



SETTING UP INNOVATIVE FINANCING SCHEMES  
FOR ENERGY EFFICIENCY RENOVATIONS:  
**A GUIDANCE FOR LOCAL AUTHORITIES**

[WWW.CITYNVEST.EU](http://WWW.CITYNVEST.EU)

  
**CITYNVEST**

# INCREASING CAPACITIES IN CITIES FOR INNOVATIVE FINANCING IN ENERGY EFFICIENCY

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**Urbanised areas account for more than 70% of global greenhouse gas emissions, and over 30% of these come from the building sector. These figures make clear that boosting investments for sustainable building renovations is vital for achieving a clean energy transition in Europe.**

## INTRODUCTION .

# WHY PRODUCE GUIDANCE FOR LOCAL AUTHORITIES?

Local authorities play a key role in driving the clean energy transition. Many European cities are already leading clean energy solutions and have joined local and EU wide initiatives such as the Covenant of Mayors. However, matching local ambitions with appropriate and adequate financing presents a major challenge. This guidance is meant to inspire, advise, steer and support local authorities willing to launch large scale energy efficiency investment projects in their territories.

### WHAT IS AN INNOVATIVE FINANCING MODEL?

Innovative financing models can be considered as mechanisms and instruments developed to provide suitable financing for large-scale and in-depth energy efficiency renovations in buildings. These models have proven successful and have been applied in several contexts in Europe but are not yet widely used.

### CITYNVEST & INNOVATIVE FINANCING MODELS.

CITYnvest is an EU wide initiative funded by the European Union's Horizon 2020 research and innovation programme. For the last three years, CITYnvest has been supporting European local authorities in implementing innovative financial models for energy efficiency building renovations. Through on-the-ground experience in three pilot regions: Murcia (ES), Liege (BE), Rhodope (BG), and a large-scale capacity-building programme in 10 countries: Austria, Italy, Romania, Latvia, Lithuania, France, Hungary, Belgium, Spain, and the Netherlands, supporting documents and tools have been developed to promote the up-take of innovative financing models and mainstream good financing practices.



HOW DOES IT WORK.

# 4 KEY STEPS, ONE MAIN GOAL: BOOSTING ENERGY EFFICIENCY INVESTMENTS AND REACH YOUR ENERGY TARGETS!

Building on analysis of 26 case-studies in Europe and on the experience of the three CITYnvest pilot regions, the CITYnvest guidebook proposes a step-by-step approach to plan, launch and implement innovative financing models for energy efficiency building renovations.



## STEP BY STEP GUIDANCE

This guidebook includes links to all the tools and supporting documents developed in the frame of the CITYnvest project. The guidance sets the key steps to follow and for each step identifies the CITYnvest tools that could be used.

**THIS GUIDEBOOK DETAILS 4 KEY STEPS:**

› 1. Get inspired › 2. Set the ground › 3. Get operational › 4. Enlarge & up-scale



1

### GET INSPIRED

- › KNOW HOW EU CAN SUPPORT YOU
- › GET INSPIRED/LEARN FROM YOUR PEERS



2

### SET THE GROUND

- › GET POLITICAL COMMITMENT
- › BUILD YOUR ACTION PLAN



3

### GET OPERATIONAL

- › SET UP A DEDICATED TEAM
- › DEVELOP INVESTMENT PROJECTS AND POOLING OF BUILDINGS
- › MONITOR YOUR INVESTMENTS/SAVINGS



4

### ENLARGE & UP-SCALE

- › SCALE UP AND EXPAND THE SCOPE

# 1

STEP ONE.

## GET INSPIRED



When starting with innovative financing schemes the first step to go through is an analysis of the market state of the art: which models have been already implemented and what kind of support can local authorities receive via EU funds are key questions that need to be answered in this step.



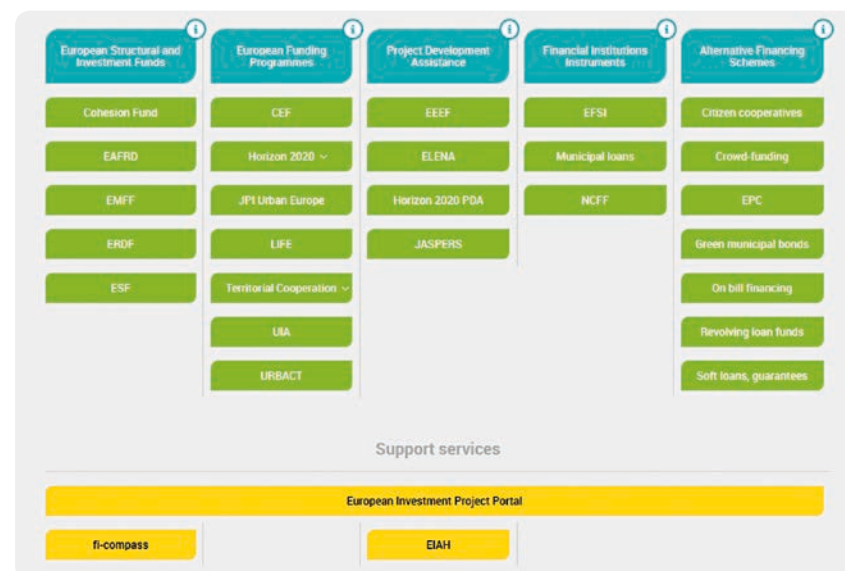
For more info:  
[www.covenantofmayors.eu/support/funding](http://www.covenantofmayors.eu/support/funding)



### KNOW HOW THE EU CAN SUPPORT YOU

Several support opportunities are offered by the European Union and its executive agencies, both in terms of financing options and information services. A complete overview of the funding and financing opportunities for sustainable energy and climate action plans is offered by the Covenant of Mayors Office in all EU languages.

Supporting the:



The screenshot shows the CITYnVEST website's 'Innovative Financing Models' tool. It features a sidebar with various filters and a main area displaying a grid of financing models categorized by Public, Public-Private, Private, and Citizen. The filters include Implementation Model, Operating Services, Type of Project, Ambition/Targets, Who benefits from the project?, Where does the money come from?, Financial Instruments, Scalability of the Model, How mature is the model?, Staff Requirements, Operational Costs, Increase in public debt & debt deconsolidation, and Apply/Reset buttons.

Public	Public-Private	Private	Citizen
Vlaams Energiebedrijf	Warm Up North	SUNSHINE	PAJOPOWER
SPEE Picardie	PadovaREI	PAJOPOWER	Cooperative case - ECOPOWER
Rotterdam Green Buildings	Energy Fund Den Haag	Cooperative case - ECOPOWER	Community based renewables - Saerbeck
RED/BA	Energies POSITIF	Community based renewables - Saerbeck	Brixton Energy Co-op
REFIT	EEFPS	Brixton Energy Co-op	
Oxifutures	Community based renewables - Saerbeck		
OSER	BERLIN		
KredEx			
Fedesco			
ESCOLIMBURG2020			
ENSAMB			
Energy Fund Den Haag			
Energy Efficiency Milan Covenant of Mayors			
EEFPS			
EcoEnergies			
Eandis EDL			
Community based renewables - Saerbeck			
Cambridgeshire MLEI			

### LEARN FROM YOUR PEERS

Innovative financing schemes have been implemented all over Europe. CITYnvest has analysed and benchmarked 26 of them.

The models analysed and included in the tool cover the full range of public authorities: from small municipalities to national governments, through regions, provinces and large cities. The tool identifies four main categories: public models, private models, public/private and citizen based models. The models classification refers to common ambitions levels, considerations on impact on public debt, human and financial resources requirements, average size of the programme.



Via the **CITYnvest comparison tool** you will be able to find the financing model example that fits best your local circumstances:  
[citynvest.eu/financing-models-matrix](http://citynvest.eu/financing-models-matrix)





# 2

STEP TWO .

## SET THE GROUND



Once you know which support schemes you would like to use it is time to get started and set the ground for launching investment projects. How to involve all relevant stakeholders and how to build your action plan are key questions that need to be answered in this step.



Building on the experience gained in the Pilot Region Liege, key tips are summarised in the CITYnvest FAQ:  
[cityinvest.eu/faq](https://cityinvest.eu/faq)  
 (How to get decision-makers committed?)



### GET POLITICAL COMMITMENT

Even if financing models have proven to be successful, many more political decision-makers and market players need to be convinced of the viability of financing models for energy efficiency in order to accelerate the rate of multiplying the investment projects to their necessary levels. Before starting to implement your project you will need to convince different stakeholders and get political decision-makers committed.

There is no *blueprint* to get political commitment. But one golden rule: *Communication, communication and communication, at all levels and during the whole project life cycle.*

### TIMEFRAME

Political commitment is key in every phase of the project life cycle.

- › **Before launching the project:** Large retrofitting projects should not be launched before an election period. An elected representative launching the project might not be re-elected and there may be uncertainty that the successors will be committed to the same retrofit programme.
- › **During the preparation phase:** In order to facilitate the decision-making process at the municipal level in accordance with the timeframe, each decision has to be anticipated by at least 3 months. Dedicated meetings with all



LIEGE

relevant political representatives need to be organised to explain and discuss each point of the investment programme in detail in order to lead to a formal positive decision.

- › **During the validation phase:** A validation calendar has to be respected at the municipal level in order to keep investors engaged in the projects. This calendar has to be integrated in all tendering processes (make sure to have enough buffer time to solve any unexpected problems – *political life is not always plain sailing...*).

### ARGUMENTS

When talking to your local councils make sure to use the right balanced set of arguments covering:

- › **Financial arguments:** Project profitability and return on investment, energy bill reduction, possible generation of cash flows.
- › **Ecological arguments:** Being a pioneer local authority in promoting climate friendly city development, supporting central governments in reaching energy targets and influencing EU and national legislation and leading by example.
- › **Imagine related arguments:** Enhancing city architectural heritage: building retrofits allow historical buildings to be maintained and ancient and modern architecture can be combined. Renovations works may also boost local employment and promote more effective use of public money.





Using the CITYnvest action plan template you will be able to answer all these questions:

› [citynvest.eu/content/action-plan-template](https://citynvest.eu/content/action-plan-template)



## BUILD YOUR ACTION PLAN

To secure the political support needed in your region, before launching any scheme you will need to develop a detailed action plan. There will need to be agreement on the overall level of ambition for the project, what are the different stakeholders involved in the project and which financing options are possible are key questions that need to be answered in this step.

### » DEFINE ROLES AND FUNCTIONS OF THE PROGRAMME AUTHORITY (PA) AND PROGRAMME DELIVERY UNIT (PDU)

The PA is the public entity (typically) in charge of the programme. The PA defines the PDU and it is responsible for securing funding for the PDU. The PDU is the organisation that is specifically set-up (and/or entitled) to implement/execute the programme.

### » DECIDE THE LEVEL OF AMBITION, 'TYPE' OF PROJECTS AND BENEFICIARIES

The level of ambition varies according to your own situation:

- › Up to 35% energy saving, this corresponds to short and mid-terms contracts (10 years) and to an indicative renovation price per square meter of less than 50€.
- › Up to 50% energy saving, this corresponds to mid and long terms contracts (15-25 years) and to an indicative renovation price per square meter of less than 200€.
- › Up to 75% energy saving, this corresponds to long terms contracts (min 25 years) and to an indicative renovation price per square meter that could range between 800 € and 1500€.
- › Carbon neutral, this corresponds to integrated and long terms contracts including both energy efficiency technologies, renewables and deep renovations.



Read more about ambition levels here:

› [citynvest.eu/content/what-are-different-levels-ambition](https://citynvest.eu/content/what-are-different-levels-ambition)



# RHODOPE

The **type of projects** depends on the building stock you are targeting and can include public buildings, commercial buildings, industrial buildings but also energy efficiency improvements in lighting systems and renewable energy production.

**Beneficiaries** can be public (e.g. local authorities departments) and/or private (e.g. home owners, industrial sectors, commercial sector etc).

### » CHOOSE THE IMPLEMENTATION MODEL

The implementation model is the method by which the projects are technically and operationally implemented.

- › Energy Performance Contracting (EPC)
- › Energy Supply Contracting (ESC)
- › Separate Contractor Based

### » SPECIFY OPERATIONAL SERVICES FRAMEWORK AND CHOOSE THE MOST SUITABLE OPERATIONAL MODEL

The operational services framework addresses the type of services that can be offered by the PDU to the beneficiaries. There are 7 possible levels of services identified in the CITYnvest analysed models:

- › Marketing.
- › Financial advice.
- › Integration.
- › Financing.
- › Assessment.
- › Facilitation.
- › Aggregation.



A comparison of the different implementation methodologies can be found here:

› [citynvest.eu/content/what-are-different-implementation-methodologies](https://citynvest.eu/content/what-are-different-implementation-methodologies)



Model services description			
		Level of services	
		Low	High
Level of services	Standard services	Aggregation	Financing
	Marketing covers the commercialization of the services of energy efficiency to the beneficiaries. This covers the whole range of communication and commercial development services that are necessary to inform the beneficiaries of the types of offerings that are available to them. It also covers the pricing policy and products/services development.	Aggregation means that the Program Delivery Unit (PDU) bundles the projects of multiple beneficiaries by acting on behalf of them and by making them available to the market. This role can be associated to the integration or facilitation services, in both cases, the PDU manages the costs allocation between the beneficiaries. A more advanced form of aggregation includes the bundling or pooling of buildings of various internal customers into one single project to increase the size of the project. Aggregation is done to create economies of scale both operationally and financially.	Financing means that the Program Delivery Unit (PDU) will itself provide financing, either through an own fund or by packaging external financing solutions into an integrated financing service. In this case the PDU takes on the financial risk of the projects. This option is typically used where a dedicated fund is created as part of the energy efficiency program.
	Assessment is the role by which the PDU evaluates the technical and financial viability of the projects and decides whether or not they get implemented and/or financed. The PDU will typically use a number of criteria to judge whether the project is acceptable or not.		
	Financial advice means that the PDU provides guidance and consultancy to the beneficiary on available funding for his project. This may include financial engineering and assistance in the negotiation of the best available financing or even arrange for the financing to be put in place. This can also include help in obtaining grants or technical assistance subsidies.		
	Facilitation means that the PDU does not sign the contracts with the beneficiaries, but coordinates or "facilitates" the whole process of projects delivery on behalf of the beneficiaries. In this case, the beneficiaries are the tender and contracting authorities and contracts for the delivery of the works are signed directly between them and the ESCO/contractors.		
High	Integration means that the PDU acts as an intermediary between the beneficiaries on one hand and the ESCO/contractors on the other hand. In this case, the PDU is the tender and contracting authority. Contracts for the delivery of the works are signed between the PDU and the beneficiaries and the PDU signs contracts with the ESCO/contractors. In this case, the PDU takes on the technical risks of the projects. In a later case, the PDU has back-to-back agreements with the beneficiary on one hand and the ESCO/contractors on the other hand.		



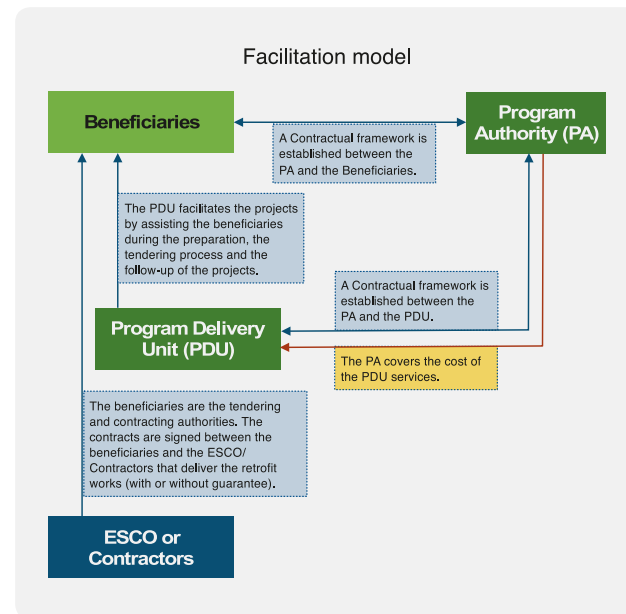
Choose the most suitable 'Facilitation' model or 'integration' model, whether you add-on aggregation services and which financing model via the CITYnvest recommendations tool:

› [citynvest.eu/content/recommendations-matrix-helps-choose-most-suitable-model](https://citynvest.eu/content/recommendations-matrix-helps-choose-most-suitable-model)

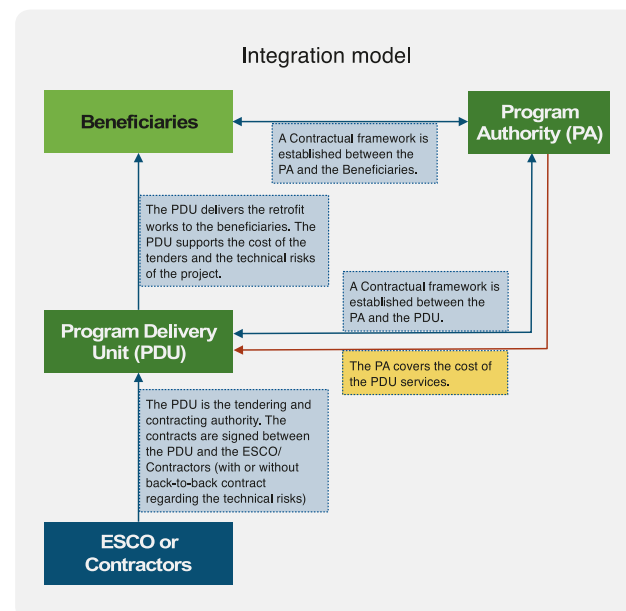


### THE THREE MAIN OPERATIONAL SERVICES ARE:

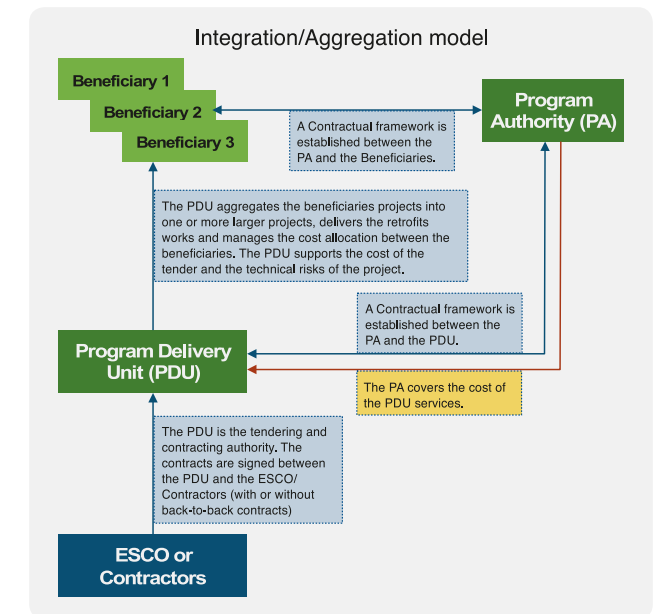
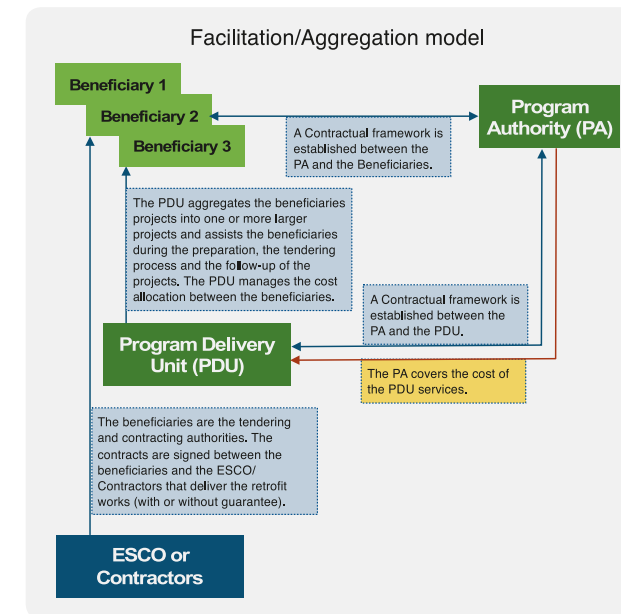
- › **Facilitation:** The PDU does not sign the contracts with the beneficiary, but coordinates or “facilitates” the whole process of project delivery on behalf of the beneficiary. The contracts are signed directly between the beneficiaries and the contractors.



- › **Integration:** The PDU acts as an intermediary between the beneficiaries on one hand and the contractors or subcontractors on the other hand. The contracts are signed between the *integrator* and the *beneficiaries* and, at the same time, the *integrator* signs contracts with the (*sub*)contractors.



- › **Aggregation:** Is an ad-on to the facilitation and integration models. Aggregation means that the PDU bundles the projects of multiple beneficiaries by acting on behalf of them and by making them available to the market.



### DEVELOP FINANCING FRAMEWORK

The financing framework refers to the entity or structure that will finance the projects.

- › **Investment fund:** A public, public-private, public-citizens fund to provide total or partial project financing.
- › **PDU financing:** The PDU acts as the funding vehicle, providing financing, either through an own fund or by packaging external financing solutions into an integrated financing service.
- › **ESCO financing:** The ESCO or contractor acts as the funding vehicle, providing financing through either EPC financing or ESC financing.
- › **Conventional financing:** The beneficiaries pack internal (own funds) and external financing (financial institutions, utility funds, etc.) solutions in order to finance their projects.

### MITIGATE POTENTIAL RISKS AND LIKELY-TO-ENCOUNTER BARRIERS WHEN DESIGNING YOUR ACTION PLAN

Common barriers range from low demand from building owners to limited staff resources in the local authority or a lack of Energy Service Companies on the market. Depending on the barrier a local authority faces, the tool recommends specific actions and helps identifying reference models that have dealt with similar challenges.



The barriers guidance tool helps local authorities to overcome specific barriers when designing and implementing their energy efficiency renovation programmes.

**CITYnvest Barriers Tool:**  
› [citynvest.eu/content/citynvest-barriers-tool](https://citynvest.eu/content/citynvest-barriers-tool)





# 3

STEP THREE.

## GET OPERATIONAL



Once you have developed your own action plan and decided which model to opt for, it is time to get operational and start launching project tenders. What should the team implementing the scheme look like, which buildings should be chosen for the pooling exercise and how to monitor investment progress are key questions that need to be answered in this step.



See how they did it in the CITYnvest pilot regions Liege (BE), Murcia (ES) and Rhodope (BG)

› [citynvest.eu/content/pilot-regions-operationalisation-dedicated-teams-liège-rhodope-murcia](https://citynvest.eu/content/pilot-regions-operationalisation-dedicated-teams-liège-rhodope-murcia)



### SET-UP A DEDICATED TEAM

It is essential to have an operational team working on a daily basis on the project. Depending on the type of model you will be implementing you will need to gather different skills and expertise both internally in the public administration, and externally for ad hoc support and advice.

One of the main issues when setting up the right team to manage the operational structure you will be putting in place is the time needed to find the right profiles. The recruitment process is a crucial point and it has to follow the legislation in force in each country. Keep in mind that this process can sometimes take up to 6-months to complete and have the right persons joining the team.

### DEVELOP INVESTMENT PROJECTS AND DEFINE THE POOL OF BUILDINGS

#### DEFINE POOL OF BUILDINGS

Pooling buildings means combining several buildings into one single joint project. This allows buildings with lower energy saving potential to be contracted together with others having higher energy saving potential, allowing singularly unprofitable renovations to be carried out as part of an integrated portfolio. The building pool can consist either of buildings all of one kind, with different sizes, functions and profitability levels or buildings with same or equivalent functions. Pooling buildings might be difficult for smaller municipalities, in this case it may be necessary to join forces with neighbouring municipalities or refer to regional/provincial schemes.

#### FINANCIAL VALIDATION

During the building selection process, a quick-scan is usually undertaken, giving a preliminary financial estimation. It is essential that these quick scans are validated by each public authority (owning the buildings) before moving to the next phases of the project.

#### FINANCIAL CONSTRAINTS

Financing solutions will vary from country to country. Barriers such as limit in public borrowing may be relevant in some regions and should be taken into account from the really beginning of the project.

#### LEGAL ASPECTS PROCUREMENT PROCESSES

Legal aspects and legal obligations related to public procurement or other specific procurement regulations need to be addressed and taken into account. It is good practice to have a lawyer as part of the team. In this way you will be able to ensure that all legal procedures are followed.

#### RISK MITIGATION

#### MONITOR YOUR INVESTMENTS/SAVINGS

It is important to put in place a clear monitoring methodology, to make sure you have an overview of the progress made and to address unforeseen risks. At first, you will need to define the purposes and uses for your monitoring process. At least, you should address the following set of purposes and uses:

##### PURPOSES

- › To assess programme implementation progress (outcomes analysis)
- › To determine factors that contribute to programme implementation success or failure (program level process)
- › To determine factors that contribute to projects implementation success or failure (projects level process)

##### USES

- › Accountability
- › To improve programme implementation
- › To improve projects effectiveness

After having defined what you intend to monitor, you will have to develop measurable objectives. These objectives should come from your action plan and on the basis of the CITYnvest reviews and pilots we recommend that you should address the following set of measurable objectives (and relevant set of data to be collected):

##### THE CORE SET OF OBJECTIVES TO MEASURE

- › Number of beneficiaries served
- › Number of buildings served by beneficiaries
- › Cumulative investment targets
- › Energy savings targets
- › Renewable energy targets

##### THE CORE SET OF DATA TO COLLECT

- › Beneficiaries served, categorised by size, typology, etc.
- › Buildings served, categorised by size, typology, etc.
- › Projects implemented, categorised by stage of development (initial assessment, preparation, tendering, awarding, implementation, follow-up)
- › Full time equivalent staff used to implement the programme
- › Expenditures for the programme implementation



Using the CITYnvest **quantitative monitoring template** you will be able to quickly start an outcome evaluation of your programme:

› [citynvest.eu/content/quantitative-monitoring-template](https://citynvest.eu/content/quantitative-monitoring-template)



Using the CITYnvest **qualitative monitoring template** you will be able to quickly start an outcome evaluation of your programme:

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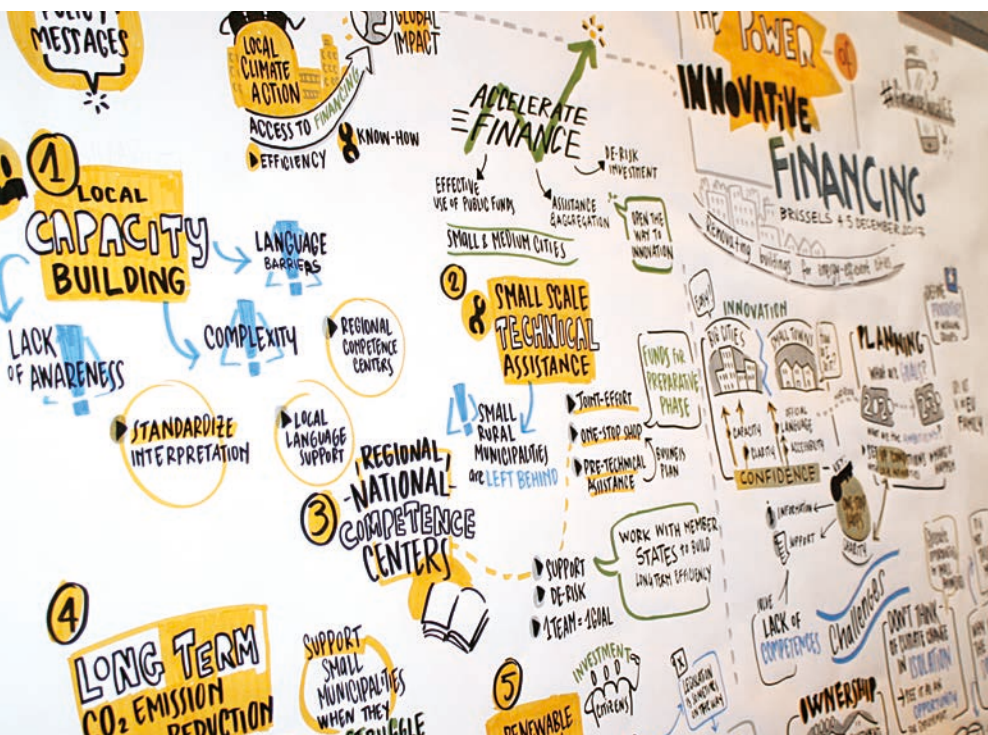


# 4 STEP FOUR.

## ENLARGE & UP-SCALE

Once the programme has been launched and it is operational, you should not stop. After having implemented the whole of your action plan, you should re-start with a new and more ambitious plan. In the new phase you might think about enlarging the geographical scope or the sectors covered by your financing programme.

## PROJECT PARTNERS



Read the guidance developed based on the GRE Liege and the other CITYnvest pilot regions experience to be inspired.  
[citynvest.eu/content/guidance-material-whole-pilot-region-process](https://citynvest.eu/content/guidance-material-whole-pilot-region-process)



## DISCLAIMER

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