbon dioxide emissions and prevent environmental harm. However, the energy efficiency potential of the building sector remains untapped, which is largely due to the challenges related to investments in renovation projects. Towards this goal, it is crucial to develop services that try to assist optimal decision making on energy efficiency financing. In this context ENERGATE will develop an ICT platform that aims to facilitate the creation of an effective energy efficiency marketplace, bringing together energy services and sustainable finance, with the ultimate purpose of accelerating building renovation rates on different stages of the building lifecycle.

This deliverable is the initial and first version of a series of deliverables and it specifies input information, as a first step which will later be the basis for the creation of the graphical user interface for the project acquisition frontend in order to facilitate a standardised method of project description and the aggregation and matching processes. It specifies the type of users, details the initial identified use cases for the use of the platform and proposes a user rating system.

Initially the report focuses on defining the stakeholders of the ENERGATE platform, along with their needs. The ENERGATE pilots support the identification of the platform's target groups and corresponding requirements, by providing their viewpoints and ideas in a structured template containing specific questions and requesting predetermined information entries. Thus, the different personas have been defined along with the user stories for each user type. Based on the user stories the basic workflow demonstrating the flow of actions for users exploiting various functionalities offered by the ENERGATE platform is extracted and use cases of the ENERGATE marketplace are defined. The use case elicitation is of the utmost importance for forming the specificities of the ENERGATE platform regarding the project entry module of the Fetch stage, the aggregation and matchmaking processes of Process stage, as well as the feedback and validation procedures of the Deliver stage. The use cases have been translated to user requirements which will set the basis for functional and technical requirements of the platform. In total, 9 user stories, 4 use cases and 36 user requirements were extracted. Finally, drawn conclusions are presented and next steps to be considered in the following versions of the report are analysed.

Since the present deliverable is the first version of the report, the conducted analysis based on the pilot's input leads to the initial identification of use cases for the ENERGATE marketplace. Thus, the use cases will be updated and enriched based on the feedback that will be received through a well-defined stakeholder engagement process that includes bilateral and multilateral meetings with pilot partners and external market actors, surveys, as well as regional workshops and consultation webinars.

1. Introduction

Energy efficiency in buildings is considered of vital importance, as the building sector accounts for a considerable amount of global energy consumption and carbon emissions. However, the rate of building renovation in Europe remains too low, due to the lack of effective tools to support decision making procedures for sustainable financing. In this context, the ENERGATE project aims to facilitate communication between market actors and upstream energy efficiency in buildings, by focusing on the development of an ICT (Information and Communication Technology) enabled marketplace. The ENERGATE platform pursues to enable effective collection of project related information, business matchmaking and aggregation of projects while supporting energy efficiency investment by providing services for sustainable financing of building renovation.

The actions in the ENERGATE platform will be executed through three main stages:

- Fetch stage, during which project-related information is collected. Building data, as well as technical, commercial and risk-related aspects of the projects are declared in a structure manner, so that the projects can be matched with existing completed projects from the ENERGATE database and, thus, recommendations for energy efficiency improvements of the examined asset can be presented to the user.
- Process stage, where an aggregation of projects and matchmaking with the financing side takes place. Bundles of projects will be defined based on specific KPIs, properties and financial indicators. The products will be prioritised based on an MCDA approach so that financiers can find the most attractive offer.
- Deliver stage, which serves the purpose of registering project results to enable feedback and validation. More specifically, validation of savings and additional value streams resulting from implemented building renovation projects will increase the traceability and standardisation of the investment projects and foster trust among the platform users.

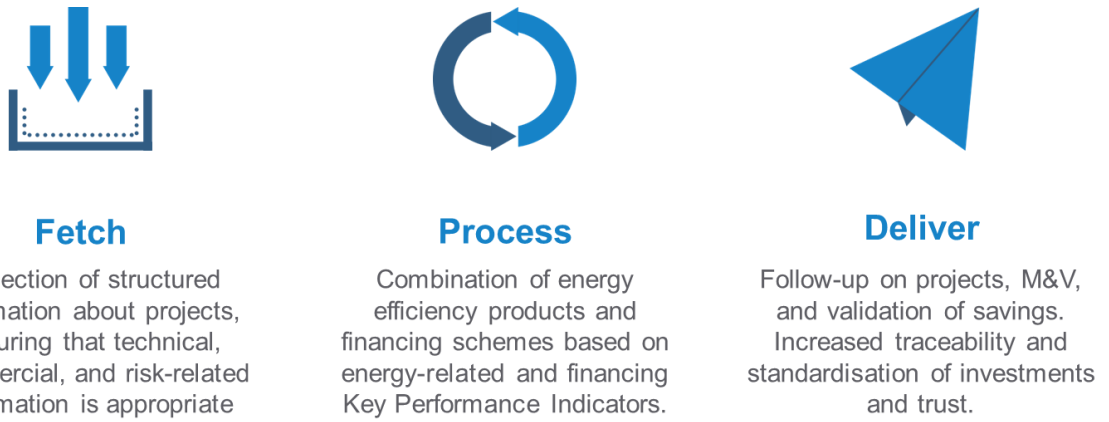


Figure 1: ENERGATE platform stages

1.1. Purpose of the Deliverable

In its basic appreciation ENERGATE envisions to provide a one-stop digital marketplace for market actors in respect of the acceleration of the renovation rates. ENERGATE needs to come up with an efficient process for collecting information on each individual project and project promoter in the most effective and user-friendly manner as well taking into account the interoperability requirements imposed by the MATRYCS architecture. In line with the above, a stepwise approach shall be employed for the development of the front-end in order for the latter to benefit from as much user-feedback as possible:

The first version of the Deliverable "Report on Specifications for Project Entries, User Profiles, Use Cases and User Ranks" is the outcome of the efforts undertaken within the context of Task 2.2 - "Definition of information entries to the ENERGATE platform" and T2.3 – "Definition of user roles & use cases in the ENERGATE platforms".

It aims at defining the ENERGATE users and the use cases which describe the various user flows that different categories of stakeholders can perform on the platform to satisfy their needs. An initial screening of the users of the platform has been conducted, the definition of their framework of activity, while an approach for recognition of the users' credibility and experience or other qualities is being proposed.

Additionally, the present deliverable presents workflows for the delivery of the prototype front-end which taking into account information from the pilot use cases, the MATRYCS architecture and data, and the research conducted under deliverable D2.1-Report on Building Renovation Financing Typologies[1]. In addition, the prototype tried to be adequately forward looking, in order to be able to accommodate the data and information that will be required for the implementation the aggregation and matchmaking of the "Process" stage.

Since 2 more versions of the report will be published in April 2024 and November 2024 the analysis conducted within the present deliverable leads to an initial identification of user stories, platform workflows, use cases and user requirements. This identification is a fundamental step to proceed with developing and materialising the platform's services and functionalities, so that they can be tested and fine-tuned based on the received feedback from real market actors. Taking the stakeholders' feedback into consideration will ensure that the ENERGATE marketplace will be able to truly fulfil the needs of the users and achieve the expected goals. Thus, the purpose of this deliverable is to set the basis for specifying the ENERGATE framework functionalities. Firstly, the pilots filled information in structured forms/templates to enable a thorough analysis of the key stakeholder's types and respective viewpoints. Afterwards, the extracted user stories are translated to use cases, workflows and user requirements. D2.2 is of significant importance to the implementation of the ENERGATE platform since the collected requirements will be the starting point for implementing the Fetch, Process and Deliver stages and respective technical modules which fulfil the basic functionalities of ENERGATE in delivering energy efficiency services.

[1] ENERGATE_D2.1-Report on Building Renovation Financing Typologies-v1.00.pdf (energate-project.eu)

1.2. Deliverable Structure

Apart from the introductory Section 0 that briefly explains the purpose and structure of the deliverable the following report is structured as follows:

- Section 2 analyses the 3-phase approach of user stories, use cases and user requirements elicitation.
- In Section 3, user stories are extracted based on the information provided by the pilots regarding their viewpoints about the platform's potential services and functionalities (Phase I).
- In Section 4 use cases addressing the different user stories are extracted. Thus, the general workflow of the ENERGATE marketplace is presented, while the initial proposal of the user ranting system of the platform is also briefly described (Phase II).
- As a result of the user stories and use case extraction, the user requirements are specified in Section 5 (Phase III).
- Finally, conclusions and next steps are presented (Section 1).

2. Methodology

In this section, the methodology for the specification of user stories, use cases and user requirements is presented. More specifically, the steps followed to engage ENERGATE pilots in providing the necessary information are described. Furthermore, the platform's target groups, as represented by the pilots, are mentioned.

2.1. Description of the Overall Methodology

The overall methodology for the elicitation of the initial workflows and information entries of the ENERGATE platform consists of 3 phases:

Phase I

The first phase begins with defining the target groups, which have been acquired through sessions with pilot leaders scheduled by NTUA/ESC. Templates have been filled in from the pilot leaders, after a training session during which an example was presented by WP4 (Deployment and Validation of ENERGATE Platform) leader, LDK. The pilot's input in the provided templates is available in the deliverable's Annex, and has been utilised to help define the categories of stakeholders that will be using the platform along with their corresponding needs. Based on the aforementioned templates, the user stories are outlined so as to reflect the context and objectives of each category of stakeholders.

Phase II

During the second phase the actual use cases are formed, along with workflows that describe step by step the actions users can perform on the platform to satisfy their needs. More specifically, the initial version of the workflows was created and then discussed with pilot partners, enriched to better reflect the market actors' needs, validated and finalised. Within the workflow, the identified stakeholders have been divided into three main categories: Buildings Owners, Implementors and Financiers. Thus, four use cases have been extracted and correlated with the user stories from Phase I. The goals, triggering events, preconditions, postconditions and steps of each use case have also been clarified.

Phase III

Afterwards, the created user stories and use cases are translated into user requirements that describe what each category of users would like to perform when using the platform. To form a basis for the next steps of the ENERGATE marketplace development, the user requirements are categorised per platform stage and presented along with the related use cases, stakeholder category, pilots and technical module.

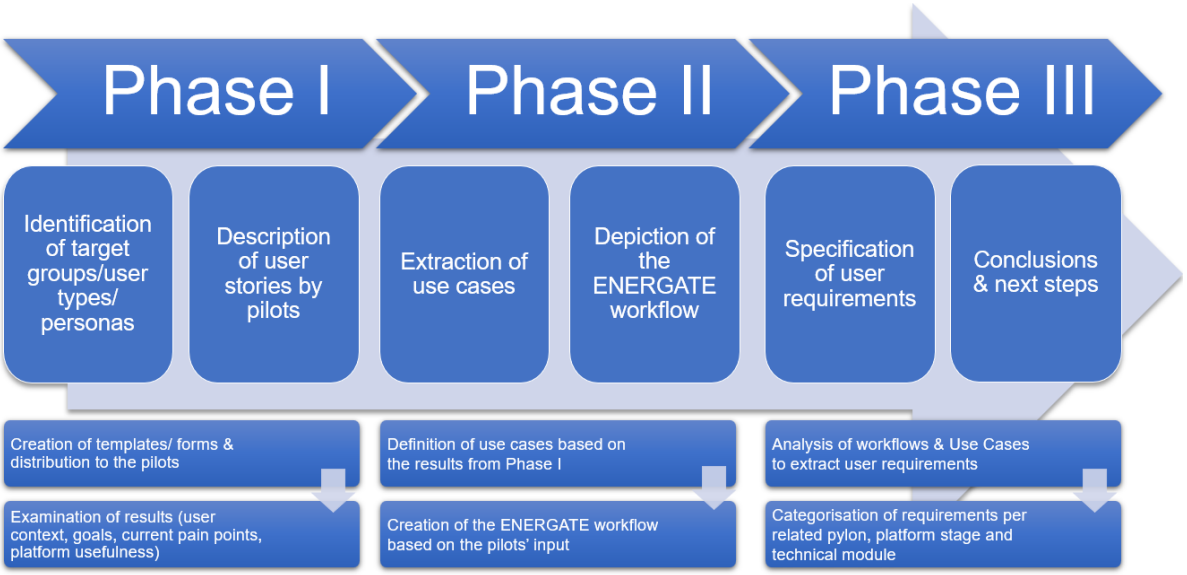


Figure 2: Specifications on use cases, user requirements and project entries extraction process methodology

2.2. ENERGATE Target Groups

The ENERGATE target groups can be divided in two main groups: the Supply-side (Pylon A) and the Demand-side (Pylon B). More specifically:

1) **Supply-side stakeholders**: Stakeholders who are active in the building industry and can also be termed as *building stakeholders*. They have access to, or own data related to, one or more building projects and need to be able to easily declare the technical, commercial, and/or risk-related aspects of their building projects on the platform. Based on their inputs, the ENERGATE platform can provide feedback on possible financing methods and make comparisons of KPIs with other building projects.
   The specific stakeholders identified within this group are:
   a) Energy Services Companies (ESCOs)
   b) Project Developers
   c) Building Owners & associations representing owners
   d) Asset Managers
   e) Energy Consultants
   f) Public/Municipal buildings
2) **Demand-side stakeholders**: Stakeholders who are market actors looking to use the ENERGATE platform for investment opportunities into building projects. They are *financing stakeholders* who make use of the available data related to building projects to look for opportunities on where they can make investments through different types of methods, e. g. on-bill financing, project financing, leasing etc.
   The stakeholders within this group are:
   a) Private Financing Bodies
   b) Public Financing Bodies
   c) Fund Managers
   d) Investment Consultants
   e) Private Investors
   f) Energy Services Companies (ESCOs)

g) Project Developers

Some stakeholders such as ESCOs and Project Developers, can be put into both categories as they have both access and/or own data of buildings and frequently look for the right investment opportunities for their services and projects. Given their impact on both sides, they are stakeholders that are crucial to be involved at every step of the engagement process. More details on stakeholders involved in the ENERGATE project can be found in D5.1 Stakeholder Engagement Plan with Consultation Guide[2].

The aforementioned target groups/stakeholders are represented by the pilots of the ENERGATE project, whose role is depicted in Figure 3 and furtherly explained in Table 1.

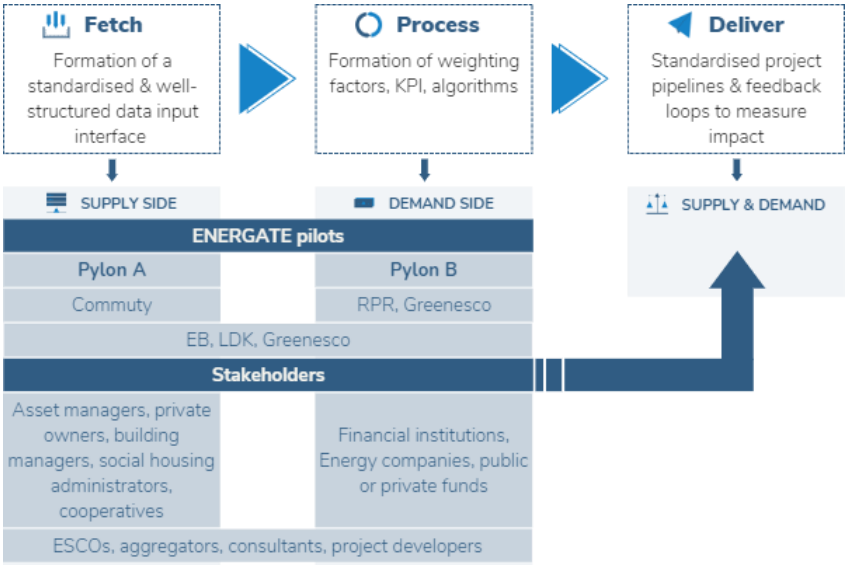


Figure 3: ENERGATE pilots Supply & Demand side

Table 1: ENERGATE pilots' description

Pilot	Pylon	Positioning of the Pilot in Overall Methodology
COMMUTY	Supply Side	Project Developers/ Asset managers
LDK	Supply Side	Energy Services Company/ MEP and Architectural Consultants
ENERBRAIN	Supply Side	Project Developers/ Energy Services Company/ Technology providers
GREENESCO	Supply Side & Demand Side	Energy Services Company/ Financial Institution
RPR	Demand Side	Public Fund

[2] https://energate-project.eu/sites/default/files/results/ENERGATE_D5.1-Stakeholder%20Engagement%20Plan%20with%20Consultation%20Guide-v1.00.pdf

3. Phase I: User Stories Extraction

In this section, the user types (personas) of the ENERGATE platform, along with their corresponding user stories, are defined. More specifically, each pilot was requested to provide information regarding their potential role in the platform. To ensure optimal collection of relevant information, a document was prepared where pilots could provide their ideas in a structured and concise manner. A training session took place, to explain to the pilot leaders the purpose of filling in the templates and how their answers will be analysed and exploited. An example was showcased to facilitate the procedure. The document's templates are presented in the following tables:

Table 2: ENERGATE user type extraction template

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 1** xxxxx
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon X* ***Sub-target group:***	***Add a description of the context of the Persona***
PAIN POINTS	**GOALS**
What current pain points will the platform solve?	***What can the platform help to achieve the goals?***
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs?	***What emotions will the platform create?***

Table 3: ENERGATE user stories extraction template

USER TYPE 1	
User Story 1.1	As a **XXX** (Role = user name/ brief description), I want to **XXX** (Action / Task extracted from the goals and pains) so that **XXX** (benefit from the platform results)

As shown in Table 2, pilots were asked to describe the persona(s) they represent, the current pain points that must be addressed, the needs that must be fulfilled and the goals that the platform could help achieve, as well as the sentiments that the platform could cause. The pilots were also encouraged to provide their ideas of user stories (Table 3).

3.1. Pylon A

Based on the templates presented in the previous section, the user stories of the four ENERGATE pilots representing Pylon A were extracted. Similar user stories provided by different pilots have been bundled. A summarised description of the pilots and their respective user stories is presented in the sub-sections below, while their detailed answers are available in the deliverable's Annex.

3.1.1. Commuty

Commuty Pilot Description

Commuty is an Investment & Asset Management company that manages residential real estate assets and portfolios. Commuty acquires and develops residential projects using different equity sources: private investors, real estate funds and JV structures. Commuty typically buys existing assets in need of refurbishing to generate double-digit returns to its investors. A significant part of the asset's investment is dedicated to improving the energy efficiency and decarbonisation of the asset. To maximise the investment returns, the team leverage the investments using multiple debt sources such as banks, debt funds and/or public institutions. This leverage reduces the equity exposure of the investor as well. Given the ESG criteria of its equity sources, Commuty usually develops passive house and carbon neutral residential units, which is an attractive investment, from the debt side, for banks and debt funds.

The ENERGATE platform has the purpose to connect asset and investment managers such as Commuty with debt providers. In some cases, the asset & investment managers may look for a technical team that will elaborate the energy efficiency improvement project and its execution management. Hence, a double matchmaking is expected from the platform, first with the technical teams and secondly with the debt providers.

Commuty Pilot User Story

Commuty, representing the user type "asset manager", have identified two user stories:

The first user story describes an asset manager looking for a financing institution (bank, debt fund or public institution) that will finance the CAPEX to be invested in an – or multiple – asset(s) to improve the energy efficiency, so that the asset managers can reduce their equity exposure to the investment and hence maximize their equity yield or equity multiple.

The second user story describes an asset manager that does not have a technical team in house, looking to find architects and engineers that will contribute to the elaboration and management of a project to improve the energy efficiency of the asset(s). The aim is to find reliable and well experienced teams that will perform their duties.

3.1.2. LDK

LDK Pilot Description

LDK is an energy consulting company with services focusing among others on energy audits and energy efficiency studies for office buildings (Pylon A). LDK clients are private companies with an interest in increasing the energy efficiency of their office buildings. LDK's long experience in energy efficiency of building sector concluded that even if there is a great interest in identifying the current energy use of the building and seeking of the appropriate

energy efficiency actions to reduce the energy use and consequently the energy cost, only a handful of these actions are actually implemented. The main reason for this lack of energy efficiency implementation is related to the high investment cost required and the lack of financial incentives for the building owners to proceed with the implementation of energy efficiency actions.

In LDK's view, ENERGATE platform will boost the implementation of energy efficiency actions required in office buildings due to the creation of a project pipeline from the building owners and project developers (Pylon A) to the financial investors (Pylon B), through a dedicated matchmaking and aggregation process. The matchmaking process will eliminate the gap and it will bring together both sides based on specific technical and financial requirements defined by both parties. The aggregation process will allow investments with bigger CAPEX, in favour of the investor, by summing up similar projects according to a filter mechanism.

LDK Pilot User Stories

As an energy consulting company, LDK has provided user stories for two user types: project developer and building owner.

According to LDK, in the ENERGATE platform a project developer would want to find an investor willing to invest his/her resources in the energy efficiency actions identified for one of the project developer's customers based on the financial KPIs identified.

As far as building owners are concerned, LDK proposed two user stories:

Firstly, building owners might want to find the appropriate project developer to identify the energy efficiency measures required so as to increase the energy efficiency of their buildings.

Secondly, building owners might want to find the appropriate financial scheme that suits their needs and the investor who is willing to provide the financial resources to increase the energy efficiency of their property.

3.1.3. Greenesco

Greenesco Pilot Description

Greenesco Energy S.A. is an Energy Services Company (ESCO) which offers integrated solutions with a full range of energy-saving services, such as energy upgrade of building installations, cooling-heating, smart software monitoring, LED lamps, net metering etc. The company possesses significant know-how in the technical implementation of the projects while it can undertake large-scale projects on very competitive terms in public and private sector, as it offers good prices, favourable financing conditions and high-quality products.

Greenesco Pilot User Stories

Besides the ESCO's point of view, represented by one user story, Greenesco has provided two user stories relevant to building owners.

An ESCO user in the ENERGATE platform would like to manage financial information related to the project, including the estimated cost of implementing the energy efficiency measures, projected energy savings, payback period, return on investment (ROI), and any available data or analysis supporting the KPIs so that to deliver tangible energy efficiency results to the customer and the investor.

According to Greenesco, a building owner might want to find qualified project developers, ESCOs, contractors, and other service providers specializing in energy efficiency that are reliable and can deliver high-quality results to the owner's projects.

A building owner might also want to find funding opportunities for energy efficiency projects and connect with potential investors or financial institutions that are willing to support his/her projects financially.

3.1.4. Enerbrain

Enerbrain Pilot Description

Enerbrain, founded to reduce energy consumption and deliver better air quality and comfort in buildings, is a company dedicated to providing better control for heating, cooling, and ventilation thanks to advanced artificial intelligence; it can also offer a system integration service that allows business insight and supports better-informed decision-making and lower operational costs.

Enerbrain Pilot User Stories

Enerbrain has provided three user stories. Two of them represent the building manager's perspective, while the third one focuses on the ESCO's point of view. More specifically:

In the ENERGATE platform, a building manager would want to find the right investment opportunity that can guarantee the reaching of energy efficiency objectives or requirements to be competitive and attractive to investors, guarantee better conditions within the building and save money in the long run.

Secondly, a building manager will likely look for a project developer who can guarantee return on energy efficiency investment.

On the other hand, an ESCO might use the ENERGATE platform in order to have a decision-making tool to evaluate potential projects.

3.2. Pylon B

In this section, the user stories from the point of view of Pylon B representatives are presented.

3.2.1. RPR

RPR Pilot Description

RPR is a regional planning and coordination public institution facilitating regional development in various fields, including fostering implementation of energy efficiency measures, transferring best practice, and involvement of stakeholders in nine municipalities of Riga Planning Region. RPR main stakeholders are municipalities (public building owners and managers). RPR maintains regular cooperation contacts and interacts with EU and public funding administering bodies. RPR participates in EU Structural Funds 2021-2027 Monitoring Committee (political level) and Priority Sub-committees (specialist level) where selection criteria for SF intervention measures are discussed. RPR has so far supported energy and climate change planning on regional and local level, and, in terms of energy efficiency in buildings, the observation is that linkages and interaction among EU public funds for energy efficiency should be enabled with public building owners and managers – state and municipal

buildings. This can be achieved by enabling public funding bodies to access the data and information about energy efficiency reconstruction project pipeline on municipal level, particularly public buildings, and, in turn, matchmaking public funding bodies with public building owners and/or managers.

In RPR's opinion, ENERGATE platform should be able to aggregate data about public buildings requiring energy efficient renovation and linking it with public funding information requirements (Pylon B). ENERGATE platform would enable public building renovation data entries to create the pipeline of renovation projects containing KPIs of energy saving targets and financial maturity of renovation projects to foster public financing forecasting, prognosing demand for renovation funding, thus matching and accelerating data exchange between public building owners and/or managers and financing bodies.

RPR Pilot User Stories

From RPR's side the following user story has been proposed reflecting the potential role of public financing bodies in the platform:

A public financing body/Fund manager obtains energy efficiency renovation projects pipeline with ranking of the projects based on KPIs, such as energy efficiency targets and financial viability and other data characterising financial readiness/maturity of proposals for funding decisions and/or approaching project developers/building owners to activate submission of proposals.

3.2.2. ESC

Besides pilots, ESC, the Leader of Task 2.2 "Definition of information entries to the ENERGATE platform", provided a user story from the perspective of the Demand side (Pylon B). More specifically, thanks to their expertise, ESC was able to present a more detailed view and in-depth analysis of the potential of private investment within the ENERGATE platform, which could not be fully covered by RPR, the main Demand side pilot representative, whose approach on user stories was focused on the public financing body's point of view.

ESC's Description

ESC is a Luxembourg sustainable finance facilitator that supports companies in their path to net zero. In order for the EU to reach the 2050 climate targets finance is essential, which is why from ESC's perspective the ENERGATE platform should enable the acceleration of deal closure between building owners and project developers and between project developers and investors. Providing renovation roadmaps for building owners and enabling aggregation of similar measures in order to increase the ticket size needed from an investor's perspective are essential tools for current market.

ESC's User Stories

From ESC, the following user story has been proposed considering the investors' perspective:

An investor would like to deploy their capital in a certain EU country and invest in a certain technology, having in mind a certain IRR. Ideally, they would like to enter into a framework agreement on the long term with the project developer, which implies that they will want to invest in their entire pipeline.

3.3. Identified User Stories

Having examined the input received in the given template (see Annex), 13 initial user stories have been extracted, as presented. As observed in *Table 4*, some of the user stories overlap, which is expected since multiple user stories for the same or similar user type have been provided by different pilots. Thus, to create the final list of user stories, we have grouped user story 2.1 and 2.3, user story 2.2 and 2.4, user story 1.1 and user story 5.1, as well as user story 1.2 and user story 5.2.

Table 4: Pilot user stories summary

User Type	Partner/ Pilot	User Story Number	User Story Description
Asset Manager	Commuty	User Story 1.1	Asset manager looking for financing institution
	Commuty	User Story 1.2	Asset manager looking for reliable and experienced technical team
Building owner	LDK	User Story 2.1	Building owner looking for project developer
	LDK	User Story 2.2	Building owner looking for appropriate financing scheme and investor
	Greenesco	User Story 2.3	Building owner looking for qualified project developers, ESCOs, contractors, and other service providers
	Greenesco	User Story 2.4	Building owner looking for funding opportunities and potential investors/financing institutions
Project Developer	LDK	User Story 3.1	Project developer looking for an investor to invest in energy efficiency actions for one of the developer's costumers
ESCO	Greenesco	User Story 4.1	ESCO aiming to manage financial information related to the project, any available data or analysis supporting the KPIs
Building Manager	Enerbrain	User Story 5.1	Building manager looking for investment opportunity
	Enerbrain	User Story 5.2	Building manager looking for project developer
Public Financing Body	RPR	User Story 6.1	A public financing body/Fund manager aiming to obtain energy efficiency renovation projects pipeline with ranking of the projects based on KPIs, to activate submission of proposals.
Private Equity Financier	ESC	User Story 7.1	A private equity investor in search to deploy its capital in a certain type of energy efficiency project (a certain EU country, invest in a certain technology, a pre-set IRR).

Table 5: User story extraction

User Story ID	User Story Description	Extracted from
US1	Asset manager looking for finance	User Story 1.1 User Story 5.1
US2	Asset manager looking for technical support	User Story 1.2 User Story 5.2
US3	Building owner looking for finance	User Story 2.2 User Story 2.4
US4	Building owner looking for technical support	User Story 2.1 User Story 2.3
US5	Project developer looking for finance	User Story 3.1
US6	ESCO aiming to receive financial information	User Story 4.1
US7	ESCO aiming to evaluate projects	User Story 4.2
US8	Public financing body looking to obtain energy efficiency renovation projects pipeline	User Story 6.1
US9	Private Equity Investor looking to deploy its capital in energy efficiency projects	User Story 7.1

4. Phase II: Use Cases Extraction & ENERGATE platform Input Information Definition

In this section, four general use cases demonstrating what each user could do in the ENERGATE platform are extracted. Furthermore, the potential flow of information in the ENERGATE platform is presented through appropriate workflows, inspired by the user stories specified during phase I of the methodology.

The described process specifies a plethora of possible information entries, as the availability of such information facilitates the interactions amongst the various parties, since the more information available, the higher the success ratio. The presented use cases and workflows consider the viewpoints of three general and broad stakeholder categories:

- Building Owner (asset manager, property manager etc.).
- Implementor (project developer, ESCO etc.)
- Financier (investor, fund manager etc.).

The general workflow has been divided into the three platform stages we have already mentioned in Section 1.1 (Fetch, Process, Deliver) along with an additional initial stage which serves the purpose of user registration and basic profile creation. This stage is referred to as "Zero" stage in the following paragraphs.

4.1. ENERGATE Use Cases

In order to ensure flexibility and plurality in the use of the ENERGATE platform, the aim of this section is to develop possible use cases that may relate with the development, implementation and monitoring of a building renovation action. Most importantly, the definition of the use cases will provide the necessary framework of user activity in the ENERGATE platform. In other words, the use cases, once developed to a sufficient extent and appropriately consulted, will provide the basis for the drafting of the platform's user's terms and conditions.

A use case presents a comprehensive and organised written description of the way users will interact in the ENERGATE marketplace, as well as the individual tasks which will be executed. Furthermore, use cases record the system's behaviour to any request from the user's point of view. Each use case is described as a sequence of defined steps. Use cases are of vital importance for any computational system as they incorporate all the goals of the system's function, thus enabling an estimation of the system's complexity. Moreover, another advantage of analysing the use cases is that and threats can be identified.

In the following tables, the four initial ENERGATE use cases are presented, correlated with the extracted user stories, along with respective goals, triggering events, preconditions and postconditions. The specific steps of each use case are analysed as well. Moreover, figures summarising each use case are shown.

Table 6: Use Case 1 Definition

USE CASE 1		
ID		UC1
Name		Building owner searching for technical support and finance
Related User Stories		US1, US2, US3, US4, US7, US8, US9
Goal(s)		A private Building Owner wants to: Renovate their building and seek a renovation roadmap. Find an Implementor that will undergo the required energy efficiency actions. Seek relevant funding opportunities to complete the energy efficiency renovation.
Actors		Building Owner & sub-categories, Implementor & sub-categories, Financier & sub-categories
Trigger events		The Building Owner wants to have a renovation roadmap, access to an Implementor to execute the project and access to finance for the project.
Preconditions		The user managing the building profile should either have ownership of the asset or authorization to engage in such initiatives, so as to fill in the information requested on the ENERGATE platform.
Basic Flow	**Description**	A Building Owner wants to renovate their building and seek a renovation roadmap, an Implementor that can execute the project and make an offer, and access to the appropriate financial scheme. The owner registers the building within the ENERGATE platform to identify both an Implementor that will undergo the required energy efficiency actions but also, he/she will seek the relevant funding opportunities to complete the energy efficiency renovation.
	Postconditions	A list of proposed actions and measures A list of possible Implementors for the actions and measures proposed A list of possible Financiers for their renovation project Project implementation and financing of the project

Table 7: Use Case 1 step-by-step analysis

Steps	Stage	Description of the process/ Activity	Information Exchanged
1	Zero stage	User enters platform, creates an account with a Building Owner profile and fills in the basic information requested. User will select the need he/she has from the platform.	Basic case information (e. g. name, country, general information on the asset
2	Fetch stage (I)	Building Owner user uploads/fills in building characteristics and attributes that are requested on their profile.	• Geography • Type of asset • Year of construction • Current EPC level

Steps	Stage	Description of the process/ Activity	Information Exchanged
			• Project Types (that were done in the past or would be of interest) • Type of technological current upgrades • Energy bill • Building size square m • Number of levels • Hours of usage • Occupancy level
3	Fetch stage (II)	Based on the building typology and the pilot cases of the ENERGATE database a match and recommendations will be made to the Building Owner user in terms of possible renovation steps.	• Geography • Country • Type of asset • Year of construction • State of the building (any renovation or upgrades) • Current EPC level • Square m etc.
4	Fetch stage (III)	A match with an Implementor will be made based on predefined hard KPIs.	• Geography, • Type of technology, etc.
5	Fetch stage (IV)	The Implementor user will analyse the project.	• The result from the Implementor user will be a Proforma that will contain energy-related and financial information. • Assessment Protocol will be prepared
6	Process stage (I)	A proforma will be issued and accepted by the Building Owner to continue to the Financing step.	• The proforma will be sent to the Building Owner. • Once accepted by the Building Owner user, the ENERGATE platform will find a match with a Financier based on the hard KPIs (detailed in the following chapter)
7	Process stage (II)	A match with a Financier will be made based on their hard KPIs and a proforma shared by the Implementor related to the project/s.	• A notification will be sent to the Financiers that a suitable Implementor that needs finance has been identified (that is matching the Financiers' KPIs). • The match with the Financier user will be made based on the proforma. • A term sheet will be shared with the Implementor if the analysis of the Financier will have a positive outcome and he/she wants to finance the presented project.

Steps	Stage	Description of the process/ Activity	Information Exchanged
8	Process stage (III)	Financing of project.	• The Implementor will accept the term sheet received, and subject to Due Diligence from the Financier, the finance will be provided.
9	Deliver Stage	Follow-up on 17owever17 projects.	• The users report on the project's results

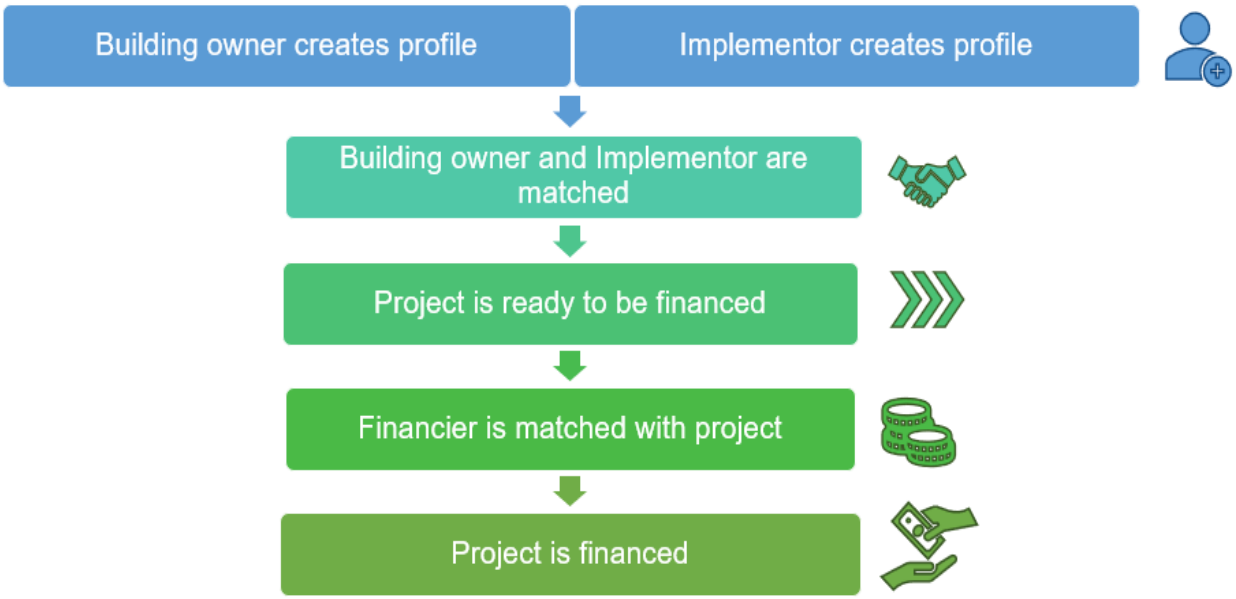


Figure 4: Use Case 1 description

Table 8: Use Case 2 definition

USE CASE 2	
ID	UC2
Name	Implementor searching for finance
Related User Stories	US5, US6, US7, US8, US9
Goal(s)	Find finance to achieve the client's objectives
Actors	Implementor & sub-categories, Financier & sub-categories
Trigger events	The Implementor needs to access finance for a project in his/her pipeline.

USE CASE 2		
Preconditions		The user (Implementor) must have an accepted offer of services from the end client (Building Owner), that is subject to access to finance, and there is an agreement to go through with the energy efficiency project. The user should fill in the information requested on the ENERGATE platform.
Basic Flow	**Description**	An Implementor aims to apply renovation measures to a building or group of buildings. For the implementation of the energy efficiency measures identified, the Implementor registers the required inputs for the building along with the required energy efficiency measures and the financial KPIs within the ENERGATE platform to seek the relevant funding opportunities.
	Postconditions	A list of possible financiers for their renovation project Term sheet acceptance Project implementation and financing of the project subject to due diligence and the agreement reached by the 2 parties.

Table 9: Use Case 2 step-by-step analysis

Steps	Event	Description of the process/ Activity	Information Exchanged
1	Zero Stage	User enters platform, creates an account with an Implementor profile and fills in the basic information requested. User will select the reason why he/she is on the platform, in this case access to financing.	• Basic case information (e. g. name, country, company name, address, VAT number and company number)
2	Fetch stage	Implementor user uploads/fills the KPIs that are requested on ENERGATE platform.	• Type of asset • Country/ Location, Province/ Region, etc.. • Technology/type of measure • Accepted Proforma/offer of services from the Building Owner, end client name • Risk Assessment Protocol • Type of finance desired by the end client: equity/debt. • Stage of the project • Type of contract proposed
3	Process stage (I)	The Financier will receive a notification that a match has been found with an Implementor.	• A notification will be sent to the Financiers that a suitable Implementor that needs finance has been identified (that is matching the Financier's KPIs)
4	Process stage (II)	The Financier will analyse the opportunity based on the data shared by the Implementor related to the project/s.	• Proforma will contain energy related and financial information. • Type of finance desired by the end client: equity/debt, Final offer for the project. • Risk Assessment Protocol will be prepared
5	Process stage (III)	Decision of the Financier.	• A term sheet will be shared with the Implementor if the analysis of the

Steps	Event	Description of the process/ Activity	Information Exchanged
			• Financier will have a positive outcome and he/she wants to finance the presented project. • If not, a notification will be sent to the Implementor that either more information is needed or that the Financier chose to not finance their project.
6	Process stage (IV)	Financing of project.	• The Implementor will accept the term sheet received and subject to Due Diligence from the Financier the finance will be provided.
7	Deliver Stage	Follow-up on 19owever19 projects.	• The users report on the project's results



Figure 5 : Use Case 2 description

Table 10: Use Case 3 description

USE CASE 3	
ID	UC3
Name	Building owner with a technical team in-house
Related User Stories	US1, US3, US8, US9
Goal(s)	Meet the ESG criteria whilst improving financial returns (IRR, Yield on Cost, Equity Multiple…) Find debt to achieve the objectives with the minimum equity exposure

USE CASE 3		
Actors		Building Owner & sub-categories, Financier & sub-categories
Trigger events		The Building Owner needs to access finance to execute his/her project
Preconditions		Building Owner has access to building energy consumptions, emissions and audits. The presence of an Implementor is not needed to proceed with the seeking of a financier.
Basic Flow	**Description**	A Building Owner has an asset (or portfolio) and is looking to improve its energy efficiency to meet ESG objectives. The Building Owner already has a technical team to execute the project, but not the budget.
	Postconditions	A list of possible Financiers for their renovation project Term sheet acceptance Project implementation and financing of the project subject to due diligence and the agreement reached by the 2 parties.

Table 11: Use Case 3 step-by-step analysis

Steps	Event	Description of the process/ Activity	Information Exchanged
1	Zero Stage	User enters platform, creates an account with a Building Owner profile and fills in the basic information requested. User will select the reason why he is on the platform, in this case access to financing.	• Basic case information (e. g. name, country, company name, address, VAT number and company number
2	Fetch stage	Building Owner user uploads/fills the KPIs that are requested on ENERGATE platform.	• Type of asset • Project/s details for which finance is needed • Number of Projects and size that need finance • Pipeline size • Project ID • Country/ Location, Province/ Region etc.. • Technology/type of measure • Risk Assessment Protocol • Cost • Payback Period • IRR • Type of finance desired: equity/debt • Insurance, Certification, Construction permit if needed, Energy Audit • Stage of the project • Type of contract proposed
3	Process stage (I)	The Financier will receive a notification that a match has been found with a Building owner.	• A notification will be sent to the Financiers that a suitable Building Owner that needs finance has been identified (that is matching the financiers' KPIs e.g.

Steps	Event	Description of the process/ Activity	Information Exchanged
			geography, country rating, IRR, technology, ticket size, pipeline and credit risk, accepted offer of services, etc..)
	Process stage (II)	The Financier will analyse the opportunity based on the data shared by the Building Owner related to the project/s.	Proforma will contain: • Energy savings • Estimated CO_2 abatement • M&V protocols, Renewable systems (if it's the case) • Energy class after the implementation of the upgrade • Investment needed; upfront payment needed (if any) • CAPEX • Avoidance Cost • Payback Period • IRR • Type of finance desired • Risk Assessment Protocol will be prepared
4	Process stage (III)	Decision of the Financier	• A term sheet will be shared with the Building Owner if the analysis of the Financier has a positive outcome, and he/she wants to finance the presented project. • If not, a notification will be sent to the Building Owner that either more information is needed or that the Financier chose to not finance their project.
5	Process stage (IV)	Financing of project	• The Building Owner will accept the term sheet received and, subject to Due Diligence from the Financier, the finance will be provided.
6	Deliver Stage	Follow-up on 21owever21 projects	• The users report on the project's results

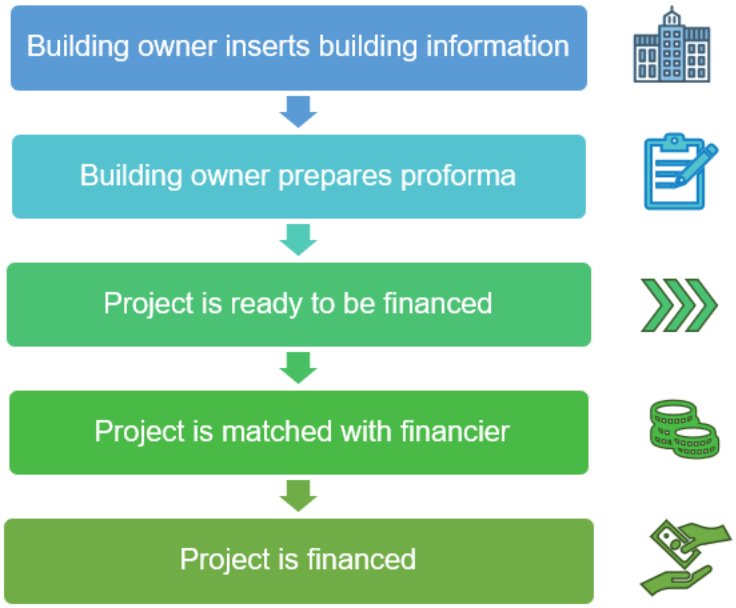


Figure 6 : Use Case 3 description

Table 12: Use Case 4 description

USE CASE 4		
ID		UC4
Name		Building owner searching for technical support
Related User Stories		US2, US4, US7
Goal(s)		A Building Owner wants to: Renovate his/her building and seek a renovation roadmap Find an Implementor that will undergo the required energy efficiency actions
Actors		Building owner & sub-categories, Implementor & sub-categories
Trigger events		The building owner wants to have a renovation roadmap actions and access to an Implementor to execute the project.
Preconditions		The user entering the building information should either have ownership of the asset or authorization to engage in such initiatives, so as to fill in the information requested on the ENERGATE platform. The Building Owner has either not access, or the understanding of potential measures that must be applied to his/her property.
Basic Flow	**Description**	A Building Owner wants to renovate his/her building and seeks a renovation roadmap and an Implementor that can execute the renovation actions. The owner registers the building within the ENERGATE platform to receive energy efficiency upgrade recommendations according to the ENERAGATE database and identify an Implementor that will undergo the required energy efficiency actions.

USE CASE 4		
	Postconditions	A list of proposed actions and measures A list of possible Implementors for the actions and measures proposed

Table 13: Use Case 4 step-by-step analysis

Steps	Stage	Description of the process/ Activity	Information Exchanged
1	Zero stage	User enters platform, creates an account with a Building owner profile via the steps described in the Zero stage chapter and fills in the basic information requested. User will select the need he has from the platform.	• Basic case information (e. g. name, country, general information on the asset
2	Fetch stage (I)	Building Owner user uploads/fills in building characteristics and attributes that are requested on their profile.	• Geography • Type of asset • Year of construction • Current EPC level • Project Types (that were done in the past or would be of interest). • Type of technological current upgrades • Energy bill • Building size square m • Number of levels • Hours of usage • Occupancy level
3	Fetch stage (II)	Based on the building typology upgrade a match and recommendations will be made to the Building Owner user in terms of possible renovation steps	• Geography • Country • Type of asset • Current EPC level etc.
4	Fetch stage (III)	A match with an Implementor/s will be made based on hard KPIs.	• Geography, type of technology, etc.
5	Fetch stage (IV)	The Implementor user will analyse the project	The result from the Implementor user will be a Proforma that will contain: • Energy savings • Estimated CO_2 abatement • M&V protocols • Renewable systems (if it's the case) • Energy class after the implementation of the upgrade • Investment needed; upfront payment needed (if any) • CAPEX • Avoidance Cost • Payback Period • IRR • Final offer for the project • Risk Assessment Protocol will be prepared

Steps	Stage	Description of the process/ Activity	Information Exchanged
6	Process stage	A proforma will be issued and accepted by the Building Owner.	• The proforma will be sent to the Building Owner
7	Deliver Stage	Validation of project results	• The users report on the project's results

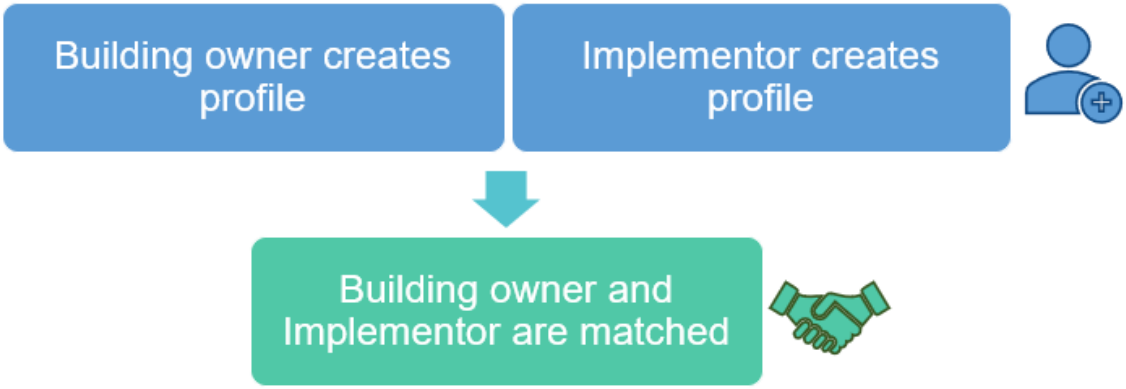


Figure 7: Use Case 4 description

4.2. ENERGATE General Workflow

The structured proposed in the general workflow is based on the results of the prior tasks. That is to say, a more detailed specification of the information entries and respective outputs, as well as the flow of actions for each user category (Building Owner, Implementor, Financier) are presented. The general workflow aims to incorporate the identified use cases described in the prior chapter, with the ultimate purpose of constructing a flow of actions.

4.2.1. ENERGATE Zero Stage Input Information

The Zero stage first steps are identical for all the user profiles, so that the different users can create a profile and start operating on the ENERGATE platform.

Table 14: Zero stage first steps

Step	Description
1st step: Create user profile	Zero stage popup with the question 'Are you a..' ***dropdown menu***: • Building owner • Property Manager • Real Estate Developer • Development Manager • Asset Manager • Building Owner and/or a Property Manager • Building Owner with a ESCo/Project developer subsidiary or Department • Other: ***fill in***. Looking for: • Looking for an Implementor? • Looking for Finance? ***PLS tick the box***
	Are you an Implementor? ***Dropdown menu:*** • ESCo/ Project developer • Engineering company • Architect and design company • Energy company/energy audit/energy consultant company • Installer • Maintenance company. • Other: ***fill in***. Looking to: • Finance your pipeline? • execute projects? ***PLS tick the box***
	Are you a Financier? ***Dropdown menu***: • Private Financing Body • Public Financing Body • Fund Manager • Investment Consultant • Private Investor • Other: ***fill in*** Looking to: • Finance EE projects? ***PLS tick the box***
2nd step: Standard info required to create the user profile	• Name & Surname of the user • Email of the user • Position in the company • Name of the company • Address of the company • Country • Corporate registration number with court of firms • VAT number • Create Username • Enter Password

As Table 14 summarises the information requested is a standardised one when it comes to filtering the users between the 3 main user profiles, and then simply filling in the data requested such as: Name and Surname, Position in the company, Name of the company, address, country, VAT, registration number, ending with creating a username and establishing a password.

In Zero stage, financial stakeholders will be able to fill in further information to build their profiles, so that they can be presented with project pipelines satisfying their needs during the

process stage. The information financiers will be asked to provide is shown in the following table.

Table 15: Financier profile

Title	Details
Geography covered	***Dropdown menu/ tick the box(es)***
Technology/type of measure interest	• Batteries • EE upgrades • public lighting • CHP • PV • RES • BMS • Other ***PLS tick the box(es).***
Sector of interest:	• Public • MUSH (municipal and state governments, universities and colleges, schools, and hospitals) • Private: Commercial, agriculture, etc. • Other ***PLS tick the box(es).***
Minimum IRR required:	Number
Yield desired	Number
Minimum project size	Number divided minimum immediate pipeline and over an 18-month horizon
Ticket size and current yield on the operation	Number
Investment time requirement	Years (7 years, 3 years and so forth depending on the life of the fund)
Min Portfolio/pipeline size	Number
Min Pay Back Time	Years
Max Pay Back Time	Years
Min and max investment	Number
Invest along Subsidies	Yes/No
Finance type offered	***Dropdown menu*** Equity/ debt ratio, equity 100%, etc..

4.2.2. ENERGATE Fetch Stage Input Information

The next step consists of the Supply side users completing their profiles and collecting the necessary project related data. This step is part of the Fetch stage. The information inserted at this step will be used in Process stage as well.

In the case of the Building Owner, the details related to the building that he/she would like to have retrofitted, the type of activity carried out, private vs public profile, hours of usage, occupancy level, current EPC level, geography, current energy consumptions, and other technical details are crucial for the Fetch stage under which the ENERGATE platform based on the typology of retrofitted buildings' database and certain KPIs will be able to recommend a decarbonisation/upgrade to the owner or manager of the building.

Table 16 Building profile

Title	Details
Building details:	• General description of the building space. (description in max 500 words) ***fill in*** • Building ID (to ease the identification of the building at a later stage), • Country/ Location ***dropdown menu*** • Province/ Region ***dropdown menu*** • Climate zone
Ownership status dropdown menu	• Owner • Renter ***PLS tick the box***
Type of building/Building typology:	First type ***dropdown menu***: • Public • Private Second type ***dropdown menu***: • Commercial building • Public building • Industrial building • Factory/manufacturing • Office space • Residential • Shared space • Accommodation/hotel/spa resort • Education facility • Healthcare facility • Sport facility. • Other ***fill in***

Technical info	• Year of construction ***fill in***
	• Current EPC level (A, D, H) ***dropdown menu***
	• Project Types (that were done in the past or would be of interest). ***PLS tick the box***
	  ○ Deep renovation
	  ○ Construction
	  ○ MEP
	  ○ Other ***fill in***
	• Type of technological current upgrades (that were done in the past or would be of interest). ***PLS tick the box***
	• Building size square m ***fill in***
	• Number of levels ***fill in***
	• Hours of usage and Occupancy level ***fill in***

Current status of the building in terms of energy efficiency/renewable	• Current Type of heating year installed and model
	• Current Type of cooling year installed and model
	• Current Energy bill:
	  ○ Baseline Energy Consumption (Electricity) kWh
	  ○ Baseline Energy Consumption (Heating) kWh
	  ○ Baseline Energy Consumption (Cooling) kWh

Title	Details
Type of finance preferred of the building upgrade	***Dropdown menu*** 1. No Finance needed 2. Financed solution: • AaService • EPC • Bank loan
Add the different roles by the user to the project in question:	***Dropdown menu*** • Admin • Project manager • Facility Manager • CFO • Legal signatory • Rapporteur, etc.

After the building profile is completed, a match based on the renovation/building typologies identified will be made, meaning that based on the database on the ENERGATE platform as a result of the information shared by the pilots within the project, the platform will be able to recommend a decarbonization roadmap to the building owner based on similarities such as geography, building type, year of construction, usage level, EPC level etc..

In the case of Implementors the following information will complete their profile and enable the Fetch stage:

Table 17: Implementor profile

Title	Details
Geography covered	***Dropdown menu*** • Greece • Italy • Spain • Latvia • France • Austria
Technology covered	***PLS tick the boxes*** • Building envelope • Lighting • Automation • HVAC • Renewable systems
Expertise/CV	• Years of Market experience • Years of Tech experience • Total years of experience
Add the different roles by the user to the project in question:	***Dropdown menu*** • Admin • Project manager • Facility Manager • CFO • Legal signatory • Rapporteur, etc.
Potential pipeline size	Insert numbers or upload PP with more details

After both Building and Implementor profiles have been completed, the matching between the two profiles can occur. Based on hard KPIs such as geography covered, technology covered, experience the Building Owner user will receive a notification that a match has been found in line with his needs.

Table 18: Matching between Implementor and Building Owner

Steps
Step 1: Based on the different parameters we will have a match in terms of solution proposed for the Building Owner user. A recommendation will be sent to the building owner in terms of 'retrofit/upgrade roadmap'.
Step 2: Based on hard KPIs (geography, technology, availability/capacity, etc.) and on the building typologies and retrofits executed that the platform has already included (via the pilot's information) in the ENERGATE database, a match will be made.
Step 3: This will be sent to the user, subject to the user accepting to continue the process on the platform and a match with an Implementor profile, a notification will be sent to the different Implementors that a match for the possible upgrade has been found. This will grant the Implementor access to the Building Owner's data profile enabling him/her to be able to analyse the possible project.
Step 4: The set of Implementors will be notified that there are 'X' building that matched their capabilities (in terms of technologies covered and geography) and the user has access to analyse the project and make an offer to the end client/Building Owner.

Thus, the Implementor can provide more details regarding the project:

Table 19: Matching between Implementor and Building Owner profile data entry analysis and output

Project details	
Based on the data accessed related to the building/s the Implementor will make the following:	Energy savings assessment: • Energy Savings (Electricity) (kWh) • Energy Savings (Heating) (kWh) • Energy Savings (Cooling) (kWh) • Energy savings (total) (kWh)
	• Estimated CO_2 abatement (kt) based on a pre agreed methodology • M&V protocols • Renewable systems (if it's the case) • Energy class after the implementation of the upgrade • Investment needed; upfront payment needed (if any) • CAPEX (€) • Avoidance Cost (€/ kWh) • Payback Period (years) • IRR (%) • Type of finance desired by the end client: equity/debt? • Final offer for the project • Risk Assessment Protocol will be prepared
Similar projects in their portfolio	• upload PP or • Describe 3 similar projects in max.500 words including- type of project, execution time,

Project details	
	IRR, type of finance offered, Type of contract used: dropdown menu: AaS, PPA, EPC, other.
Based on the above a proforma will be issued by Implementor with the information mentioned above: cost of the installation, savings, CO_2 abatement, the upgrade of the EPC, time of implementation, M&V protocol.	
If the proforma is accepted by the end-client the project moves to the next stage PROCESS on the platform. If it is not accepted the building owner will follow the same process with another Implementor.	

The information requested at this stage is built around a set of hard KPIs such as geography, type of technology that investors want to finance, IRR desired, ticket size and yield, investment time requirement, type of finance offered. These items will enable the ENERGATE platform to match the different users based on an overlap of their required KPIs.

4.2.3. ENERGATE Process Stage Workflow

At the end of the Fetch stage the information input will lead to the Process stage. The Financing Matchmaking, i.e. between the products and the financiers, will take place, meaning that based on hard KPIs such as IRR, CAPEX, geography, technology, track record and pipeline, ticket size and timeline of investment a match possibly can be found between the Implementor's project and a Financier. An aggregation process will also be supported, meaning that based on filters, bundles of similar projects in terms of geography, technology, renovation strategy, as well as building typology, will be presented to the Demand side. Hence, the Financiers will have the option to consider the recommendations of the platform, in case they think that financing a group of projects instead of distinct projects might be preferable.

The following tables will provide details on the Financier and Implementor matchmaking on the ENERGATE platform:

Table 20: Presentation of the project to the Demand side

Project details
Project/s details for which finance is needed: *text input.*
Number of Projects that need finance/Pipeline size Project ID
Country/ Location
Province/ Region
Climate zone (important for renewables, charging infrastructure)

• Technology/type of measure:
  ○ Batteries
  ○ EE upgrades
  ○ Public lighting
  ○ CHP
  ○ PV
  ○ RES
  ○ BMS
  ○ Other
• Sector:

Project details
○ Public ○ MUSH ○ Private: Commercial, agriculture, etc..
• Accepted Proforma • End client name • Risk Assessment Protocol • Cost (€/ kWh), Payback Period (years), IRR (%) • Type of finance desired by the end client: equity/debt • Final offer for the project • Insurance • Certification • Construction permit if needed • Energy Audit • Stage of the project: ○ Implementation ○ Operational ○ Incipient/design • Construction finance: bridge loan, own funds, etc.
• Type of contract proposed: ○ PPA ○ AaS ○ EPC ○ Operating lease ○ Other • Project Types: ○ Deep renovation ○ Construction ○ MEP

Table 21: Matching process Implementor and Financier profile data entry analysis and output

Steps
Step 1: Based on a match between the Implementor's proforma and the Financier's KPIs, the latter will receive a notification that a match has been found and he/she will develop a term sheet that will be sent to the Implementor containing a financing offer of the project in question under terms and conditions.
Step 2: Implementor is notified that a suitable match has been found on the ENERGATE platform to finance his/her project subject to due diligence and acceptance of the terms and conditions.
Step 3: Implementor accepts the Terms and Conditions
Step 4: DD starts and finance will be provided
DD stage consists: Company registration number, Full Audited Accounts for the last 3 years or simplified depending on the case (P/L, Balance sheet), Recent tax compliance not older than 3 months VAT filling, Years of Market experience (info already on the platform on the Implementor's profile), Years of Tech experience (info already on the platform on the Implementor's profile), Potential pipeline size (info already on the platform on the Implementor's profile), Sustainability criteria: ESG compliance i.e. certifications, impact report, ESG KPIs reporting. This list is not exhaustive, and some Financiers might request more documentation as part of their Due Diligence process.

4.2.4. ENERGATE Deliver Stage Workflow

When it comes to the deliver stage, the different users will provide updates on the results from the implemented projects. More specifically:

Table 22: Deliver Stage Workflow

User Type	Input
Building Owner	Reports on savings and EPC level
Implementor	Reports on: • Energy savings • CO_2 abatement • M&V used • Projects successfully financed by X amount • Project status
Financier	Invested amount since they became a member

In the following diagram, the parallel actions of the three main user categories (Building Owner, Implementor, Financier) as well as the basic platform functionalities and the interactions between them are depicted through a BPMN diagram. The workflow is divided into different paths thanks to appropriate gateways, to represent all four use cases described in the previous chapter.

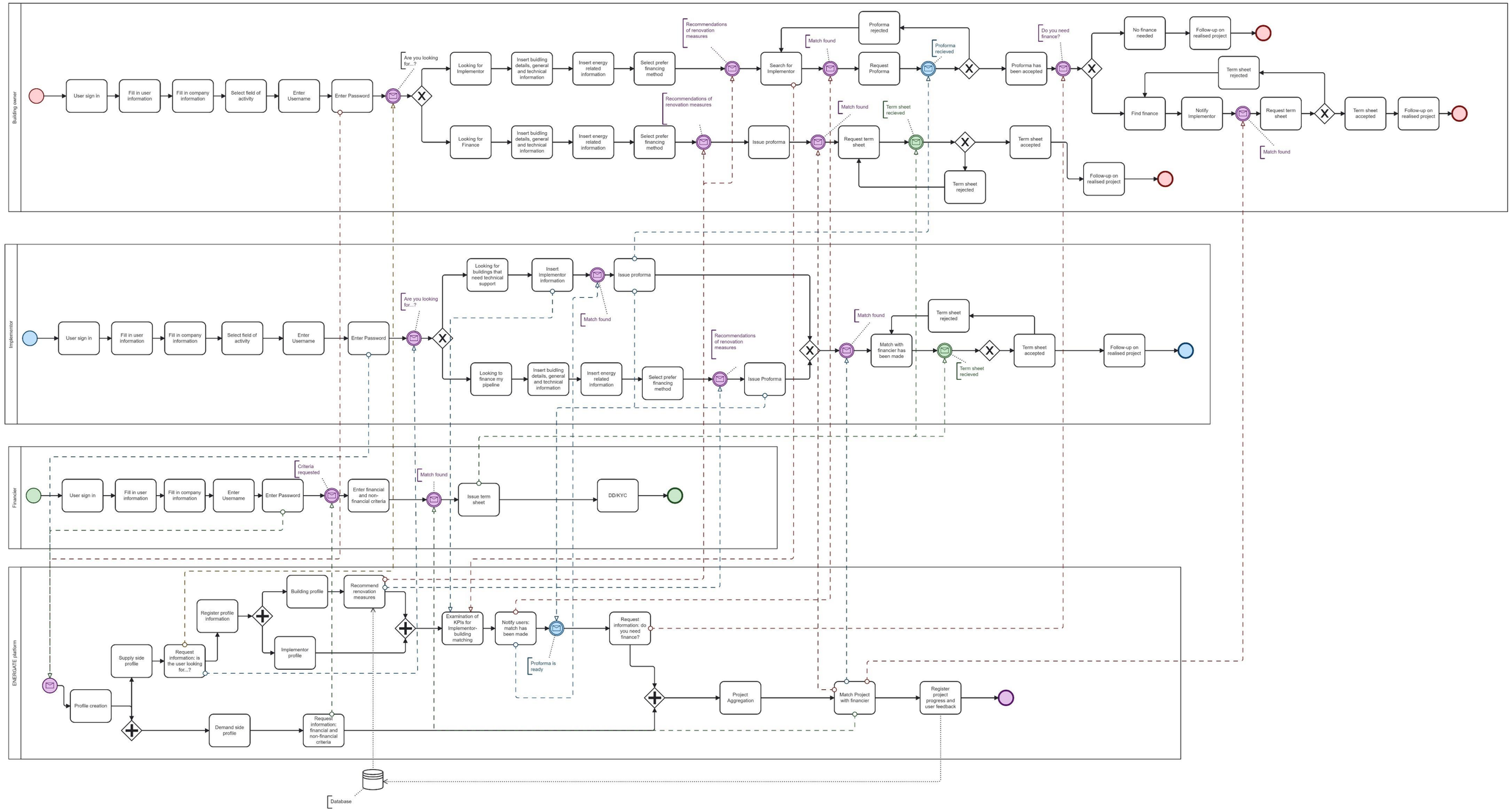


Figure 8: ENERGATE workflow BPMN diagram

4.3. ENERGATE User Rating System

Although initially the user rating system was proposed to be linked to the different user profiles as a gamification incentive based on different criteria such as pipeline size, CO_2 abatement etc., due to liability and reputation issues a different approach is considered that could still act as an additional incentive for avoiding misbehavior by users in the ENERGATE platform. More specifically, the initial rating system could lead to possible biased position based on the selection of the criteria (e. g. a sizeable pipeline is an important criterion, but it cannot exceed the closed deal/ pipeline ratio, 34oweverr even the latter is influenced on national regulation, balance sheet size possibilities to take on more debt and close deals, and local funding at better terms).

For these reasons the proposed path forward is that the user rating system on the ENERGATE platform could be built around the matching criteria system. This means that if a match is being made based on hard KPIs (geography, technology, ticket size, IRR, etc), a notification will be sent to the different main user profiles in which adjectives as a 'suitable' or 'not suitable' will appear, or displaying a gold star next to the user that is a match, based on the fact that a kind of pre-defined hard KPIs are being met or not. For instance, the platform's notification could be a statement such as: "a suitable financing partner has been identified for your project" or "a number of 3 suitable Implementors have been identified on the ENERGATE platform".

Of course, this is an initial proposal that as a next step is going to be presented to both pilot leaders and also tested in the 1st Regional Training Workshop and in bilateral and multilateral consultation meetings with external stakeholders. Based on the feedback received from the market actors, adjustments will be made to the proposed rating system so that is meeting the market needs.

An indicative List of proposed KPIs is presented in the following table:

Table 23: Rating system KPIs

Asset and related	Energy and related	Economic and related
Location	EPC level	CAPEX
Ownership status	Energy savings	Payback time
Hours of usage	CO_2 abatement	Avoidance cost
Year of construction	Energy consumption	IRR
Building size	M&V protocols	PBT
Occupancy level	Project type	Equity-debt ratio

5. Phase III: User Requirements Extraction

Phase III focuses on the process of eliciting user requirements derived from Pilot Use Cases. User Requirements encompass the desired functionalities of the ENERGATE platform as perceived by end users. In particular, this section is divided into tables that present the features required by platform users in the different ENERGATE stages, namely the Zero Stage, Fetch Stage, Process Stage, and Deliver Stage.

5.1. Zero Stage

Table 24: Zero Stage related functional User Requirements

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
UR #01	ENERGATE platform allows user registration	Pylon A – Supply Side, Pylon B – Demand Side	All	ENERBRAIN, LDK, GREENESCO, RPR, COMMUTY	UC1, UC2, UC3, UC4	User Authentication
UR #02	Users fill in their name, surname and position in company	Pylon A – Supply Side, Pylon B – Demand Side	All	ENERBRAIN, LDK, GREENESCO, RPR, COMMUTY	UC1, UC2, UC3, UC4	User Authentication
UR #03	Company representatives fill in ENERGATE registration, Company's field of activity and other details (address, VAT number and others).	Pylon A – Supply Side, Pylon B – Demand Side	All	LDK, ENERBRAIN, GREENESCO, RPR, COMMUTY	UC1, UC2, UC3, UC4	User Authentication
UR #04	Financiers declare non-financing criteria to be matched with projects (e.	Pylon B – Demand Side	Private Financing Body, Public Financing Body, Fund Manager,	GREENESCO, RPR	UC1, UC2, UC3	User Authentication

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
	g. technology, geography etc.)		Investment Consultant, Private Investor			
UR #05	Financiers declare financing criteria to be matched with projects (e. g. minimum IRR, investment time requirement)	Pylon B – Demand Side	Private Financing Body, Public Financing Body, Fund Manager, Investment Consultant, Private Investor	RPR, GREENESCO	UC1, UC2, UC3	User Authentication

5.2. Fetch Stage

Table 25: Fetch Stage related functional User Requirements

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
UR #06	Building Owners provide building description	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	LDK, COMMUTY, ENERBRAIN	UC1, UC2, UC3, UC4	Project Entry Module
UR #07	Building Owners insert in the ENERGATE platform their buildings' geographical information (e .g. Country, Province / Region, Climate Zone)	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	LDK, COMMUTY, ENERBRAIN	UC1, UC2, UC3, UC4	Project Entry Module
UR #08	Building Owners insert in the ENERGATE platform building ownership status and building type	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	LDK, COMMUTY, ENERBRAIN	UC1, UC2, UC3, UC4	Project Entry Module
UR #09	Building Owners provide building technical information (e. g. year of construction, EPC level, size, usage, occupancy level)	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	LDK, COMMUTY, ENERBRAIN	UC1, UC2, UC3, UC4	Project Entry Module

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
UR #10	Building Owners insert buildings' systems (type of heating, type of cooling)	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	LDK, COMMUTY, ENERBRAIN	UC1, UC2, UC3, UC4	Project Entry Module
UR #11	Building Owners insert buildings' previous updates and renovation actions	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	LDK, COMMUTY, ENERBRAIN	UC1, UC3, UC4	Project Entry Module
UR #12	Building Owners insert buildings' baseline energy consumption (total, heating and cooling)	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	LDK, COMMUTY, ENERBRAIN	UC1, UC2, UC3, UC4	Project Entry Module
UR #13	Implementors insert their geographical coverage	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK, ENERBRAIN	UC1, UC2, UC4	Implementor Entry Module
UR #14	Implementors provide in the ENERGATE platform technology solutions that they offer for Lighting, Automation, HVAC, Renewables and Building Envelope	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK, ENERBRAIN	UC1, UC2, UC4	Implementor Entry Module

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
UR #15	Implementors provide information as regards to their experience (years of market and tech experience)	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK, ENERBRAIN	UC1, UC2, UC4	Implementor Entry Module
UR #16	Implementors provide information as regards to their expertise (CV & expertise in a certain building typology)	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK, ENERBRAIN	UC1, UC2, UC4	Implementor Entry Module
UR #17	Implementors select from the ENERGATE platform how to interact with other users. Specifically, if they want to find buildings that need technical support or if they want to find Financiers for their buildings / projects	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK, ENERBRAIN	UC1, UC2, UC4	Implementor Entry Module
UR #18	ENERGATE platform provides project alternatives to Implementors	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK	UC1, UC2, UC4	Implementor-Building Matching
UR #19	Implementors upon building selection create reports assessing building energy savings and focusing on measures related to Electricity, Heating, Cooling and Total energy consumption reduction	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK	UC1, UC2, UC4	Implementor-Building Matching

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
UR #20	Implementors provide KPIs on environmental impact like estimated CO_2 emissions, M&V protocols and class after renovation	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK	UC1, UC2, UC4	Implementor-Building Matching
UR #21	Implementors provide the proposed contract type and financial KPIs of the project (e.g. upfront payment, CAPEX, avoidance cost, payback time, IRR, equity/debt ratio)	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK	UC1, UC2, UC4	Implementor-Building Matching
UR #22	Implementors select a risk assessment protocol	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK	UC1, UC2, UC4	Implementor-Building Matching
UR #23	Implementor send proforma to Building Owner	Pylon A – Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	GREENESCO, LDK	UC1, UC4	Implementor-Building Matching
UR #24	Building Owners receives a notification from the ENERGATE platform when a proforma for their buildings has been issued from Implementors	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	GREENESCO, LDK, COMMUTY	UC1, UC4	Implementor-Building Matching
UR #25	Building Owners reject the Implementor proforma and search for another Implementor	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer,	GREENESCO, LDK, COMMUTY	UC1, UC4	Implementor-Building Matching

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
			Development Manager, Asset Manager			
UR #26	Building Owners decide whether they need to find a financier or not, after Implementor's proforma is accepted	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	GREENESCO, LDK, COMMUTY	UC1, UC4	Implementor-Building Matching
UR #27	Building Owners select their preferred type of finance	Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager	GREENESCO, LDK, COMMUTY	UC1, UC3	Implementor-Building Matching

5.3. Process Stage

Table 26: Process Stage related User Requirements

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
UR #28	ENERGATE Platform provides building clusters/ bundles to aid financiers to create a product of different projects. The creation of these bundles is dependent of geographical, financial KPIs and measures	Pylon A – Supply Side	Private Financing Body, Public Financing Body, Fund Manager, Investment Consultant, Private Investor	GREENESCO, LDK, ENERBRAIN, RPR	UC1, UC2, UC3	Aggregation Module
UR #29	ENERGATE platform sends notifications to financiers when their criteria are met. Users should check project details (e.g., buildings inside projects, measures proposed by Implementors and others)	Pylon B – Demand Side	Private Financing Body, Public Financing Body, Fund Manager, Investment Consultant, Private Investor	RPR, GREENESCO	UC1, UC2, UC3	Match-making Module
UR #30	Financiers request documents proving Implementor's (or Building Owner's) reliability (e.g., company registration nb, accounts, tax & ESG compliance, similar projects in their portfolio)	Pylon B – Demand Side	Private Financing Body, Public Financing Body, Fund Manager, Investment Consultant, Private Investor	RPR, GREENESCO	UC1, UC2, UC3	Match-making Module
UR #31	Financiers send a term sheet to Building Owners and Implementors	Pylon B – Demand Side	Private Financing Body, Public Financing Body, Fund Manager, Investment Consultant, Private Investor	RPR, GREENESCO	UC1, UC2, UC3	Match-making Module

ID	Description	Related Pylon	Related User Type	Related Pilot	Related Use Cases	Related Technical Module
UR #32	Implementors and Building Owners accept or decline the term sheet	Pylon B – Demand Side, Pylon A – Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager, ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	LDK, ENERBRAIN, GREENESCO, RPR, COMMUTY	UC1, UC2, UC3	Match-making Module

5.4. Deliver Stage

Table 27: Deliver Stage related User Requirements

ID	Description	Related Pylon	Related User Role	Related Pilot	Related Use Cases	Related Technical Module
UR #33	Building Owners provide reports on savings & EPC level	Pylon A - Supply Side	Building Owner, Property Manager, Real Estate Developer, Development Manager, Asset Manager,	LDK, COMMUTY	UC1, UC3, UC4	Marketplace
UR #34	Implementors report on project status, achieved energy savings, CO_2 emissions abatement, M&V used, projects successfully financed	Pylon A - Supply Side	ESCO, Project Manager / Developer, Engineer, Architect, Energy Consultant, Installer	LDK, GREENESCO, ENERBRAIN	UC1, UC2, UC4	Marketplace
UR #35	Financiers report on the total invested amount since they became a member	Pylon B - Demand Side	Private Financing Body, Public Financing Body, Fund Manager, Investment Consultant, Private Investor	RPR, GREENESCO	UC1, UC2, UC3	Marketplace

6. Conclusions & Next Steps

In the present deliverable a first version of Project Entries, User Profiles and User Stories, Use Cases and User Requirements are presented. The document reports a 3-fold methodology that focuses on the User Stories Extraction (Phase I), on Use Cases Extraction and Information Entries Definition (Phase II) and finally on the User Requirements Elicitation (Phase III). In particular:

- **Phase I** introduced the ENERGATE pilot organisations as the entities experiencing challenges and weaknesses in their daily operations and functionalities, to specify how the platform could address the difficulties, which leads to the extraction of user stories.
- **Phase II** emphasises the workflows and use cases derived from the aforementioned user stories. These are analytical views which stem from the pilots' answers and depict the interactions of the users within the ENERGATE platform.
- **Phase III** reports the user requirements elicitation process, which aims at specifying the services the ENERGATE marketplace could offer to bridge the gaps between market actors and to alleviate the challenges and weaknesses encountered by pilot organizations during their day-to-day operation. The ENERGATE platform's technical design and implementation will incorporate user requirements to enrich features and services offered to ENERGATE stakeholders for automating the interaction between Supply and Demand side.

Bellow the future activities are listed that refer to actions that will be taken in order to ensure the successful and on time launch of D2.5 – "Report on specifications for project entries, user profiles, use cases and user ranks V2".

Stakeholder Engagement process, consultations, synergies with related projects

The aim of these activities, which will take place from July 2023 to March 2024, is to gather input, apart from the pilot partners, also from a larger variety of external stakeholders from all participating countries with regards to their needs and expectation from the ENERGATE platform. This could be done through qualitative (bilateral and multilateral meetings, phone calls, email exchanges) and quantitative approaches (surveys). Surveys could be realised to further define the user needs based on inputs from a larger group of stakeholders that are not part of the consortium. Bilateral meetings will take place in order to discuss with the stakeholders their views on the use cases, workflows and front-end requirements. The external stakeholders will provide both an evaluation of the already defined initial use cases and user requirements based on the feedback from the pilots and provide new user requirements where needed to fill the gap of missing points. The progress up until now with regards to the initial user stories, use cases and user requirements, as well as the proposed workflows will be also presented in the upcoming Regional Training Workshop which will take place in Spain in autumn 2023, in order to discuss with real market actors their views on them and take advantage of their experience.

In addition, several interactions will take place with related projects (besides MATRYCS), with some of them having been already identified in the proposal stage such as LAUNCH, Triple-A, etc. while more will be examined. It is worth mentioning that ENERGATE has been part of

the #SmartEneryCluster[3]. In order to make the smart energy transition a reality, 19 projects came together under the #SmartEnergyCluster to mutually support each other by building on and multiplying all their results. To this end, ENERGATE will take advantage of this synergy and should common aspects and visions be detected, cooperation and consultation among ENERGATE and the related projects could benefit both sides and not only optimise the platform's processes, but also expand the project's outreach.

Next Steps on use cases, user requirements, information entries

The next activities ahead will involve the finetuning of the platform's front end, that is to say, adjustment of the prototype inputs and outputs to the requirements of the prospective users. The aim is to incorporate more detailed requirements per specific user type, instead of the broad categories of Building Owner, Implementor and Financier that have been the basis of the first version of the ENERGATE workflow. In other words, private building owners, asset managers, ESCOs, technical consultants, energy efficiency financing partners, public funds, banks should be adequately represented, and each user type's unique needs should be examined. As mentioned above, this will require intra-project, extra-project and stakeholder engagement in order to ensure the appropriate buy-in on the plurality, usefulness and user-friendliness of the front-end. The plurality of user profiles will be further populated during the definition of more use cases trying to reflect the full canvas of market actors involved in the various building renovation business models e.g., individually or as part of a dedicated public or private renovation pipeline, as parts of SE(C)APs, through citizen energy communities, over national or regional renovation programmes, etc. Moreover, the workflows must keep being re-examined not only to reflect the real market needs, but also to take into account data privacy considerations and ensure compliance with data protection laws.

Furthermore, the interoperability of specific technical modules of the ENERGATE platform with the MATRYCS project will be examined in order to establish the relationship between the two platforms. This may require ENERGATE to come up with an efficient process for collecting information on each individual project and project promoter in the most effective and user-friendly manner as well, taking into account the interoperability requirements imposed by the MATRYCS architecture. Some examples on the areas in which the interoperability can be achieved include the following MATRYCS services: facility management, renovation, Building2Grid, SE(C)APs, policy making and impact assessment, etc. However, it is necessary to readjust and rethink potential points of cooperation and interchange throughout the ENERGATE platform's development, since the marketplace will continue to be updated and modified based on feedback and validation by market actors.

Last but not least, it is worth noting that more effort will be put in fine tuning the approach of the user rating system by identifying and selecting the KPIs that could be used for this and defining how the approach could be implemented in practice.

[3] https://energate-project.eu/ENERGATE-project-is-part-of-the-SmartEnergyCluster

Annex - ENERGATE user types

Commuty

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 1** Asset Manager
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon A* ***Sub-target group:*** *Asset Manager*	***Add a description of the context of the Persona*** An asset manager is in charge of managing a or multiple real estate assets. Their objective is to maximise the return for the investor based on their investment/managing strategy, i.e. Opportunistic/ Value added (IRR focused), Core/Core+ (yield focused).
PAIN POINTS	**GOALS**
What current pain points will the platform solve? • Look for additional leverage or finance to cover the CAPEX investment in energy efficiency. • Find partners that will assist the RE Developer on the technical project definition: i.e., Architects, engineers.	***What can the platform help to achieve the goals?*** • Market debt that is reasonable in price and looking to invest in energy efficiency ("green") projects. • Matchmaking between investment/asset management teams that do not have a technical department and specialised energy efficiency companies.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs*?* • The asset manager looks for - reasonable priced - debt to cover their investments and reduce their equity exposure. • The asset manager may or may not have a technical team that will elaborate and manage the project. Hence, they may look for one and the platform could match them with a specific team.	***What emotions will the platform create?*** • Positive in the case of matchmaking with a debt provider or technical team • Frustration if the asset manager does not find what they're looking for. • Enough or lack of confidence of the quality of the services offered.

Asset Manager	
User Story 1.1	As an Asset Manager, I'm looking for a financing institution (bank, debt fund or public institution) that will finance my CAPEX to be invested in an - or multiple - asset(s) to improve energy efficiency. So that I reduce my equity exposure to the investment and hence maximising my equity yield or equity multiple
User Story 1.2	As an Asset manager that does not have a technical team in-house. I'm looking to find architects and engineers that will help me to elaborate and manage a project to improve the energy efficiency of my asset(s). So that I find reliable and well experienced teams that will perform on their duties.

LDK

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 2** Building Owner
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon A* ***Sub-target group:*** *Building Owner*	***Add a description of the context of the Persona*** A building owner can be any private citizen or company that seeks to increase the energy efficiency of a building under owner's procession.
PAIN POINTS	**GOALS**
What current pain points will the platform solve? ENERGATE platform will help the building owner to improve energy efficiency of the building.	***What can the platform help to achieve the goals?*** The platform can link the building owner with the project developer and investor considering the preferences of each partly through a matchmaking process.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs*?* • The platform will help the owner to seek project developers to undertake the energy efficiency renovation. • The platform will help the owner to seek financial schemes to promote the energy efficiency renovation.	***What emotions will the platform create?*** The platform will create the emotion of satisfaction because will help the owner find with the minimum effort the appropriate partners that will contribute to the increase of energy efficiency of the building.

Building Owner	
User Story 2.1	As a building owner, I want to find the appropriate project developer to identify the needed energy efficiency measures required so as to increase the energy efficiency of my building.
User Story 2.2	As a building owner, I want to find the appropriate financial scheme that suits my needs and the investor who is willing to provide the financial resources to increase the energy efficiency of my property.

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 3** Project Developer
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon A* ***Sub-target group:*** *Project Developer*	***Add a description of the context of the Persona*** A project developer can be a consultant that performs a detailed energy audit for a client and seeks funding for the implementation of the EE measures.
PAIN POINTS	**GOALS**
What current pain points will the platform solve? ENERGATE platform will help project developers to finance energy efficiency actions of the building.	***What can the platform help to achieve the goals?*** The platform will link the project developer with the appropriate investor on the basis of the required financial KPIs for both parties through a matchmaking process.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs*?* The project developer registers the required inputs for the office building along with the required EE measures and the financial KPIs within the ENERGATE platform in order to seek the relevant funding opportunities.	***What emotions will the platform create?*** The platform will create the emotion of satisfaction because it will help the project developer find with the minimum effort the appropriate investor to proceed with the required EE actions.

Project Developer	
User Story 3.1	As a project developer, I want to find an investor willing to invest his/her resources in the EE actions identified for one of my customers based on the financial KPIs identified

Greenesco

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 4** ESCO
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon A or B according to the GA* ***Sub-target group:*** *ESCOs*	***Add a description of the context of the Persona*** ESCO is as an experienced entity in energy services, procurement, installation, and commissioning of energy-efficient equipment and systems. This includes managing contractors, overseeing the project timeline, and ensuring quality control and financing options.
PAIN POINTS	**GOALS**
What current pain points will the platform solve? ENERGATE platform could serve as a channel for ESCOs to access funding opportunities specifically dedicated to energy efficiency projects. This could include grants, loans, subsidies, or other financial mechanisms available.	***What can the platform help to achieve the goals?*** The platform could play a supportive role for ESCOs by providing funding access, project matchmaking, streamlined processes, performance monitoring tools, knowledge resources, and opportunities for collaboration within the energy efficiency sector.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs*?* ESCOs, by assessing the financial feasibility of the project, including potential energy savings and payback periods, can be matched with financiers determining their interest and involvement in the project.	***What emotions will the platform create?*** ESCOs would likely experience a sense of efficiency and productivity. When the platform streamlines the process of finding investors, ESCOs can focus more on their core competencies, such as developing energy efficiency solutions, implementing projects, and ensuring optimal performance. This efficiency allows them to allocate their resources effectively and pursue more projects.

ESCO	
User Story 4.1	As an ESCO, I want to declare financial information related to the project, including the estimated cost of implementing the EE measures, projected energy savings, payback period, return on investment (ROI), by accessing any available data or analysis supporting the KPIs so as to deliver tangible energy efficiency results to the customer and the investor.

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 2** Building Owner
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon A* ***Sub-target group:*** *Building Owners*	***Add a description of the context of the Persona*** Building owners could be anyone, entity or individual who wants to initiate EE projects.
PAIN POINTS	**GOALS**
What current pain points will the platform solve? The platform empowers building owners to navigate the complexities of energy efficiency projects more effectively, access funding opportunities, ensure project transparency, monitor performance, and foster collaboration with relevant stakeholders.	***What can the platform help to achieve the goals?*** The platform empowers building owners to achieve their energy efficiency goals effectively, whether it's reducing energy costs, meeting sustainability targets, improving occupant comfort, or enhancing the overall value of their buildings. Moreover, it connects building owners with funding opportunities dedicated to energy efficiency projects.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs*?* • The platform offers a curated list of project developers with expertise in energy efficiency. • The platform connects building owners with funding opportunities dedicated to energy efficiency projects by providing access to various financing options. • Building owners can provide data on energy savings, track progress, and validate the effectiveness of their investments.	***What emotions will the platform create?*** • The platform can alleviate the stress and challenges associated with finding funding for energy efficiency projects and enhance their confidence by achieving energy efficiency goals through the list of qualified project developers. • By addressing their needs and simplifying the process, the platform aims to enhance their overall experience.

Building Owner	
User Story 2.3	As a building owner, I want to find qualified project developers, ESCOs, contractors, and other service providers specializing in energy efficiency that they are reliable and can deliver high-quality results to my projects.
User Story 2.4	As a building owner, I want to find funding opportunities for energy efficiency projects and connect with potential investors or financial institutions that are willing to support my projects financially.

Enerbrain

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 5** Building Manager
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon A* ***Sub-target group:*** *Building Manager*	***Add a description of the context of the Persona*** The User could be both, building owner or building manager looking for an investment opportunity in EE. In case of the Building Manager, the user could be expanded to the domain of asset manager, but it is not yet the case for Enerbrain's user story in ENERGATE.
PAIN POINTS	**GOALS**
What current pain points will the platform solve? • Find the best option/solution available to achieve an energy efficiency objective. • The platform can help provide the key elements to the BMs who need to make an investment decision on the possible paths they can take.	***What can the platform help to achieve the goals?*** Act as connecting link between Building Manager and project developers and/or financing institution.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs? The platform will help the building manager to seek project developer to bring forward an energy efficiency intervention and reach efficiency objectives.	***What emotions will the platform create?*** The platform can be a digital space where the building manager can perceive her/his priorities to be at centre. It can facilitate connections, collaborations and act as a trampoline for business opportunities.

Building Manager	
User Story 5.1	As a building manager, I want to find the right investment opportunity that can guarantee the reaching of energy efficiency objectives or requirements to be competitive and attractive to investors, guarantee better condition within the building and save money in the long run.
User Story 5.2	I want to find a project developer who can guarantee a return on my EE investment

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 4** ESCO
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon A* ***Sub-target group:*** *ESCO*	***Add a description of the context of the Persona*** Company specialised in delivery and management of energy services (designs and implementation of energy savings projects, retrofitting, energy conservation, energy infrastructure outsourcing, power generation, energy supply).
PAIN POINTS	**GOALS**
What current pain points will the platform solve? Access to funds to support energy efficiency projects.	***What can the platform help to achieve the goals?*** The platform can play a role in: • Matchmaking. • Investment opportunity evaluation. • Performance assessment.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs*?* ESCOs can weight the different opportunities for investments in EE projects.	***What emotions will the platform create?*** The ENERGATE platform could help create an environment where a company has different key players in the same place and is able to easily connect with whomever at any given time.

ESCO	
User Story 4.2	I want to have a decision-making tool to evaluate potential projects

RPR

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 6** Public Financing Body
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon B* ***Sub-target group:*** *Public Financing Body*	***Add a description of the context of the Persona*** Public funding body (i.e.Ministry of Environmental Protection and Regional Development MoEPRD) administers /selects proposals submitted by applicants of EU Recovery and Resilience Mechanism Plan reform and investment axis 1.2 "Improving energy efficiency", investment 1.2.1.3.i. "Improving municipal buildings and infrastructure by promoting the transition to renewable energy technologies and improving energy efficiency" applications and assesses them against specific set of criteria: financial viability and energy saving KPIs of the proposal.
PAIN POINTS	**GOALS**
What current pain points will the platform solve? ENERGATE platform will accelerate funding decisions.	***What can the platform help to achieve the goals?*** The platform will link public building body/-ies with building owners and managers seeking financing sources of EE renovations opportunities dedicated to energy efficiency projects.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs*?* Public funding body/Fund manager aims to increase awareness of building owners or managers about funding opportunities and requirements to apply for funding. Standardised set of data of EE renovation projects accelerates funding decisions based on financial viability and energy saving KPIs.	***What emotions will the platform create?*** ENERGATE platform for public funding bodies creates and makes available pipeline of EE renovation projects of public buildings, helps to assess readiness of investment projects, financial viability and their contribution to EE goals.

Public Financing Body	
User Story 6.1	As a public financing body/Fund manager MoEPRD obtains EE renovation projects pipeline with ranking of the projects based on KPIs, such as EE targets and financial viability and other data characterizing financial readiness/maturity of proposals for funding decisions and/or approaching project developers/building owners to activate submission of proposals.

ESC

ENERGATE ENERGY EFFICIENCY MARKETPLACE	**USER TYPE 7** Private Equity Fund
USER	**USER CONTEXT**
 ***Target Group:*** *Pylon B* ***Sub-target group:*** *Private Equity Fund*	***Add a description of the context of the Persona*** Private equity fund that is specialised in EE project finance that is searching to deploy its capital in a certain EU country and in a certain technology, having in mind a certain IRR. The ideal path would be to find an Implementer that has a sizeable pipeline in which the Investor could deploy its capital by entering in a framework agreement.
PAIN POINTS	**GOALS**
What current pain points will the platform solve? ENERGATE platform will accelerate funding in the EE arena, whilst at the same time ensure more traction of private equity investors in the search to deploy their capital into sustainable assets/projects. Furthermore, the ENERGATE platform will allow for a quick selection of viable projects of the Implementers based on specific/limiting KPI's (that each fund might have such as size, geography, IRR or technology).	***What can the platform help to achieve the goals?*** The platform will connect the Investor with Implementers in search for financing that are matching the Investors criteria.
USEFULLNESS OF THE PLATFORM	**ATTITUDES & SENTIMENTS**
How does the platform fit into their needs*?* The ENERGATE platform comes in and supports the Private Equity funds by enabling the funding decision based in their hard KPIs and the financial viability of the EE projects.	***What emotions will the platform create?*** ENERGATE platform for the private equity funds creates and enables access to available pipeline of EE renovation projects of buildings, helps to assess readiness of investment projects, financial viability, whilst at the same time proving them access to performant Implementers. This creates a positive emotion related to the platform and its use.

Private Equity Fund	
User Story 7.1	As a Private Equity fund (specialized in EE financing) that would like to deploy their capital in a certain EU country and invest in a certain technology, having in mind a certain IRR. Ideally, they would like to enter into a framework agreement on the long term with the Implementer, this implies that they will want to invest in their entire pipeline.

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