EUROPEAN CITY FACILITY
Deliverable D 3.6
Summary Report for Call 2 (Public)

Document version: 1
Date: 8 December 2021

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 864212.

Purpose:

The purpose of "summary report for the call 2" is to provide an overview of the EUCF second call results and outcomes. This report brief the readers on the details of the second EUCF call's application and evaluation phases containing the statistics of registered applicants, submitted applications and selected applications within three geographical regions and also per each country.

Abbreviations:

CINEA – European Climate, Infrastructure and Environment Executive Agency

EUCF – European City Facility

EEA-EFTA States – States of Iceland, Liechtenstein and Norway

CEE - Central and Eastern Europe

IC - Investment Concept

NC&WE - Nordic Countries and Western Europe

SE - Southern Europe

Disclaimer:

The sole responsibility of this publication lies with the author. The European Union and CINEA are not responsible for any use that may be made of the information contained

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 864212.

Table of Contents

1. Introduction 2

2. Registration to the EUCF Website User Zone 3

2.1 Registered applicants to the EUCF Website User Zone per region 3

2.2 Registered applicants to the EUCF Website User Zone per country 4

3. Application 5

3.1 Submitted/Non-submitted aplicantions to the EUCF User Zone per region 5

3.2 Submitted / Non-submitted applications to the EUCF Website User Zone per country 6

4. Submitted applications 8

4.1 An overview of submitted applications per region 8

4.2 An overview of submitted applications per country 8

5. Main investment sectors of submitted applications 11

5.1 Targeted investment sectors per region 11

5.2 Targeted investment sectors of submitted applications within the EUCF 2nd call 13

6. Evaluation result 14

6.1 Evaluation result per region 14

6.2 Evaluation result per country 15

6.3 Resons for rejected applications during Document check 17

6.4 Evaluation result- score per criterion 18

6.5 Evaluation of criteria- justification for scoring 19

6.5.1 A1 criterion – Investment size 19

6.5.2 A2 criterion – Energy savings 19

7. Selected applications 21

7.1 Expected impact of selected applications 23

7.2 Main trageted sectors and intended measures 24

7.3 Main sectors targeted by successful applicants 51

1. Introduction

This document briefs on the second EUCF call outcomes and presents key information on the second call application and evaluation phases.

The document contains information on the number of eligibility checks, the number of registrations to the EUCF Website User Zone with an overview per region and country, number of submitted/non-submitted applications per region and country, type of applicants, type of sectors targeted by the applicants, expected investment size and expected energy savings reported by the applicants.

This report also contains information on the number of “submitted applications”, “unsuccessful applications during document check”, “non-selected applications during evaluation phase” and “selected applications” per region and per country, as well as information on the final selection of municipalities/local authorities, groupings of municipalities/local authorities or local public entities aggregating municipalities/local authorities and the sectors in which the successful applicants will develop their investment concepts is also provided.

2. Registration to the EUCF Website User Zone

After successfully passing the eligibility check the applicant receives login details to the EUCF website user zone for getting access to the online application form.

2.1 Registered applicants to the EUCF Website User Zone per region

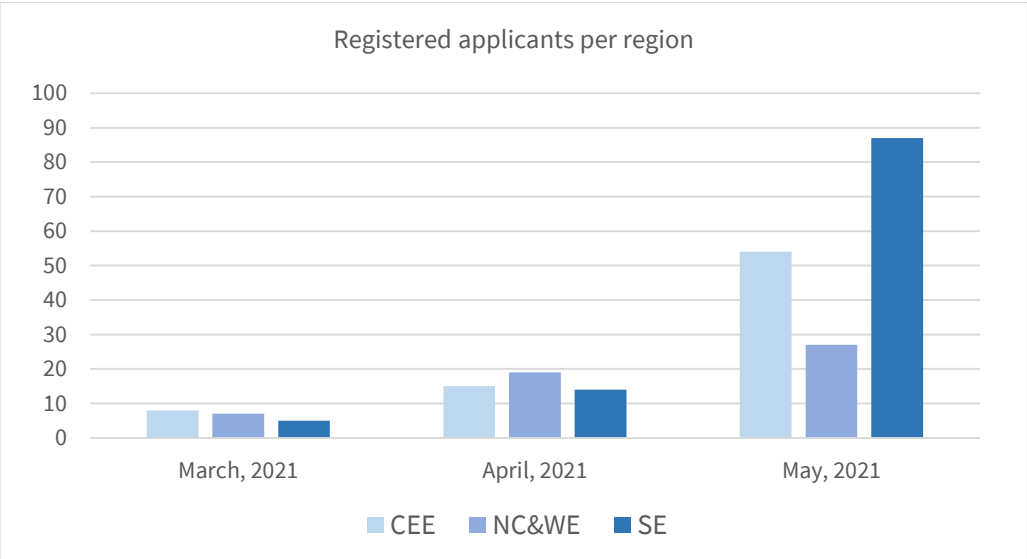
Table 1 presents the registered applicants status to the EUCF website user zone during the second EUCF call between 29th March to 31st May 2021 within the three EU regions. Within this call applicants from the EEA-EFTA States of Iceland, Liechtenstein and Norway could apply for the EUCF support. The EEA-EFTA States together with the UK are part of the Nordic countries & Western Europe EUCF region.

Table 1. Registered applicants to the EUCF

Region	March 2021	April 2021	May 2021	Total
Central and Eastern Europe	8	15	54	**77**
Nordic countries & Western Europe	7	19	27	**53**
Southern Europe	5	14	87	**106**
Total	**20**	**48**	**168**	**236**

Figure 1 shows the number of registered applicants in the EUCF website user zone during the months in which the second EUCF call was open.

Figure 1. Registered applicants to the EUCF



2.2 Registered applicants to the EUCF Website User Zone per country

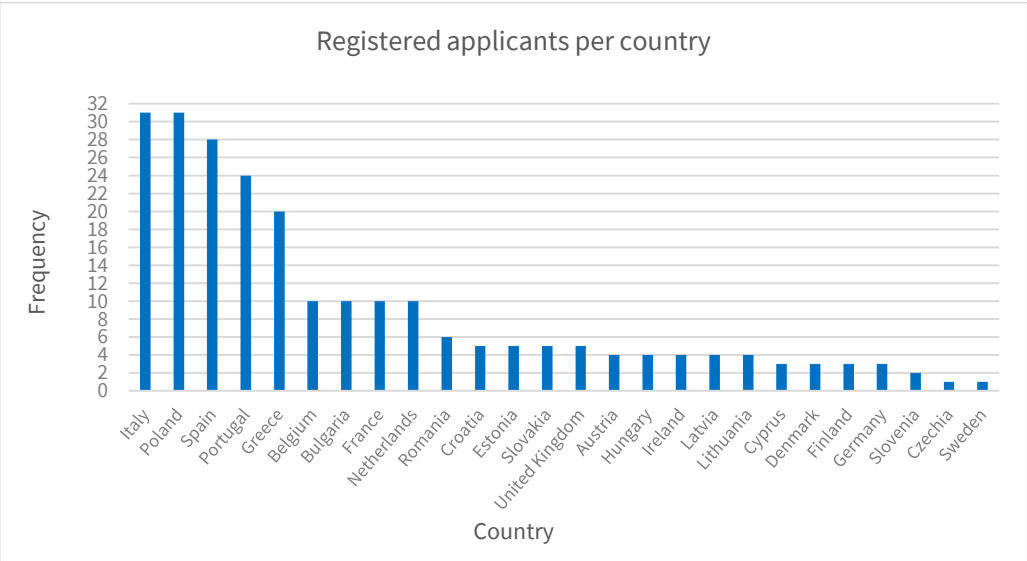
Table 2 presents the number of registered applicants to the EUCF website user zone between 29th March to 31st May 2021 per country.

Table 2. Registered applicants to the EUCF second call per country

CEE		NC & WE		SE	
Country	**N° of Registered applicants**	**Country**	**N° of Registered applicants**	**Country**	**N° of Registered applicants**
Bulgaria	10	Austria	4	Cyprus	3
Croatia	5	Belgium	10	Greece	20
Czechia	1	Denmark	3	Italy	31
Estonia	5	Finland	3	Portugal	24
Hungary	4	France	10	Spain	28
Latvia	4	Germany	3	Malta	0
Lithuania	4	Ireland	4		
Poland	31	Netherlands	10		
Romania	6	Sweden	1		
Slovenia	2	United Kingdom	5		
Slovakia	5	Luxembourg	0		
		Iceland	0		
		Liechtenstein	0		
		Norway	0		
Total	**77**	**Total**	**53**	**Total**	**106**

Figure 2 shows the number of registered applicants to the EUCF website user zone per country within the second EUCF call.

Figure 2. Registered applicants to the EUCF per country



3. Application

Registered applicants to the EUCF website user zone can complete the full application form, prepare the supporting documents and submit them via the EUCF website user zone.

3.1 Submitted/Non-submitted aplicantions to the EUCF User Zone per region

Table 3 presents the statistics of non-submitted and submitted applications to the EUCF website user zone within the second EUCF call between 29th March to 31st May 2021 per region.

Table 3. Submitted & non-submitted applications

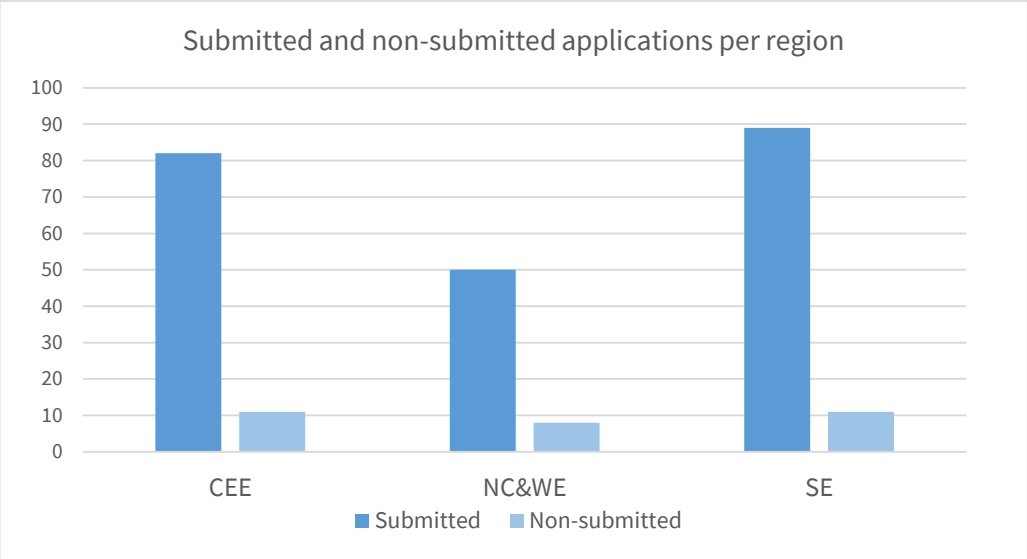
Applicants who have previously registered in the EUCF website user zone can directly submit an application within the current EUCF Call.

Region	N° of Submitted	N° of Non-submitted	Total
Central and Eastern Europe	82	11	**93**
Nordic countries & Western Europe	50	8	**58**

Southern Europe	89	11	**100**
Total	**221**	**30**	**251**

Figure 3 presents the number of submitted and non-submitted applications to the EUCF website user zone during the second EUCF call per region.

Figure 3. Submitted & non-submitted applications



3.2 Submitted / Non-submitted applications to the EUCF Website User Zone per country

Table 4 presents the number of submitted and non-submitted applications to the EUCF website user zone during the second EUCF call between 29th March to 31st May 2021 per country.

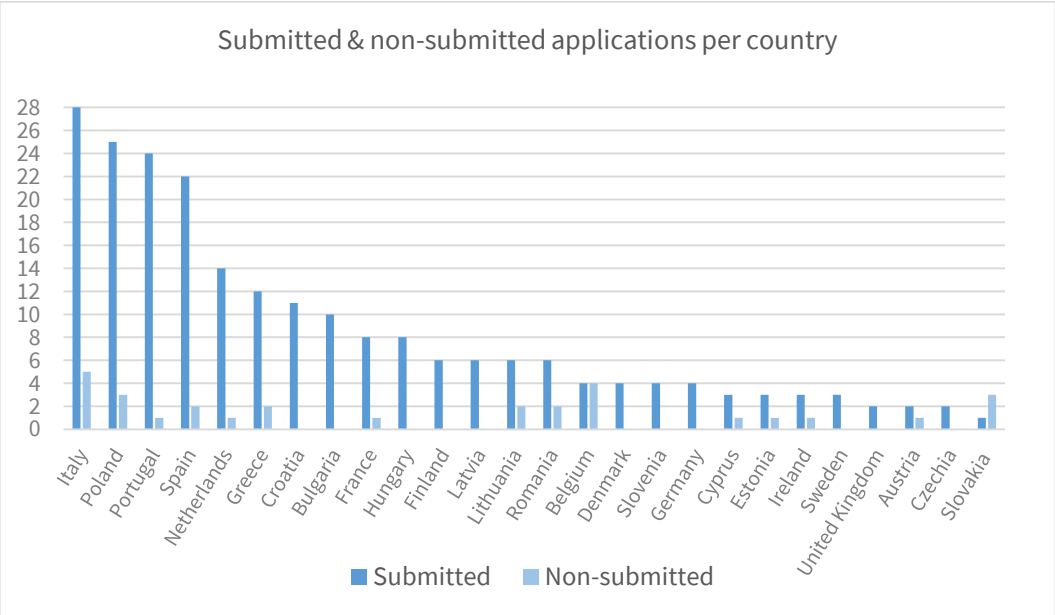
Table 4. Submitted and non-submitted applications

CEE			NC & WE			SE		
Country	Submitted	Non-submitted	Country	Submitted	Non-submitted	Country	Submitted	Non-submitted
Bulgaria	10	0	Austria	2	1	Cyprus	3	1
Croatia	11	0	Belgium	4	4	Greece	12	2
Czechia	2	0	Denmark	4	0	Italy	28	5
Estonia	3	1	Finland	6	0	Portugal	24	1
Hungary	8	0	France	8	1	Spain	22	2
Latvia	6	0	Germany	4	0	Malta	0	0
Lithuania	6	2	Ireland	3	1			

Poland	25	3	Netherlands	14	1			
Romania	6	2	Sweden	3	0			
Slovenia	4	0	United Kingdom	2	0			
Slovakia	1	3	Luxembourg	0	0			
			Iceland	0	0			
			Liechtenstein	0	0			
			Norway	0	0			
Total	**82**	**11**	**Total**	**50**	**8**	**Total**	**89**	**11**

Figure 4 presents the number of submitted and non-submitted applications to the EUCF website user zone within the second EUCF call per country.

Figure 4. Submitted and non-submitted applications trend



4. Submitted applications

This chapter provides information of submitted applications including the type of applicants, country and municipality/local authority, groupings of municipalities/local authorities as well as local public entities aggregating municipalities/local authorities, population, targeted sector/s, expected size of investment and expected impact within the three regions.

4.1 An overview of submitted applications per region

Table 5 shows the information on submitted applications within the second EUCF call per region.

Table 5. Submitted applications per region

Region	Number of submitted applications	Population (Thous. inhabitants)	Expected investment size (million EUR)	Expected energy savings/ RES production (GWh/y)	Number of applications by groupings	Number of applications by public entity aggregating municipalities/local authorities
CEE	82	8 138	3 608	3 202	10	3
NC&WE	50	6 893	4 575	9 379	5	6
SE	89	9 226	5 742	10 462	20	9
Total	**221**	**24 257**	**13 925**	**23 043**	**35**	**18**

4.2 An overview of submitted applications per country

Table 6 shows the information on submitted applications within the second EUCF call per country.

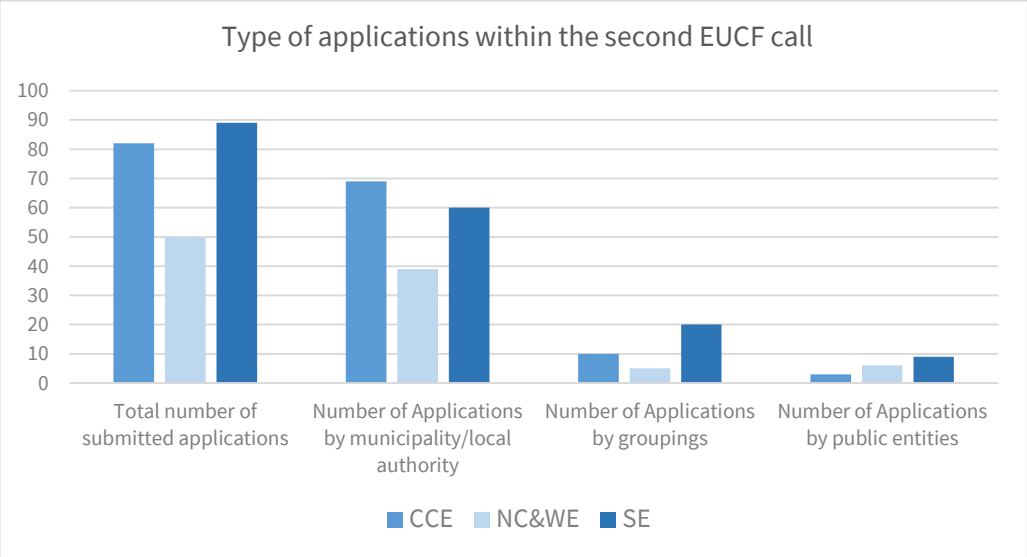
Table 6. Submitted applications per country

Country	Number of submitted applications	Population (Thous. inhabitants)	Expected investment size (M EUR)	Expected energy savings/ RES production (GWh/y)	Number of Applications by groupings	Number of Applications by public entities
CEE						
Bulgaria	10	685	156	217	0	0
Croatia	11	401	798	800	5	0
Czechia	2	104	37	34	0	0
Estonia	3	42	1.86	4.8	0	0

Country	Number of submitted applications	Population (Thous. inhabitants)	Expected investment size (M EUR)	Expected energy savings/ RES production (GWh/y)	Number of Applications by groupings	Number of Applications by public entities
Hungary	8	1 036	540	285	3	0
Latvia	6	853	681	201	1	0
Lithuania	6	227	36	37	0	0
Poland	25	3 691	1 267	1 522	1	2
Romania	6	528	26	19.3	0	0
Slovenia	4	129	48	74	0	0
Slovakia	1	441	15	8	0	1
Total	**82**	**8 138**	**3 608**	**3 202**	**10**	**3**
NC&WE						
Austria	2	343	3.6	17.7	0	1
Belgium	4	337	323	150	1	1
Denmark	4	403	792	842	1	0
Finland	6	193	243	6 210	0	0
France	8	2 391	724	389	1	4
Germany	4	542	204	93	0	0
Ireland	3	854	38	56	1	0
Netherlands	14	526	1 955	872	1	0
Sweden	3	221	229	691	0	0
United Kingdom	2	1 083	63	58	0	0
Total	**50**	**6 893**	**4 575**	**9 379**	**5**	**6**
SE						
Cyprus	3	110	15	86	1	0
Greece	12	495	196	142	3	0
Italy	28	2 830	577	334	9	4
Portugal	24	3 268	2 165	6 585	3	4
Spain	22	2 523	2 789	3 315	4	1
Total	**89**	**9 226**	**5 742**	**10 462**	**20**	**9**
Overall	**221**	**24 257**	**13 925**	**23 043**	**35**	**18**

Figure 5 presents the number of submitted applications by municipality/local authority, the number of groupings of municipalities/local authorities, the number of local public entities aggregating municipalities/local authorities and the total number of submitted applications per region.

Figure 5. Type of submitted applications within the 2nd EUCF call



5. Main investment sectors of submitted applications

This chapter provides a summary of the main investment sectors targeted by submitted applications.

5.1 Targeted investment sectors per region

Figures 6, 7 and 8 illustrate the share of the main investment sectors within the three regions. Applicants were asked to select the sectors targeted by their proposed investment project and indicate the main sector. Among the main investment sectors targeted by the EUCF are public buildings, residential buildings, building-integrated renewables, district heating, smart grids, sustainable urban mobility and innovative energy infrastructure. Applicants can also specify other sectors e.g. innovative micro-scale liquefaction systems, e-mobility and charging facilities, waste management, public lighting, solar thermal plants etc.

Figure 6. Targeted main investment sectors by submitted applications in CEE region

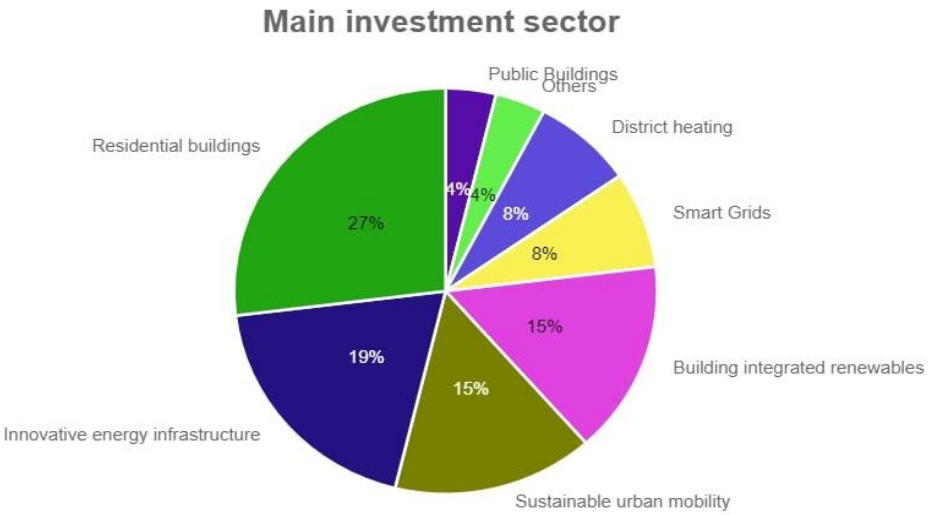


Figure 7. Targeted main investment sectors by submitted applications in NC&WE region

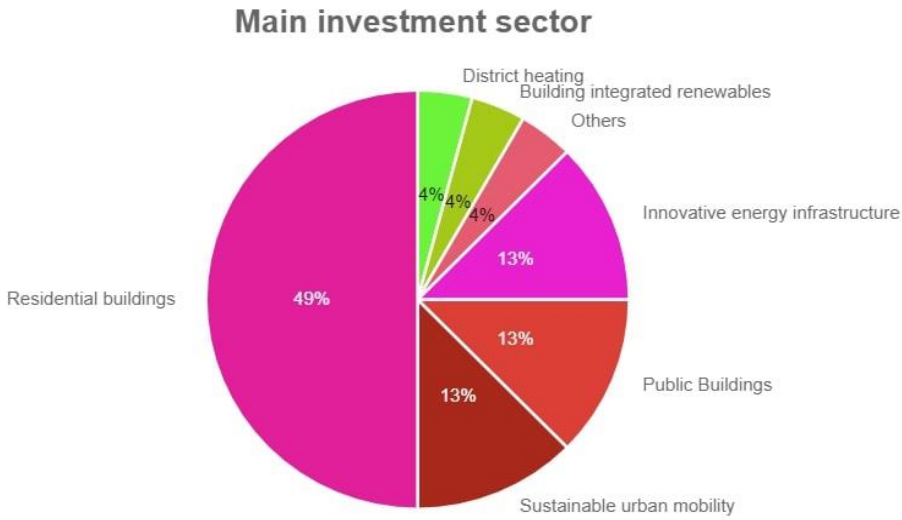
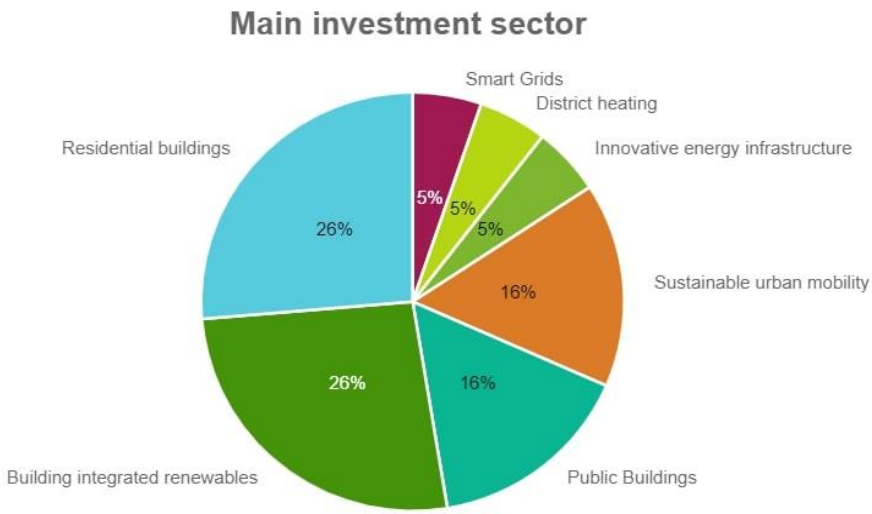


Figure 8. Targeted main investment sectors by submitted applications in SE region

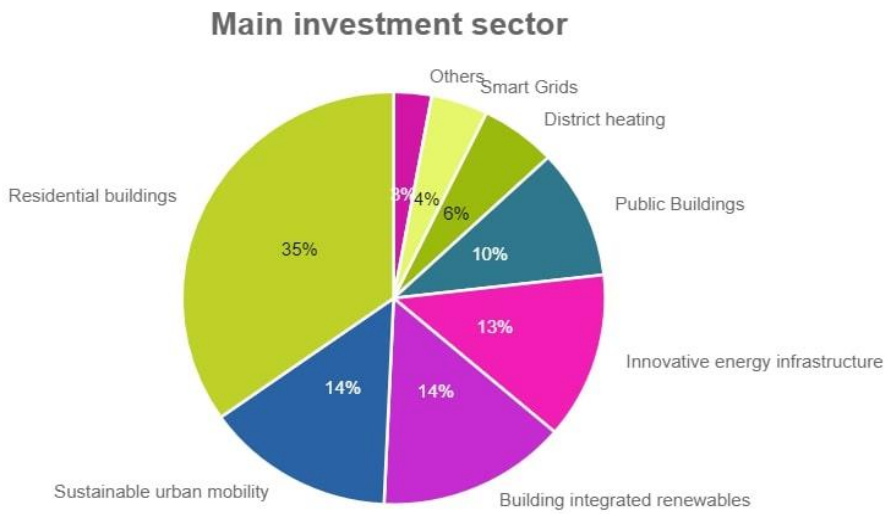


From the pie charts, it is clear that the residential buildings sector is targeted the most in the NC&WE (49%), CEE (27%) and SE (26%) regions. In the SE region, the development and use of building integrated renewables have been selected equally with a share of 26%.

5.2 Targeted investment sectors of submitted applications within the EUCF 2nd call

Figure 9 summarizes the targeted main investment sectors of submitted applications within the second EUCF call. Overall, the residential buildings sector was selected the most in the submitted applications, followed by building integrated renewables, sustainable urban mobility sectors and innovative energy infrastructure.

Figure 9. Targeted main investment sectors



*Others refer to innovative micro-scale liquefaction system, e-mobility and charching facilities, waste management, public lighting, solar thermal plants etc.

6. Evaluation result

Overall, 221 applications were submitted within the 2nd EUCF call. Out of them, 20 applications were unsuccessful in the documents check and 201 applications have been evaluated based on the five evaluation criteria. With the available budget for the 2nd EUCF call, 69 successful applicants could be selected for support in all 3 regions. The evaluation result is detailed per region and country below.

6.1 Evaluation result per region

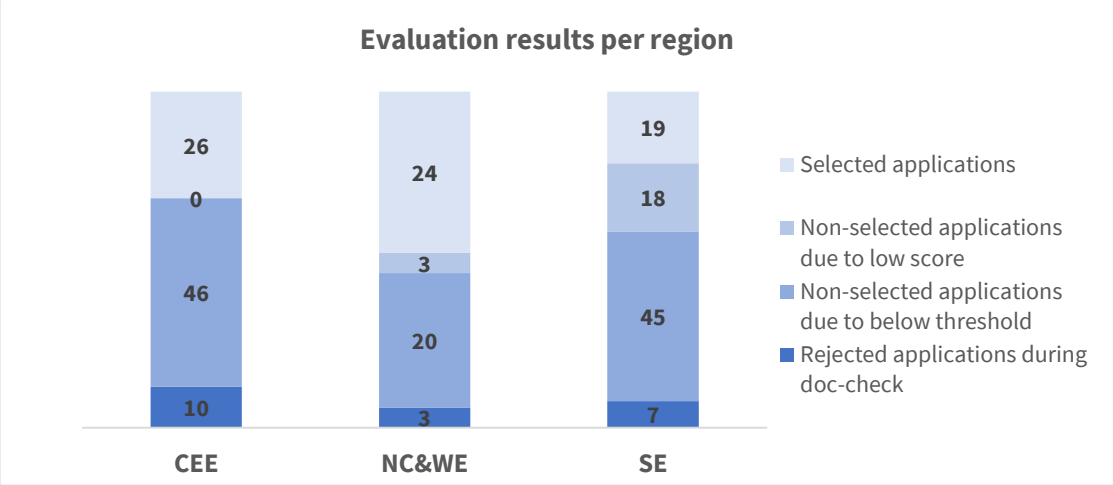
Table 7 presents the number of "submitted applications", "rejected applications in the documents check", "non-selected applications due to score below the quality threshold", "non-selected applications due to lower final score" and "selected applications" per region.

Table 7. Evaluation result per region

Region	Submitted applications	Rejected applications in the documents check	Non-selected applications due to score below the quality threshold	Non-selected applications due to a lower final score	Selected applications
CEE	82	10	46	0	26
NC&WE	50	3	20	3	24
SE	89	7	45	18	19
Total	**221**	**20**	**111**	**21**	**69**

Figure 10 presents the number of "submitted applications", "rejected applications in the documents check", "non-selected applications due to score below the quality threshold", "non-selected applications due to lower final score" and "selected applications" per country. Overall, 9% of submitted applications did not pass the document check. Successful applications from 19 out of the 26 participating countries have been selected for the EUCF grant within the second call.

Figure 10. Evaluation result per region



6.2 Evaluation result per country

Table 8 shows the number of “submitted applications”, “rejected applications in the documents check”, “non-selected applications due to score below the quality threshold”, “non-selected applications due to lower final score“ and “selected applications” per country.

Table 8. Evaluation results per country

Country	Submitted applications	Rejected applications in the documents check	Non-selected applications due to score below the threshold	Non-selected applications due to a lower final score	Selected applications
CEE					
Bulgaria	10	1	6	0	3
Croatia	11	1	5	0	5
Czechia	2	0	1	0	1
Estonia	3	1	2	0	0
Hungary	8	1	2	0	5
Latvia	6	1	4	0	1
Lithuania	6	2	4	0	0
Poland	25	2	13	0	10
Romania	6	1	5	0	0
Slovenia	4	0	3	0	1
Slovakia	1	0	1	0	0
Total	**82**	**10**	**46**	**0**	**26**
NC & WE					
Austria	2	0	2	0	0
Belgium	4	1	2	0	1
Denmark	4	0	0	0	4
Finland	6	1	3	1	1
France	8	1	3	0	4
Germany	4	0	2	0	2
Ireland	3	0	1	2	0
Netherlands	14	0	4	0	10
Sweden	3	0	2	0	1
United Kingdom	2	0	1	0	1
Total	**50**	**3**	**20**	**3**	**24**
SE					
Cyprus	3	0	2	1	0
Greece	12	1	9	1	1
Italy	28	2	17	6	3

Country	Submitted applications	Rejected applications in the documents check	Non-selected applications due to score below the threshold	Non-selected applications due to a lower final score	Selected applications
Portugal	24	3	9	4	8
Spain	22	1	8	6	7
Total	**89**	**7**	**45**	**18**	**19**
Overall	**221**	**20**	**111**	**21**	**69**

6.3 Reasons for rejected applications during Document check

Figure 11 shows an overview of the reasons for rejected applications during the document check. “Incorrect format” or “not submitted” SECAP, SEAP or plan of similar ambition were identified as the main issues during the document check, followed by issues in the plausibility of the energy savings in the calculation log. In addition, issues in the calculation log for investment size and letter of support were reported in a few cases. No issues were reported in the self-declaration forms.

Figure 11. Reasons for unsuccessful submission of applications during the Document check (overview)

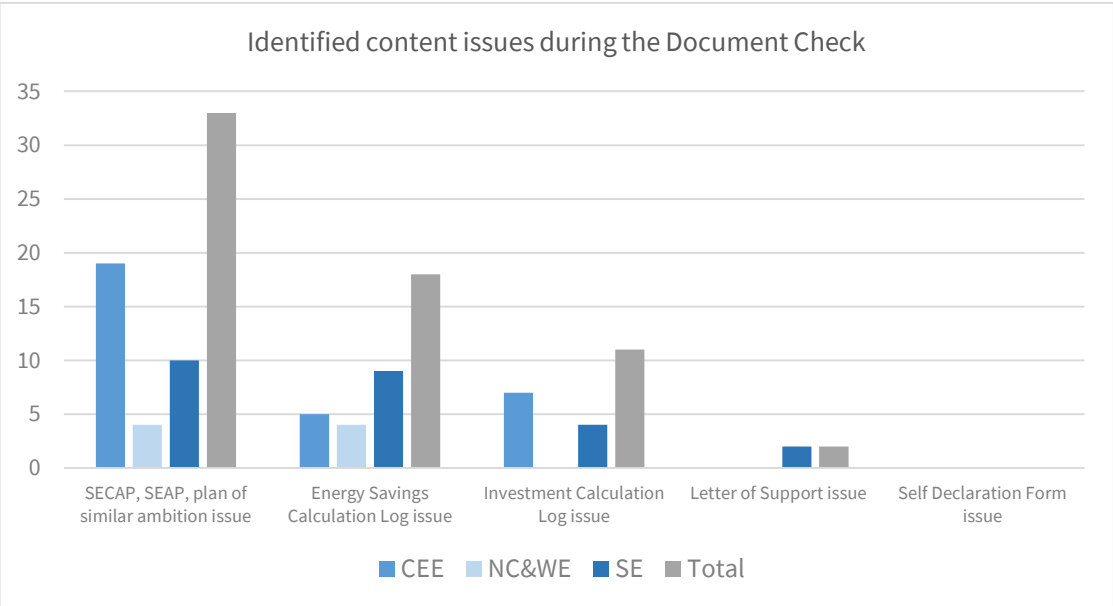


Table 9 presents a detailed overview of the most common reasons for rejected applications during the documents check. The table is organized according to occurrence of the reason.

Table 9. Reasons for rejection of applications during the document check

Document	Identified issues
Annex A – SEAP, SECAP or plan of similar ambition and summary	The submitted summary of the SEAP, SECAP or plan of similar ambition does not correspond to the EUCF template.
	Annex A - SEAP, SECAP or plan of similar ambition - Summary was not submitted with the application.
	The submitted plan does not include climate and energy targets at least for the year 2020.
Annex D -Calculation log for energy savings	The calculation log is only partially filled and therefore it is not possible to assess the plausibility of the figures.
	The submitted calculation log on the expected energy savings/renewable energy production does not correspond to the EUCF template.
	The intended measures in the submitted calculation log on the expected energy savings do not correspond to those indicated in the application form.
Annex E -Calculation log for investment size	The calculation log on the expected investment size is only partially filled and therefore it is not possible to assess the plausibility of the figures.
	The calculation log on the expected investment size was not submitted with the application.
Annex B - Letter of support	The submitted letter of support was not signed by the mayor or other political representative.
Annex C - Self-declaration form	No issue was reported.

6.4 Evaluation result- score per criterion

Applications were evaluated based on the following five evaluation criteria:

A1: Investment Size

A2: Energy savings

B1: Governance structure

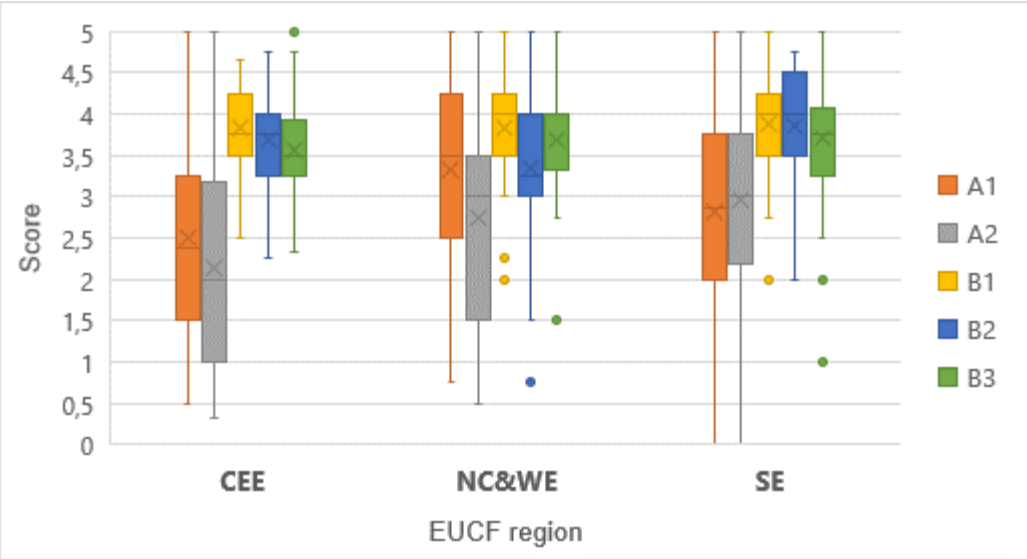
B2: Stakeholder engagement

B3: Alignment with EUCF objectives.

Figure 12 shows the score per criterion within three regions. For each of the five criteria, a score ranging from 0 to 5 (half point scores may be given) was awarded by the evaluators. The quality threshold of each criterion was 3 out of 5.

Overall, the results demonstrate that category A criteria received lower scores in comparision to other category B criteria.

Figure 12. Score per criterion



6.5 Evaluation of criteria- justification for scoring

6.5.1 A1 criterion – Investment size

Table 10 shows the absolute figures of submitted applications including the maximum, median and minimum investment size within three regions.

Table 10. Absolute figures of submitted applications that passed the document check

	General (EUR)	CEE	NC&WE	SE
Max. investment size	818 000 000	616 143 000	644 948 359	818 000 000
Median of the respective call	10 231 000	7 696 175	48 011 220	9 080 928
Min. Investment size	60 000	273 500	128 100	60 000

6.5.2 A2 criterion – Energy savings

Table 11 shows the absolute figures of submitted applications including the maximum, median and minimum energy savings within three regions.

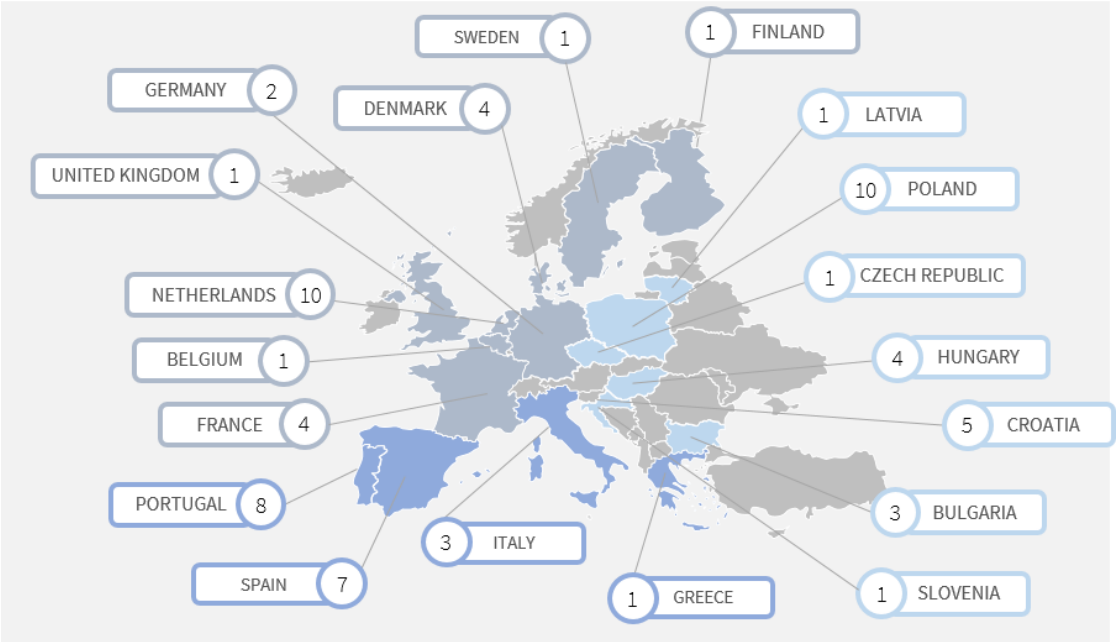
Table 11. Absolute figures of submitted applications that passed the document check

	Overall (GWh/y)	CEE	NC&WE	SE
Max. energy savings	2 232	2 232	1 785	1 469
Median of the respective call	10	5.96	36.67	11.23
Min. energy savings	0.01	0.31	0.39	0.01

7. Selected applications

Figure 13 presents a map of selected applications by countries from the EUCF regions.

Figure 13. Map of selected applications



Successful appications from 19 out of the 26 participating countries have been selected for the EUCF grant within the second call.

Figures 14 to 16 present maps of selected applications including the number of population of the selected applicants within the three EUCF regions.

Figure 14. Map of selected applications in CCE region

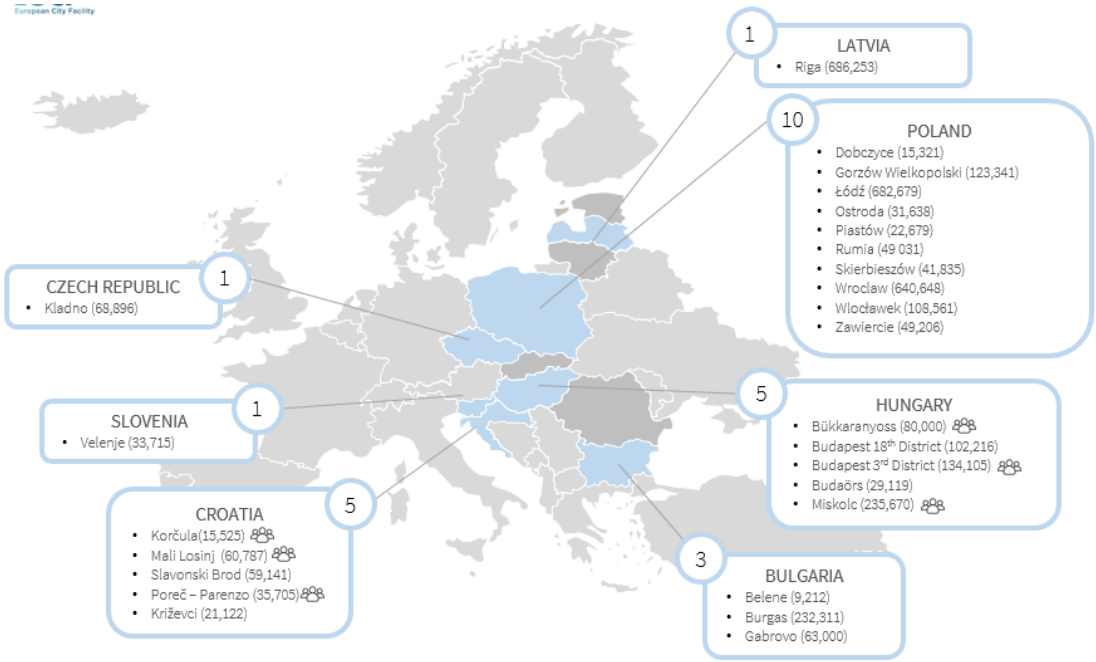


Figure 15. Map of selected applications in NC&WE region

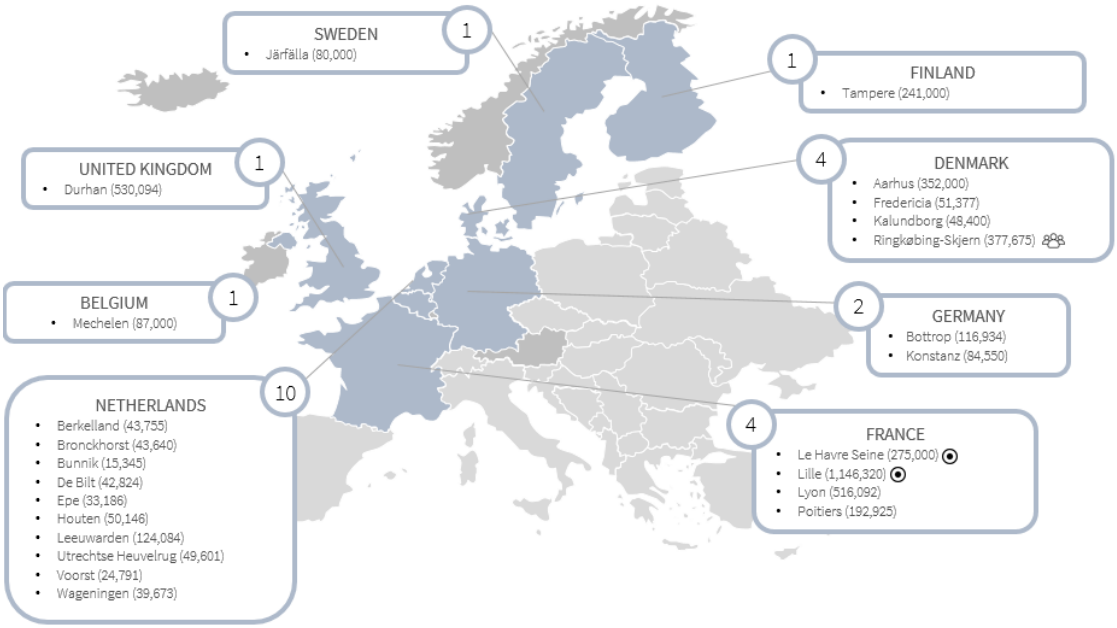
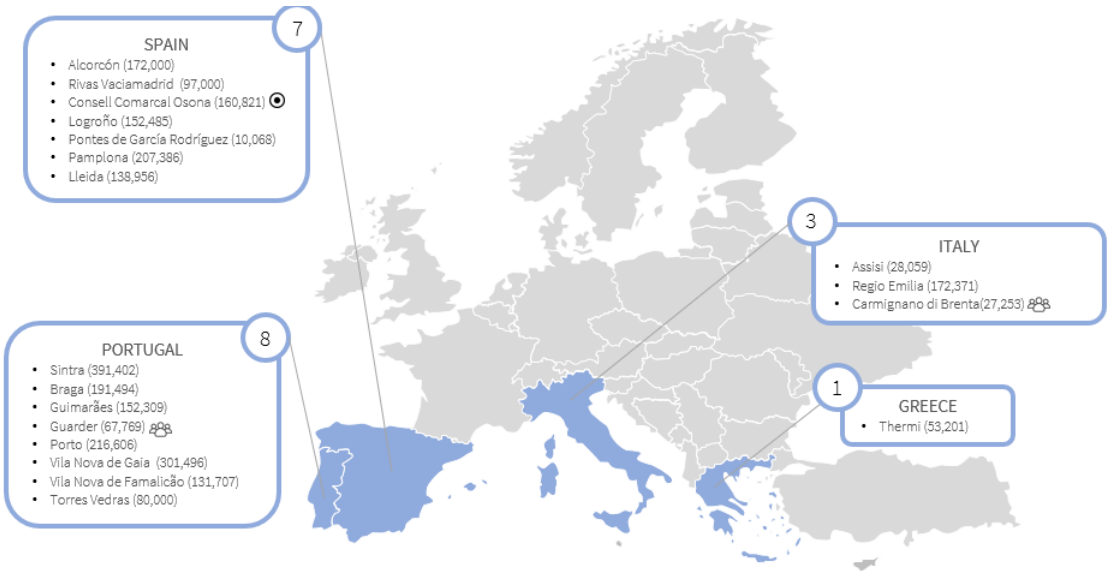


Figure 16. Map of selected applications in SE region



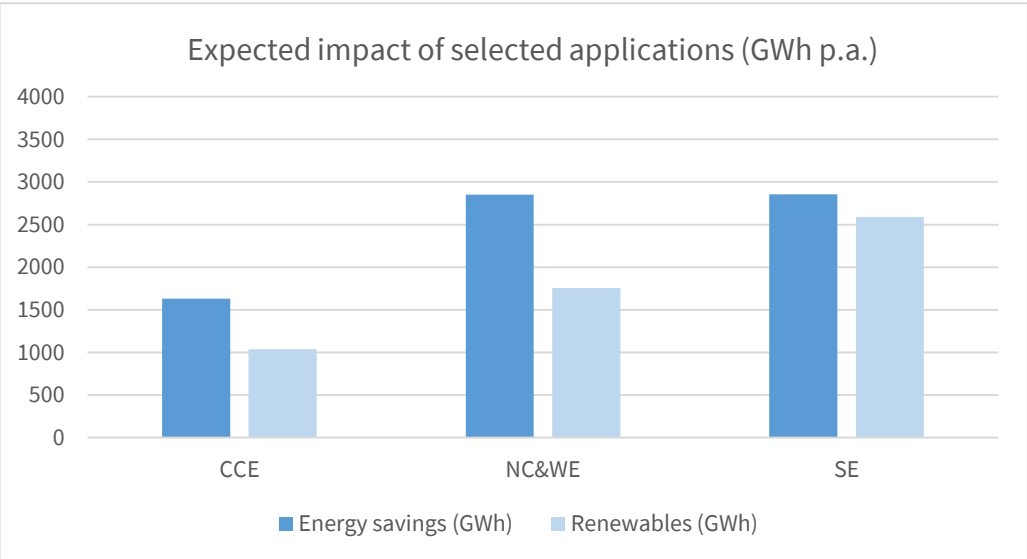
Out of 69, 26 applications were selected in the CEE region, 19 applications in the SE region and 24 applications in the NC&WE region.

Out of 69 applications, 9 selected applications are groupings of municipality/local authorities and 3 selected applications are local public entities aggregating municipalities/local authorities.

7.1 Expected impact of selected applications

Figure 17 shows the expected impact (GWh p.a.) of selected applications differentiated in terms of energy efficiency (EE)/energy savings and renewable energy (RE) production within the three regions.

Figure 17. Expected impacts per region



7.2 Main trageted sectors and intended measures

Table 13 presents the main sectors targeted by the investment project and intended technical measures stated by successful applicants.

Table 13. Intended measures by country/detailed overview

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
Belgium		
Mechelen	Residential buildings	Theproject targets low-energy retrofits of existing, co-owned condominiums. Currently, there are 16.371 apartment units (39% of the residential building stock in Mechelen), of which 11.600 (71%) are built before 1990. This corresponds to approx. 1.600 existing condominiums with poor energy performance. The intended energy efficiency measures concern no regret measures (roof insulation, high-performance windows with double glazing, facade insulation) as well as refurbishment of the heating system. Additionally, the goal is to maximise the renewable energy production on the more recent condominium rooftops, by sharing renewable energy between co-owners via energy communities. Assuming rooftop PVs on condominiums built after 1990, this corresponds to approx. 680 condominiums (~ 4.770 dwelling units). Current regulations do not allow maximizing renewable energy production of PV-panels by sharing it between co-owners in condominiums. This will change with the upcoming EU and national regulation.
Bulgaria		
Burgas	Residential buildings	Public buildings: 41 buildings (class C) are included in the scope of the project. Planned measures aim these buildings to achieve energy class A and include: - replacement of heating and cooling systems; - insulation of roofs and walls and replacement of doors and windows. - installation of PV and solar panels. Multi-family residential buildings: 82 buildings (class E and D) are included in the scope of the project. Buildings were approved at the first stage of the National Renovation Programme, but not financed because the programme ran out of budget. Planned measures aim these buildings to achieve energy class B and include: - insulation of roofs and walls and replacement of doors and windows. - installation of solar panels. Public Street Lightning:

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		4641 street lights in 7 residential areas will be replaced and connected to the public lightning management system.
Gabrovo	Residential buildings	The IC is aiming at enhancing a four-component investment project: 1) Building integrated RE solar PV systems involving the following components: i) solar PV panels; ii) solar inverters; iii) mounting structure; iv) complementary PV system equipment such as combiner boxes, surge arresters, monitoring equipment, cables, etc. 2) Waste-to-energy CHP system to utilize the residue from the wastewater treatment plant and landfills incl.: i) Reactor; ii) Gasifier iii) Gas treatment unit; iv) Water treatment unit; v) Co-generation unit. 3) Renovation of the envelope of 60 residential buildings with the financial support of National EE program: i) thermal insulation of walls; ii) thermal insulation of floors and ceilings; iii) replacement of windows. 4) Renovation of app. 20,000 sq.m. of public buildings stock to energy class A. Measures will include: i) improvement of heating systems; ii) installation of building management systems; iii) improvement of the building envelope and building lighting systems.
Belene	Innovative energy infrastructure	Intended investment as per the Programme for energy efficiency of Municipality of Belene (2018 – 2025) measure C7 (p.62) and Municipality Letter of Support to the European Clean Hydrogen Alliance for the larger-scale project include: - construction and putting into the exploitation of 6MW solar park to power hydrogen production; - construction and putting into exploitation of 4MW alkaline electrolyser hydrogen production facility to use only RE from the solar park in order to produce clean hydrogen according to the definition within the EU Hydrogen Strategy; - renovation of existing pipeline network (5km) connecting the electrolyser with public buildings in the central area of the city to provide for direct 100% hydrogen gasification for the purposes of heating; - Purchase and adaptation of new boilers for the heating systems of public buildings to be able to work on 100% hydrogen. There will be 7 municipal buildings for piloting the concept.
Croatia		
Križevci	Sustainable urban mobility	Since there is no public transport in the area, the city is working hard to develop it in a sustainable and environmentally friendly manner. As a result, they began work on the SUMP, which includes a demand study for public transport, a proposal for optimal transportation paths, and EV and H2 charging station forecasting. The first phase of the project includes

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		the installation of the 7 MW solar power plant (via crowd-funding) and the EV and H2 charging stations. These charging stations will primarily be used to charge vehicles for the future public transport system. As the solar power plant will be located in a large area near a highway and an international railroad (connecting the Adriatic coast and Eastern Europe), a multimodal passenger and freight terminal will be built there (phase two). It will include a variety of creative digital technologies as well as car- and bike-sharing services to minimize traffic congestion, air pollution, and fossil fuel demand in the city centre.
Midwest Istria subregion (Poreč-Parenzo)	Sustainable urban mobility	The EUCF grant will provide an opportunity to outsource the development of a comprehensive Midwest Istria subregion transport sector decarbonization Study that tends to answer the question of which actions are necessary to be conducted by both Municipalities for them to achieve the EU 2030 decarbonisation goals in the transport sector they have committed to. The project will: map public buildings and abandoned landfills and analyse their PV/hydrogen potential; map and analyse existing and assess the development potential of future Poreč-Pazin mobility solutions (public transport development, micro-mobility concept, sharing systems, private investments); develop an innovative investment concept for public and private investment/public-private partnerships. The approach will foster an open, transparent relation with stakeholders and the public to point out main needs in transport and in order to promote and include innovative and sustainable solutions for zero-emission transport.
Slavonski brod	District heating	The main measure is integrating low-temperature district heating (DH) system (4th Generation) in the city. The measure will contribute significantly to the efficient use of energy resources and better integration of renewable energy and surplus heat into the existing district heating system. It includes: Modernization, optimization and expansion of existing system; Fuel switch from natural gas and heating oil to DH system in existing buildings; Implementation of renewable energy sources (geothermal heat plant, large-scale heat pumps, solar thermal) and surplus heat (industrial waste heat); Implementation of Smart thermal grids to ensure efficient district energy networks. ICT will be used for optimum integration of energy sources, a high-efficiency operation of the system and communication with the consumers. A New decarbonized and optimized DH system will be integrated with other parts of the energy systems and will use heat from different sources and combined into a smart thermal grid.
Town of Cres; Town of Mali	Sustainable urban mobility	To become model islands for climate-neutral mobility, it is planned to establish a groundbreaking decarbonized system powered by RES,

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
Losinj; Town of Krk, Municipality of Malinska-Dubasnica; Baska; Dobrinj; Omišalj; Punat; Vrbnik (Krk)		primarily PVs (integrated and non-integrated). By establishing a two-way flow of energy and data, EVs will support the operation of a Smart grid with a high share of RES in real-time, resulting in a synergy between the transport and energy systems. With the gradual introduction of EVs, the development of a dense public and private charging network, new mobility services such as a multimodal vehicle sharing system and energy-efficient public transport will help reduce energy consumption and emissions, optimize traffic and alleviate congestions. A holistic, green and sustainable approach by putting end-users - prosumers in focus will positively impact their lives. Their active participation in the energy transition will be encouraged by establishing domestic micro grids, with integrated PVs, EVs and energy storage systems.
City of Korčula, Municipality Vela Luka, Municipality Blato, Municipality Smokvica, Municipality Lumbarda	Others	-Replacement of existing lighting fixtures with more energy-efficient light bulbs -Installation of thermal solar collectors -Reconstruction of the boiler room and transition to biomass or switch to high-efficiency heat pumps -Replacement of exterior carpentry of the building -Reactive power compensators -Insulation of the outer/inner shell of buildings and roofs -Replacement of exterior carpentry -Introduction of low power photovoltaic systems on households roofs -Installation of photovoltaic power plants larger than 50 kW of installed power -Building new bike paths and promoting cycling as a fast, efficient and healthy mode of transport -Introduction of 10% biofuels in transport -Car-sharing between city residents -Electrification of public and maritime transport -Micro Grids powered with PV and including energy storage
Czech Republic		
Kladno	Public Buildings	For the EUCF support, a project will be developed with a focus on "Renovation of the buildings (so-called public retrofit) in a comprehensive and smart way; which means to include a set up of smart metering (sensors, smart meters, etc.), a photovoltaics network creation (on the

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		public buildings; incl. virtual power plant deployment and implementation of the functional model; also the district heating network (= optimization and modernization, renewable sources, decentralization, etc.). It has one denominator (buildings in the wider perspective) but it consists of several layers mentioned above and together it creates a synergic ecosystem. It is also the SECAP priority and in this sense, the city can influence it directly.
Denmark		
Fredericia	Sustainable urban mobility	Public transportation adapted to the needs: New bus infrastructure, with three new bus routes serving more frequent departures between the city centre and the railway station and at the same time serving the large business park with more direct routes with fewer stops en route. Shuttle Connection between the city and railway station: Using existing, infrequently used tracks. Cost includes rolling stock, signals and tracks repairs. New Train Station in Erritsø: Building a new train station: Cost includes building InterCity length platforms on 4 tracks Better options for multimodal transport: Improving existing transport hubs and creating new hubs that are flexible and attractive to use, including secure bike parking, parking spaces and service facilities. The expected impact of the project is that it will reduce the use of privately owned cars due to more attractive transport solutions. Car ownership levels will stagnate at the 2017 level in 2030, meaning each resident owns 0.45 cars.
Ringkøbing-Skjern (Frederikshavn, Skive, Ringkobing-Skjern, Horsens, Sonderborg og Hoje Taastrup.)	Sustainable urban mobility	WeCARe IC aims to transition the car fleet to electromobility through the financing of the following technical measures: Battery Electrical Vehicles (BEVs). As BEVs must be charged to be operative, EV charging infrastructure is needed. EV charging infrastructure. The WeCARe IC specifically identifies 4 relevant types of EV chargers with different charging speeds and properties, necessary to ensure a full transition to electromobility. - Residential charger: Used for charging BEV at houses and apartment buildings. - Commercial charger: Used for charging BEV at retail and hospitality locations. - Fast charger: Usable for charging BEV at high speed, e.g., at workplaces, campuses, commercial parking spaces. - Ultra-fast charger: Usable for charging BEV at very high speed, e.g., at highway stops.

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
Kalundborg	Residential buildings	The investments are divided into the following categories: Renovations, improving the climate shell of the building: - Isolation, wall, roof, floor and windows. Investment 10.000 €/house Renewable energy - Solar panels on the building. Investment 9.000€/house Converting the heating system to a heat pump - Individually for each house. Investment 13.500 €/house - Shared, where an energy utility or private company builds a collective system in a village-based on heat pumps. Investment 23.500€/ house Some house owners will implement more than one solution at the same time. In 15 municipalities 200 house owners will choose to renovate, establish solar power and/or change the heating system to a heat pump.
Aarhus	Innovative energy infrastructure	The technology development within heat pumps has in recent years reached a level where they can deliver, recover and upgrade industrial waste heat, reaching a necessary technological level to decarbonize thermal processes in industrial processes. Conventional heat pumps solutions are generally limited to supply heat around 70°C to 80°C. HTHP, or industrial heat pumps, can be defined as heat pumps being able to deliver heat for industrial processes that require a temperature of 100°C to 200°C. The applications range from hot water production to upgrading waste energy to be used in other industrial processes. The challenges of HTHP are the integrability into the production process industry and to match the required heat demand. The HTHP seeks to substitute liquefied petroleum gas (LPG), fuel oil and natural gas with electrically powered HTHP based on a high percentage renewable energy mix. Any derivative investments in infrastructure followed by HTHP is excluded from this project.
Finland		
Tampere	District heating	In 2022, the biomass-fired power plant “Naistenlahti 3” is to be completed by the local energy provider, Tampereen Sähkölaitos. This makes the local district heating production run on biomass, natural gas and municipal waste. District heating covers over 70 % of the residential heating requirements in the City of Tampere, which makes it a vital part of the emission reduction potential. To achieve the city’s objective of becoming carbon neutral by 2030, this investment concept includes carbon capture in Naistenlahti 3 and a connected Power-to-X system to

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		turn the part of the captured CO2 into synthetic fuels. Synthetic fuel can replace natural gas in peak-load boilers to help meet the heat demand in winter sustainably and in transportation to replace fossil fuels in heavy vehicles. The Power-to-X process creates a lot of excess heat, which is captured to replace waste incineration and heat-only biomass boilers. This project is essentially the optimization of the current energy infrastructure.
France		
Lyon	Public Buildings	The best available technology will be deployed. The objective is to increase the emphasis on performance procurement, rather than traditional (means) procurement. Raising the standards of the tender specifications is underway and is the first action of the strategy. At the technical level, the City will seek to address all relevant issues: insulation of walls and roofs, change of windows, heating systems, hot water, lighting, ventilation, production of renewable energy (heat network, heat pumps on groundwater, photovoltaic solar energy). For the implementation, we conduct the renovations according to two approaches: - By work item, according to needs: window replacement campaigns, boilers for groups of buildings. - Complete building renovations on all work items, to approach the performance of the near zero-emission building.
Grand Poitiers	Public Buildings	The technological investments envisaged are : • The installation of photovoltaic shade houses on aerial car-parks, or 1150 parking spaces (1.6 ha), that means production of 3 GWh/year (€5 M) • The installation of 1 575 local electric charging stations (€5.5 M), that means a CO^2 reduction of 1575 t/year (for one electric car per terminal replacing a thermal car travelling 14,000 km/year and emitting 1 t of Co2/year) • A 'short distribution channel electricity' network comprising 2200 photovoltaic installations on private roofs or Grand Poitiers's buildings (€25 million) and a production of 15 Gwh/y. • Digital Remote Control System (Smart Grids) to calculate production The cost of these investments is estimated at €35.5 M.
Lille	Residential buildings	The investment concept aims to deploy a deep renovation model of industrial revolution houses in northern Europe ("1930" houses). The renovation model received the Solar Decathlon Europe award in 2019. It was designed by students from 14 schools and universities.

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		It is based on: A healthy, inclusive and aesthetic accommodation, following the New European Bauhaus premises: -environmental performance -adaptation -aesthetics of use: sobriety, comfort,… Optimization of the renovation process: -building information modelling -standardization of solutions -mutualisation Collaboration between academia and local actors through interdisciplinary academic projects. Local economic development : -creation of local sectors -skills development within SMEs The renovation model will be tested in 2022 on houses. Then, it will be deployed on blocks and streets on grouped sites. The investment concept specifies the legal, financial and social conditions of this massification.
Le Havre Seine Métropole	Others	Developing renewable energy production from photovoltaic power plants is fully in line with the lending EIB policy which supports, inter alia, power generation and will give priority to investments that improve the flexibility of networks. In addition to reducing the carbon footprint of LHSM and raising awareness on carbon neutrality objectives, it will provide flexibility to the local electricity distribution network. Indeed, the development of digital technology and electric mobility has increased, and will undoubtedly continue to increase, the electrical power demand and the related consumption. The development of solar power plants allows to: - Limit the investments necessary to reinforce the electricity distribution network, by positioning the power plants at strategic points (in areas where consumption will increase); - Smoothing out demands and consumption on the network by storing the energy produced and releasing it at consumption peaks.
Germany		
Konstanz	Public Buildings	The technology measures to be financed include LED-lighting, heat pumps, low-carbon heat grids, photovoltaic systems, solar thermal systems, access to local renewable heat sources (e. g. geothermal

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		drillings) and charging stations for electric vehicles and bicycles. All of these technologies shall be used in a way that is compatible with the EIB eligibility criteria.
Bottrop	Residential buildings	With the "Investment Concept - Energy Optimisation in Bottrop Fuhlenbrock/Vonderort", the efficiency potentials that are identified in the district are to be assessed more precisely and shall be developed into clear projects that can be financed. Grouping of small-scale projects can generate synergy effects and cost savings by combining the purchase of materials and the handling of refurbishment, building insulation and heating replacement. A "financing by citizens" programme can create an additional benefit for (private) investors through the contribution to energy upgrades and climate resilience in the home district.
Greece		
Municipality of Thermi	Public Buildings	The investment project aims at promoting cost-effective technologies fostering the major renovation of the buildings and promoting sustainable mobility. Firstly, 48 public buildings (20 offices and 28 schools), 150 private offices and 2,000 buildings of the residential sector constructed before 2000 will be renovated. The combination of the interventions will include the insulation of the building envelope (external walls, roof and windows with double glazes), the installation of heat pumps for the coverage of heating and cooling demand, the installation of energy-efficient lighting systems and the production of renewable energy from photovoltaics for self-consumption. Moreover, electric chargers (50 units) will be installed fostering the deployment of electric vehicles (20 light and 20 heavy-duty municipal vehicles and 1,000 passenger vehicles). The planned investments will be economic and social profitable ensuring the cost-benefit achievement of the climate targets.
Hungary		
Budaörs	Building integrated renewables	The planned Positive Energy District will include the following elements, to be examined and prepared in the frame of the investment concept: Solar panels will be installed on buildings' flat roofs and S-SW facing pitched roofs, over tennis courts, the bus station and the parking lots of major commercial units. Heating and cooling systems of buildings (except for those supplied by district heating) will be renewed primarily through applying heat pumps and ground-source heat pumps, as well as smart heating solutions for 1,050 residential apartments, using sensors and smart meters. Decathlon's lighting system will be converted to LED. Power generated by the solar panels will mainly be utilised by the buildings themselves, while excess power will be taken up by e-vehicles

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		through 2 charging stations installed and by Dechatlon's electric car fleet. The investment plot will be part of the to-be-set-up e-bike sharing system, 3 charging stations and 3 smart solar benches will be installed.
Municipality of 3rd District-Budapest	Residential buildings	The intended technology measures to be financed cover a complex range of investments. The modernisation of multi-storey prefab residential buildings in Óbuda and Újpest housing estates covers renovation (thermal insulation, replacement of windows and doors), and provision of geothermal energy for heating and solar panels on the roofs and facades providing electricity. With 30 residential buildings in Óbuda, 59 residential and 39 public buildings in Újpest, savings amount to a total of 75 GWh/year. In Szentendre, 4 investments are planned: the creation of a solar park and 3 measures for the modernisation of the district's heating system, contributing to a further 2.5 GWh yearly saving. 3 further innovative energy infrastructures (a 1 GWh/year capacity per solar park) are planned to be built by Budapest Waterworks and Sewerage Works to provide the energy for its plant. Moreover, further investment possibilities, such as the use of water energy for producing electricity will be assessed.
Municipality of 18th district of Budapest	Smart Grids	The concept will explore four investment modules and their combinations following the trias energetica model. First, functional repurposing, and envelope refurbishment using green constructions will target demand reduction both in transportation and building energy. This includes creating dwelling offices, shared work- and leisure spaces, envelope measures and green roofs. Second, smart microgrid, neighbourhood virtual storage and digital twinning will be explored to improve energy efficiency. Specifically, this means laying a 5th generation district heating/cooling network for distribution, and neighbourhood-scale BMS for coordinating control. Third, bio solar roofs and heat pumps will be designed to meet the remaining demand. Finally, a local energy community will be facilitated to ensure sustainable building use, the involvement of vulnerable inhabitants, improve local services utilization, and distribute operational burdens.
Borsod County	Residential buildings	To achieve the set goal of spreading innovative solar distribution systems for outdated panel houses' condominiums, which are mainly filled by low-income people we intend to launch an umbrella project for 4 cities in Borsod-Abaúj-Zemplén County. With this new state of art Hungarian innovation, even the blockhouses can be equipped with a solar energy system. The concept of the project contains set up local "Energy Agencies" in each city involved, to provide a grant to approximately 16 000 local flats arranged into condominiums - as a total - for implement PV panel and solar energy distribution systems giving their residents chance to diminish their energy cost with appropriate return meanwhile decrease CO2 emission and carbon dependency of the settlements. The local energy agencies operate grants to condominiums /flat cooperatives for their investment into solar distribution systems with legal, technical and financial counselling as well.
Bükk	Smart Grids	Planned measures are first the mapping of the existing public building stock with regards to energy flows, RES capacities and the opportunities

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		to accommodate decentralized energy storage. This will be followed by developing a technically sound investment concept, is acceptable by the local Municipalities and is in line with the intents of the relevant line ministries and the developments plans of the DSO. This investment concept will be then developed into a concept that can be submitted to the ELENA facility for further funding. The application to be developed will include three main pillars: (i) incorporation of already existing RES capacities into a common EMS via retrofit of SCADA controllers; (ii) installation of new RES capacities; (iii) installation of decentralized battery storage providing for self-consumption and selling electricity on the market; (iv) local electric transportation.
Italy		
Carmignano di Brenta	Building integrated renewables	The technological measures are: • Agriculture analysis for the identification of the crops produced and usable in the co-generation process. Identification of companies/apartment buildings suitable for the project • Development of the prototype for the co-generation machinery to produce electric and thermal power from agricultural wastes • Fume analysis, considered as the identification of emission standards and related firing and filtration systems • Chemical analysis of the wastes of the cogeneration process, to understand how to reintroduce them in the cycle as fertilizers in a circular economy (as fertilizers) • Study and development of a supply chain to link all the different phases of the cycle: 1. Agricultural wastes production 2. Collection 3. Drying and Stocking 4. Distribution 5. Combustion 6. Fumes treatment 7. Waste treatment • Business model development • Advertising and communication campaign

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		• Legal, administrative and insurance analysis
Reggio Emilia	Innovative energy infrastructure	The development of renewable energies is essential to reduce CO2 emissions. The introduction of technologies based on the coupling of Solid Oxide Electrolysis/Solid Oxide Fuel Cells in the biogas sector allows to use the excess electricity from renewable sources (solar, wind) and convert CO2 and H2O wasted from biogas into syngas (CO / H2). The syngas is easy to store and convert into additional electrical energy (SOFC) when requested. The investment concept aims to optimise the waste resource generated from 8 existing biogas plants that use biomass waste feedstock from the local area to produce additional electrical energy by installing 8 SOEC/SOFC modules and 8 photovoltaic modules. The added modules optimise and expand the production of electricity. The investment includes technologies eligible according to the New EIB 2019 energy lending policy, focusing on the topic: Production and storage of gaseous, liquid and solid energy carriers from low-carbon energy sources.
Comune di Assisi	Residential buildings	Active monitoring of the huge tourist fluxes (about 6 million per year) is planned through questionnaire surveys (using Q codes in major tourist attractions) to evaluate the environmental impact. Tourist impact will be analyzed in different sectors i.e. energy consumption of accommodation facilities, waste production and transports. This action will be coordinated with the Tourist Office and channelled through a dedicated APP for tourists. Technical Cell will set up two One-stop shops for Energy and Environment to support citizens and companies for the improvement of building energy efficiency, PV installation, the fuel switching from diesel and liquid gas to natural gas, the use of renewable sources. Particular attention will be paid to the use of technical solutions which do not undermine the protection of the historic value of the city. These One-Stop Shops will have the task of organising the annual meeting to communicate the progress of the SECAP action and the target reached.
Latvia		
Riga City Municipality	Residential buildings	In conformity with the new EIB energy lending policy, the Riga EEF will be developed to finance deep retrofit projects aimed to improve the energy performance of existing residential buildings. Riga EFF will work as a revolving fund to finance deep retrofit of multi-apartment buildings and promote the formation of energy communities implementing RES solutions. Deep retrofit projects will incl. at least the following EE measures: - insulation of the attic or roof, façades, slab on ground or basement ceiling

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		- replacement of the doors and windows - installation of smart ventilation solutions - modernisation of district heating system and district hot water system, installation of individual smart heat meters - installation of decentralized RES solutions such as solar panels, heat pumps and others. - other measures not directly connected to EE but needed to ensure the good technical condition of the building, such as the renovation of cold-water supply and replacement of roof covering.
Netherlands		
Leeuwarden	Innovative energy infrastructure	The increasing amount of renewable energy projects are causing overcapacity on the energy grid, risking grid malfunction. The municipality of Leeuwarden is one of the first in The Netherlands where grid challenges are causing a delay in the transition towards sustainable energy production and the development of new SMEs, specifically on Business Park De Zwette. Various business owners have shown interest in becoming sustainable, local grid capacity is hindering them. A communally owned energy storage solution in which decentralized renewable energy generation can be stored locally to mitigate grid scarcity on De Zwette can accelerate the local energy transition. Several potential technical solutions are: • Aqua battery • Variable energy storage in vehicle fleet • Different methods of battery The project will identify which solution is most fitting based on the local technical, legal and financial framework.
Houten	Residential buildings	The focus is energy savings, to find and implement heat and renewable energy solutions. A collective approach for investments leads to different business concepts and technical solutions. For residential areas, no ESCo exists that takes the whole neighbourhood as a target area. Natural gas is phased out, district heating might be a solution depending on the level of isolation and renewable heat supply. What fits best is under research and the resulting investment concept includes the whole energy value chain. The needs and demands of dwellers are the main focal point. An ESCo should be accepted as a solution for all groups, especially the poor. Increasing energy standards coincides with an increase in comfort, healthy living programmes, poverty reduction and generation-proof housing. How? This is a subject of the research in De Hoeven.

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
Gemeente Bronckhorst	Building integrated renewables	In Bronckhorst, the creation of an ESCO will reduce energy consumption and, if convenient, implement heat and renewable energy solutions. It will focus on renovation of housing to a higher energy standard: isolation, restoration, and it may include integrating renewables (e.g. solar panels) and the heating system as an integral part of the energy system of residential and public buildings, or buildings for small businesses. In the investment concept so-called 'linkage opportunities' regarding the public space, traffic, circularity, climate adaptation, and biodiversity will also be considered.
Utrechtse Heuvelrug	Residential buildings	Utrecht will focus on residential buildings and their energy consumption in the 70s neighborhood of De Hofjes. The activities will support the aging population improving their homes while the financial possibilities are small. Focusing on energy savings will make the neighborhood ready for an alternative heating system based on renewable energy. The aging population creates financing challenges for which an innovative investment construct is needed. The solution of an ESCO will be investigated with particular attention on the governance structure.
Bunnik	Residential buildings	Bunnik will use the EUCF grant to produce an investment concept that focuses increasing energy standards of residential buildings via, primarily, rooftops restoration and installation of solar panel. The creation of an ESCo will be explored to enable such actions, ensuring energy consumption reduction and the implementation of heat and renewable energy solutions.
Gemeente Voorst	Residential buildings	In Voorst, the investment concept will assess the possibility of ESCOs that enables a CO2 free Wilp, focusing on energy efficiency in housing and building integrated renewables. The work will, at first, focus on Wilp as pilot, the resulting construction will be available for the whole of municipality of Voorst. The grant will allow to support a social infrastructure for an energy community, design an institutional framework and build a collective business case for an ESCo.
De Bilt	Residential buildings	In the Bilt, an ESCO will aim at reducing energy consumption and, if possible, implement heat and renewable energy solutions. The investment concept, developed within the EUCF, will focus on the renovation of housing to a higher energy standard and may include integrating renewables and the heating system as an integral part of the energy system of residential and public buildings, or buildings for small businesses.
Wageningen	Residential buildings	Wageningen will use the support of the EUCF to develop an investment concept aiming at reducing energy consumption in the housing sector and explore the possibility to implement heat and renewable energy solutions. An ESCO will work to increase the energy standard of housing: isolation, restoration, and may include integrating renewables such as solar panels.
Berkelland	Residential buildings	In the city of Berkelland, the EUCF grant will be used to assess the possibility of ESCOs as a solution to reduce energy consumption in the housing sector. The project mainly focuses on the needs and demands of the dwellers and this may differ per area or house. Increasing energy standards needs to coincide with an increase of comfort, healthy living

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		programmes, poverty reduction and generation-proof housing. Making business cases viable, while safeguarding the freedom of choice for the residents regarding the degree to which they would like to be unburdened and supported by the ESCO.
Epe	Residential buildings	In Epe, through a pilot in Oene, we will research how an ESCo can facilitate CO2 neutrality, collectively in energy communities with affordable measures. The focus of the ESCo is to reduce energy consumption and implement heat and renewable energy solutions. As part of the larger network, the knowledge centre, the possibility of innovative energy infrastructure, like 5th generation heating concepts is included. The intended technology measures are: • integrating renewables (e.g. solar panels) • isolation, restoration • heating system as an integral part of the energy system of residential and public buildings, or buildings for small businesses. Measures need to coincide with an increase of comfort, healthy living programmes, poverty reduction and generation-proof housing, fitting the needs and demands of dwellers. This is especially the case in Oene where every building is different. An ESCo should be accepted as a solution by residents and therefore be able to meet their needs.
Poland		
Włocławek	Building integrated renewables	-Construction of photovoltaic installations on public buildings and PV farms -System of intelligent metering, monitoring and energy management -Decarbonization of the municipal heating system (covering 70% of the city's residents), -Thermomodernization of public and residential buildings being part of the city's resources -Modernisation of street lighting -Creating an energy cluster -Construction: power grid, wind farms, hydroelectric power plant -Expansion of a biogas-based cogeneration system The development of the concept will attract investors for the investment (191 million €), highly exceeding the city's annual investment budget (39 million €). Apart from CO2 reduction and sustainable energy development, the project will improve the life quality of 108 561

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		residents, also by smog reduction (PM 2.5 dust emission - 50th place in the EU according to IQAir, 12th place in Poland among 66 cities with the worst air quality), city functionality and will relieve the budget, enabling further act.
Gmina Miejska Rumia	Residential buildings	Rumia plans to fully comply with the assumptions of the European Green Deal and achieve climate neutrality by 2050 - work is currently underway to prepare and adopt a roadmap for carbon neutrality (with a 2050 timeline). Taking into account the current situation, especially in terms of energy, of the city, two phases of the process are planned - 2021-2030 and 2030-2050, that encompass both private and public sectors. In the first phase, investments will be made primarily on public and private resources, which, after preparatory and analytical work, will mainly require appropriate financial outlays as well as the involvement and consent of individual stakeholder groups. In the second phase, it's necessary to develop and implement new solutions based on renewable energy sources, local low-temperature heating networks and the concept of distributed and community energy.
Gorzów Wielkopolski	Building integrated renewables	It is planned to establish a system for monitoring media consumption for the collection of invoice data, the successive expansion of this system with modules for analysis and reporting of consumption and media costs in city-owned facilities. The monitoring system will be about: - energy measurements and audits in thermal modernization, - calculations and measurements to select the most effective solutions for replacing the heat substation - energy measurements and audits in public transport, - measurements and calculations of energy savings in the case of using LED lighting - technological analyses concerning the use of an energy transformer in tram transport.
Zawiercie	Innovative energy infrastructure	The following technologies are planned to be used in investment activities: - photovoltaic installations - wind turbines - cogeneration (CHP systems) - electric and hydrogen cars

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		- energy storage system - efficient lighting system based on LED lamps - energy efficiency improvements to the building envelope and building systems - smart energy metering
Piastów	Innovative energy infrastructure	The following technologies are planned to be used in investment activities: - photovoltaic installations - electric cars and other means of transport (electromobility) - energy storage system - efficient lighting system based on LED lamps - energy efficiency improvements to the building envelope and building systems - smart energy metering
Ostróda	Innovative energy infrastructure	Development of an investment concept feasibility study for the project containing an analysis of the legal, technical and economic conditions of the investment consisting in the implementation of a hydrogen production installation with the use of a photovoltaic farm for the needs of a municipal heating plant, which will make it possible to abandon the use of fossil fuels.
Skierbieszów	Innovative energy infrastructure	The project includes investment component (by sector) • Residential buildings – construction of renewable energy installations for residents – photovoltaic panels, heat pumps, biomass stoves; • Public buildings – thermomodernization of public buildings; • Sustainable urban mobility – development of electromobility (charging stations, charging points, RES instalations for stations, smart city solutions, purchase of buses); • Innovative energy infrastructure – construction of biogas plant, construction of solar farms, construction of energy storage.
The City of Łódź	Residential buildings	100 municipal buildings in the historic centre of Łódź are chosen for the project. 54 buildings are tenement houses from the 19th century that entered the municipal register of monuments. They are currently inhabited by about 2,600 people. At least 80% of flats have an active coal furnace. In Łódź, in 2017, the housing sector had the largest share in the total CO2 emissions (46%). The assumed activities are the following:

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		• Complex thermo-modernization of buildings. • Renovation of buildings allowing for safe decarbonization. • Replacing coal stoves with more ecological methods of heating. These buildings have a specific architecture, so standard solutions will not be possible to implement. The investment budget of the city of Łódź adopted for 2021 is approximately EUR 240 million. The estimated cost of our project is EUR 200 million. (It isn't easy to assess without a comprehensive analysis). The city cannot allocate the entire budget to this one investment.
Urząd Miejski Wrocławia	Sustainable urban mobility	Wrocław has the largest system of waterways in PL. The assumption of the project is to reduce the share of cars (individual transport) in the overall transport in the Wroc Agglomeration area, in favour of environmentally friendly water transport. At the present stage, the communes of Wroc Agglomeration are making plans for the water tram routes to be served by vessels powered by alternative fuels, with electric propulsion, e.g. solar energy or using other innovative and pro-ecological solutions contributing to energy savings and reduction of CO2 emissions. The development of zero-emission transport is particularly important from the point of view of environmental protection, rationalization of the demand for parking spaces, the accessibility of collective transport for residents, and the reduction of traffic flow, including from suburban areas. The assumptions of the project are included in the Wroc Electromobility Development Strategy and are in line with objectives adopted by PGN.
Dobczyce	Building integrated renewables	Within the project, it is considered to: - Build of new council office in Dobczyce, accessible and energetically positive and moving to it the head council office from the old building (1 building, 2500 m2), - Modernize street lights aimed at energy savings (1769 lamps), - Establish building renewable energy development centre (1 building, 500 m2) Install of new renewable energy sources in residential buildings: a) photovoltaics (4 MW) b) heating pumps (1,5 MW)

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		c) solar panels (0,5 MW) - Installation of new renewable energy sources in public buildings: photovoltaics (2 MW), - Build of the new photovoltaics power station (2 MW) - Create of energetic community based on installed renewable energy sources, includes software for energy balancing. Finding solutions of balancing of energy made and used. Defining the conditions of cooperation with the energy system operator. - Build of metering resulting from the conditions of cooperation with the energy system operator.
Portugal		
Torres Vedras Municipality	Building integrated renewables	Different technologies will be involved all along with the 3 Structural Projects #1 Renewable Energy Communities #2 Energy Management in Municipal Building-#3 Green Public Road Transports, such as: a) Photovoltaic panels and Building Integrated Photovoltaics (BIPV) b) Inverters, convert the electric energy produced by the direct current photovoltaic panels to alternating current; c) Instantaneous counting and monitoring system for the energy produced with GPS d) Management, Monitoring and Control Equipments e) Sensor for energy efficiency in municipal buildings and weather stations f) Interoperable tools: Energy network management services; Power flow monitoring; Demand and supply matching; Predictive DR algorithms; Analytics cross-domain Big Data; Forecasting tools g) Renewable power generation and H&C systems h) HVAC solutions for Municipal Buildings i) Green Hydrogen Electrolyser (10 MW) j) HRS (H2 Refuelling Stations) k) Public Buses moved by H2 and Electric Vans on-demand
Vila Nova de Famalicao	Residential buildings	Famalicão has a long history of energy cooperatives, dating back to 1930. Capitalizing on the City's history, and in line with the Paris Agreement, Famalicão developed a roadmap for carbon neutrality until 2030,

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		creating a baseline for the promotion of equal access to sustainable energy, as well as for the creation of community-based renewable energy production and a sound electrical mobility network. Through the creation of a Municipal Energy Efficiency Fund (which would aggregate the current program "Casa Feliz" for disadvantaged households), the city aims to invest in the installation of energy-efficient equipment in 10000 households, which would represent a total of 23 GWh/y in energy savings. In addition, the project aims to install 120 MW of photovoltaic solar energy, representing a total generation of 193 GWh/year and a reduction of 53733 tCO2eq/y in CO2 emissions. Finally, the project will invest in an expanded electrical mobility network, promoting intermodality in the city.
Vila Nova de Gaia	Sustainable urban mobility	The investment project will be focused on two main topics: electrical mobility and renewable energy production through a community-based approach. As such, the following technical measures will be financed: 1)Implementation of Urban Renewable Energy Communities and installation of 130 MW of photovoltaic solar energy, representing a total generation of 209 GWh per year. This will strengthen the transition to fully renewable-based energy production in the city. 2)Investing in electric mobility innovative solution in the Municipality, by creating intermodal spaces with 1000 charging stations across several key locations and ideally powered by the energy communities These measures aim to reduce 68172 tCO2e emissions. With community-based energy production, the development of innovative smart grids is also considered in the project. As such, it is imperative to assess the conversion models for future energy distribution and power needs, including the foresight for electric mobility.
Porto	Public Buildings	Porto, within its vision for climate neutrality and under SECAP 2030 identified the following key measures: • Public buildings renovation: EE in public buildings and facilities. • Street lighting: Remote management system in the city SL (26000 LED fixtures); • Social housing renovation: EE in buildings reducing energy poverty. • Porto solar: 2 MW of self-consumption (SC) in schools and municipal buildings. • Renewable energy communities: 6 MW of PV for SC in social housing.

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		• Water facilities PV: Installation of 1.8 MWp of PV for SC in water reservoirs. • Municipal fleet: renovate the fleet with electrical vehicles, through a renting system. • Bicycle path: Improve the city cycling paths foreseen in SEAP, removing 4600 people from private vehicles. • EV charger installation (100). • Efficient urban water treatment facilities – EE and innovative approaches producing green bio-gas (or hydrogen). • EE in water lift stations: innovative approaches namely efficient compress air ejection.
Guarda	District heating	The intended measures on this investment concept to be financed are the creation of a district heating network for the 5 municipalities in the application. This district heating shall be powered by a combined heat and power (CHP) plant. The combined heat and power shall be a 50 MW plant that will have a cogeneration ratio for electricity of 5:1 and can also self-sustain the electricity needed for the plant. Also, such a system shall be powered by the existent biomass and biowaste from the region. Such a system will allow not only to increase efficiency in the heating systems but also to replace old wood combustion at households that have very low efficiency. Furthermore, such a district heating system, has the capacity, later on, to be adapted for a district heating and cooling system. This can be important for a preliminary evaluation and understand if it would be feasible to have this improvement in the future.
Guimaraes	Sustainable urban mobility	Guimarães aims to create a solid investment project to build an interconnected and energy-efficient city, focusing on community-based renewable energy, electric mobility and energy poverty. As such, the following technical measures will be financed: • Installation of 20000 LED lights and implementation of smart grids in key points of the public lightning network, which will allow for a more efficient public lighting system uniformly across the Municipality • Development of Renewable Energy Communities (RECs) in 5 industrial parks and social housing neighbourhoods, installing 50MW of PV solar power • Installation of 500 electric mobility charging stations across the RECs and the ECO Pathway of 50km, as well as an integrated management

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		system. • Implementation of EE measures and technologies in social housing neighbourhoods, aiming to improve buildings efficiency, while improving living conditions of those in more adverse contexts, covering 7000 households, and consisting of thermal.
Braga	Building integrated renewables	1. Collection and processing of aerial image data for the calculation of solar energy, considering factors such as roof inclination, orientation, and sunlight blocking by other buildings. 2. Development of a solar map to evaluate and calculate the solar potential of buildings, where it is possible to carry out various investment simulations according to consumption, hourly occupation and the panel ideal location. 3. Evaluation and identification of the best buildings where a combination of solar panels and bio-roofs would be viable. This would consider the receiving solar energy, the inclination of the roof and its area. Bio-roofs not only promote biodiversity and reduce the surrounding temperature, but they also increase the solar panel's efficiency by preventing overheating. 4. Publication of the results in an intuitive and easy to access platform, allowing the constituents to easily consult their building's Bio-Solar potential, as well as tools to test any solar investment in their homes.
Sintra	Public Buildings	Based on audits and smart metering of municipal buildings, will be created a model for the characterization and integrated optimization of energy uses. This model will produce several fundable intervention proposals, whose individual implementation contributes to the global objective of carbon neutrality and energy self-sufficiency in each intervention building. Different interventions will be considered, to be defined according to the characteristics of each building and open to any opportunities for funding that are available: • energy efficiency; • renewable production using different energy sources (solar, biomass, hydrogen, others), with possible creation of energy communities; • others. The project will leverage interventions that simultaneously promote a more circular economy, either through the reuse and/or use of water, or through the use of biomass resulting from forest management in the municipality (if applicable), water efficiency and/ or reuse, for example.

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
Slovenia		
Velenje	District heating	1.) Renovation and optimization of DH network (pipelines) and upgrading it to a smart distribution system. 2.) Replacement of coal-based heat generation with an alternative energy source. The project envisages the installation of either one or a combination of: Solar Thermal, Solar PV, Biomass or Geothermal energy sources, the installation of t high-voltage (HV) -electrode boilers and a heat storage tank, The study should address the gradual transition and connectivity of dispersed energy sources, all of which lead to a common goal of 100% replacement of existing coal resources. The feasibility study should be based on existing documents and be carried out in the phase of preparation of basic investment documentation together with the certification of technologies for heat production from RES and economic justification according to the technological needs of the system.
Spain		
Lleida	Residential buildings	- Refurbishment of the most inefficient neighbourhoods' areas concerning envelop and climatization installations. - Enhancement heating and cooling systems, on existing climate installations - Implementation of low-cost energy-saving measures in neighbourhood communities (LED, remote energy management, programmers…) - Photovoltaic installations in multi-family buildings to achieve collective electricity self-consumption. - Large photovoltaics installations, on industry and service sectors covers, and public available soils. - Installation of domestic electric charging points for sustainable mobility

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		- Integral management systems for local community production-consumption-storage balance throughout smart grid technology development.
Pamplona	Building integrated renewables	Under the Energy Transition and Climate Change Strategy (ETEyCC2030), Pamplona will replicate successful models for RES integration in buildings to build Positive Energy Districts (PEDs) triggered by local energy communities based on energy efficiency, local renewable energy generation embedded in Smart Districts, energy flexibility and sustainable mobility. Solar energy communities and biomass district heating will be the main sources for electricity and heating in PEDs. Internal mobility will be reduced and EV infrastructure will be implemented based on PV generation. PEDs are included in the 2030 Urban Agenda, which includes the ETEyCC2030, ensuring energy aspects are integrated into urban planning. One-stop-shops will be set up in the PEDs after the experience of the EFIDistrict project to ensure the involvement of citizens, business and public sector for the uptake of innovative mixed financial schemes, being the Municipality the driver and multiplier of local energy investments.
Concello de As Pontes de García Rodríguez	Smart Grids	Renewable electricity generation, using solar photovoltaic, low wind and small hydro technologies. All energy resources are available within the municipality. For photovoltaic energy, the roofs of municipal buildings, industrial buildings and residential buildings are used. Energy storage: Lithium batteries, micro-hydro pumped storage power plants. Green hydrogen generation: through surplus renewable electricity. Possibility of injecting surpluses into the natural gas grid. Promotion of electric mobility: Installation of recharging points. Mobile applications to activate and pay for vehicle charging with renewable energy. Demand management: Smart distribution network. Blockchain and mobile applications to know the generation and consumption status of each CLER participant. Renewable thermal generation: Biomass district heating. Promotion of local energy crops that will function as CO2 capture.
Logroño, La Rioja	Sustainable urban mobility	The concept will finance 132.3 MWp of PV installations on suitable public parking areas and municipal and residential rooftops within the city. The aim is to consume as much generated solar power as possible at a local level for 1) cooling and heating in residential communities and municipal buildings and 2) powering (public and private) electric vehicles.

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		This significantly extended solar power generation enables the implementation of a smart grid management system together with demand-side response measures. This investment guarantees adequate management of demand and supply and the maximization of local clean electricity consumption. Charging of electric vehicles will be incorporated with incentives (e.g. free charging during peak sunshine hours), contributing to the stability of the grid. The transformation of the mobility sector and a shift towards consuming clean electricity will come after supporting the purchase of electric vehicles for both citizens and the city.
Consell Comarcal Osona	Building integrated renewables	The project aims to reduce 40% of GHG emissions (vs 2019) through these measures: Thermal energy, to reduce 52% GHGE - 15 x 5MW District Heating systems fed by forest biomass (Consortium&municipalities) - 4200 small geothermal systems for single houses and buildings - Standard house energy rehabilitation - Hydrogen obtained from PV power to supply industrial high-temperature heat (5 pilots u.) - Biogas obtained from farm slurry and meat industry waste to supply LT heat to DH (3 pilot u.) Power energy, to reduce 64% GHGE - 50 x 5 MWp PV farms (join development town halls & EC`s),one plant per municipality - 50 x 1 MWp PV residential roofs programs for shared self-consumption, to be managed by the EC. - PV generated power energy storage by batteries (5 pilot units) - Industrial Energy Efficiency actions - Demand response - 4 Small hydropower plants restauration Mobility, to reduce 20%GHGE - 300 EV charging stations - Incentives to electric mobility - Mobility optimizing measures
Rivas Vaciamadrid	Residential buildings	Rivas GEC is the tool to move on towards the positive district concept. The project aims to increase the quota of RE of km0 consumed, as well as impacting the overall town energy efficiency. PV generation and energy

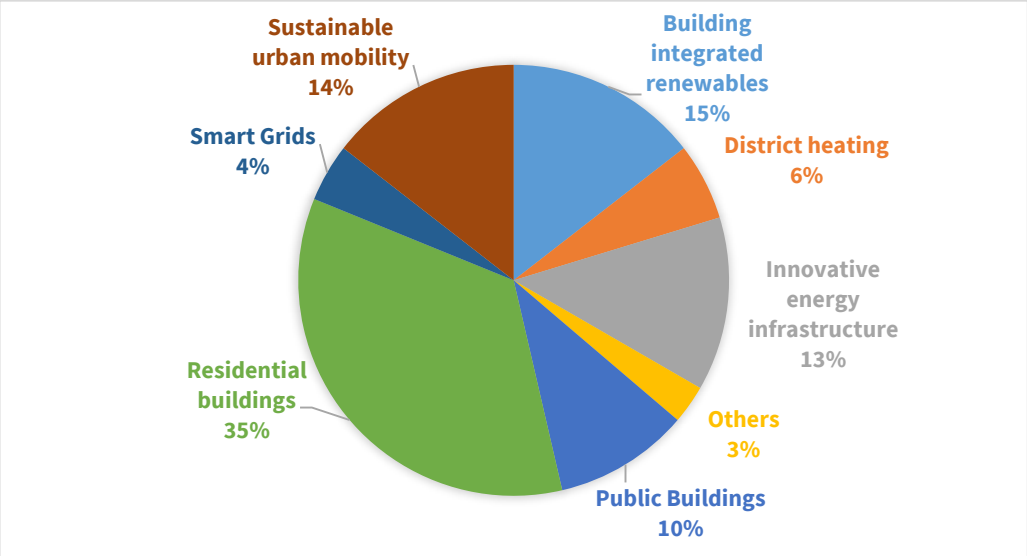
Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		storage assets will be installed in public, residential and industrial buildings. In public buildings, energy efficiency measures will be put in place (i.e. envelope retrofitting, replacement of HVAC assets), adding also a layer of intelligence (i.e sensors, actuators, BMS, etc). Likewise, a community battery will be installed to provide flexibility and enable the community to participate in the Spanish ancillary services market. Actions on urban mobility will be also deployed: EV charging points will be installed, new float of EV/HEV buses, etc. Together with an aggregation management platform to handle the assets and optimise the community performance, a retailer in the form of a cooperative will be promoted by the municipality to act as a market agent on behalf of the Rivas GEC.
Alcorcón	Residential buildings	REC-A will become the springboard to propel the energy transition across the municipality. The project aims to increase the quota of RE of km0 consumed, as well as impacting the energy efficiency of the town. PV and ESS assets will be installed in public, residential and industrial buildings. In public buildings, energy efficiency measures will be put in place (i.e. envelope retrofitting, replacement of HVAC assets), adding also a layer of intelligence (i.e sensors, actuators, BMS, etc). Likewise, energy efficiency measures and PV retrofitting in the industry will take place, after removing asbestos presence on rooftops. Besides, a community battery will be installed to provide flexibility and enable the community to participate in the Spanish ancillary services market. Actions on urban mobility will be also deployed: EV charging points, new EV/HEV float, etc. Also, logistic centres will be created to facilitate charging infrastructure towards 100% electric “last mile” delivery.
Sweden		
Järfälla	Sustainable urban mobility	The activities implemented will create a common investment concept for two municipalities aiming for the organisations to be fossil-free and creating deep energy reductions. The investment concepts will cover areas pointed out as crucial to reach local and regional targets on energy and climate. Measures aiming for the transition of the local municipalities (known at this point): - Improved energy efficiency in public building stock (aiming for 30 % energy reduction) - Improved energy efficiency in public housing company (aiming for 20 % energy reduction) - Integration of small-scale renewables in the building stock (aiming for an installed capacity of 1500 kW) - Conversion of municipal vehicle fleets to renewable fuels (aiming for fossil-free vehicle fleets) Actions will also target the society at large and create changes on a system level including the creation of an infrastructure for fast charging

Municipality/local authority or grouping, public entity aggregating municip./loc. auth.	Main targeted sectors	Intended measures to be financed
		of heavy transports and accessibility to electric cars for passenger transports.
United Kingdom		
Durham County Council	Innovative energy infrastructure	The technological measures will be Solar PV, installed on lightweight car port structures over parking spaces, battery storage, with EV charging cabling and points, building or grid connections where needed. Green Infrastructure to enhance biodiversity will be added (feasibility study already conducted). At the scale proposed, and for County Durham, c. 12.8 MWp of solar PV would be installed over 8762 parking bays, with 77MWh of battery storage and 434 EV charging points. The latter alone would double capacity in the County. A local authority do not typically work on projects of this size, and must increase the capacity to do so – the investment concept is the next step to do this. Durham has many car parks, with lower levels of sustainable transport use than the regional and national average. Durham County Council is committed to upscaling as demonstrated in the CERP and through the enhanced governance arrangements.

7.3 Main sectors targeted by successful applicants

Amongst the main sectors in which the successful applicants will develop their investment concept, "residential buildings" is targeted most, followed by "building-integrated renewables" and "sustainable urban mobility". Figure 18 presents the main sectors targeted by successful applicants.

Figure 18. Main sectors targeted by successful applicants



*Others refer to innovative micro-scale liquefaction systems, e-mobility and charging facilities, waste management, public lighting, solar thermal plants etc.