PROSPECT

Peer Powered Cities and Regions

Deliverable 2.2: Report on best practices to feed into the learning programme

November 2017

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Peer Powered Cities and Regions

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Preface

PROSPECT aims to create an easy and replicable peer to peer learning programme for regional and local authorities to learn with and from each other on how to finance and implement their sustainable energy and climate action plans using innovative schemes. The learning programme has five (5) thematic modules, namely public buildings, private buildings, public lighting, transport, and cross-sectoral in which regional and local authorities, who can serve as mentors or mentees, will learn in two ways: through peer mentoring and study visits. The learning programme has three learning cycles; each learning cycle offers 5 peer mentoring and 5 study visit programmes.

Who We Are

No	Participant Name	Short Name	Country Code	Logo
1	Institute for Housing and Urban Development Studies BV	IHS	NL	
2	The European association of local authorities in energy transition	ENERGY CITIES	FR	
3	European Federation of Agencies and Regions for Energy and the Environment	FEDARENE	BE	
4	Institute for European Energy and Climate Policy Stichting	IEECP	NL	
5	EUROCITIES ASBL	EUROCITIES	BE	
6	University of Piraeus Research Center	UPRC	GR	
7	Climate-KIC GmbH	CLIMATE-KIC GMBH	DE	
8	Ober Oesterreich Energiesparverband	ESV	AT	
9	Agencia Regional de Energia para os Concelhos do Barreiro, Moita e Montijo	S.ENERGIA	PT	
10	Mesto Trnava	TRNAVA	SK	

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Legal Notice:

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1 Introduction

1.1 Objectives of the report

In a moment when local authorities are facing budget cuts and a lack of resources, it is important to avoid re-inventing the wheel and to learn how to be more effective, while avoiding mistakes already made by others (WHO 2008; URBACT[1]).

This report aims to provide support to the PROSPECT learning modules, by offering a wide range of best practice examples, which can be used by the PROSPECT learning participants as a reference for facilitating learning in the peer to peer exchanges.

The best practices presented in this report will not necessarily be the object of the actual knowledge transfer during the PROSPECT learning programmes. Rather, they will provide both context and inspiration, which will support the different modules, giving participants a broader view of the range of opportunities for financing sustainable energy plans.

This report will therefore provide a concise and practical knowledge base, which can prepare participants for visits, by giving them an understanding of the background of potential financing schemes against which these actions are taking place. Further, it will remain as useful material after the exchanges, as a reference by which they can juxtapose different options and execute a cost/benefit analysis of the routs which other cities have taken.

Finally, the public dissemination of this report will allow authorities who did not have the opportunity to participate in the programme to benefit from the examples of other cities. The overall result will be to maximise the impact of PROSPECT's activities even after the ending of the project.

1.2 What is a best practice?

The PennIUR white paper (2012) defines a best practice as "a method, technique or process gathered from analysed, comparable, successful cases with defined criteria that has been proven to be transferable". In terms of methodology, the paper adds that "the most appropriate best-practice design will be context-dependent and strongly correlated to available resources and stakeholder objectives."

In line with the above, this report will consider a best practice as a method, technique or process that has proven to work well for a specific local authority by achieving expected results and that can be considered as a model for other entities. By outlining in detail the relevant specificities of context, the initiative, and well defined outcomes, these case studies will enable readers to easily assess which initiatives are best suited to their particular context, given their available resources and the objectives of their various stakeholders.

The report will not necessarily collect the 'best' or 'most innovative' examples in the superlative sense, but will try to offer successful practices that can be easily transferred to different

[1] http://urbact.eu/cities-and-good-practice-lessons-urbact-transfer-pilots

contexts. This focus on transferability, in league with the additional criteria enumerated in the following section, will ensure that the practices presented further the central objective of this report: supporting the PROSPECT learning modules and working as a reference for the learning programme participants.

2 Methodology

2.1 Compiling a shortlist – desk research

In order to ensure the availability of the most relevant information, this report makes use of best practices relevant to the project, which were compiled by PROSPECT consortium partners, through extensive desk research. A database of different applications of financing schemes was created, following the division of the five PROSPECT modules: public buildings, private buildings, public lighting, transport (private and public), and cross sectional. From this list, the selection process outlined below allowed us to choose the case studies which would provide the most comprehensive support for the learning programmes.

2.2 Criteria for selection

Starting from the definition above (section 1.2), the PROSPECT consortium has identified a number of best practices according to the following criteria:

Relevance:

The practices should focus at least on one of the PROSPECT innovative financing schemes and address one or more PROSPECT learning module. By innovative financing schemes, we mean non-traditional ways of raising funds and facilitating sustainable energy and climate investments for cities and regions; ways that mix various sources, such as one's own funds, or public and private funds, or engage different partners (e.g. citizens, private sector) aside from established financial institutions (i.e. banks). It has also been noted that not all the PROSPECT financial schemes are applicable for each of the PROSPECT learning modules.

Effectiveness:

The practices should clearly demonstrate some impacts and achieved results in overcoming certain key barriers for the implementation of sustainable energy projects, such as gaining access to finance, increased attractiveness for investment, cost reduction, becoming self-sustaining, adaptation to institutional/legal frameworks, engaging stakeholders, or attracting and spreading knowledge and capacity, as well as achieving outcomes in terms of energy savings, CO2 emissions reductions, or other energy-related benefits.

Documentation:

The practices should be well documented, easily available and understandable for a broad audience (experienced and inexperienced financial practitioners). This documentation should be intuitively structured, and should clearly and concisely define the context, structure, and outcomes of the practice. Examples documented in languages other than English have not been considered, taking into account the European dimension of the PROSPECT learning programme.

Transferability:

The practices should provide evidence that they can be scaled-up or transferred to other contexts. Ideally, this would mean that the financial schemes detailed have already been implemented in two or more local authorities, or, even better, in different countries.

In order to increase the transferability of the practices offered in this report we have also aimed to ensure that there is a geographical balance, that there is coverage of different levels of government, and that we take account of the size of the local authorities involved.

2.3 Best practices selection

Based on the criteria mentioned above, a final list of 27 best practices has been selected. As availability of information was higher for some modules than others, the final list does not ensure a balanced number of best practices between sectors or financial schemes. It was already clear during the writing of the needs assessment report (D2.1) that local authorities were mainly taking action in projects related to public buildings or cross-sectional bundling projects, while there was a lack of private building and transport examples.

Considering such shortage of information, the selection tries to offer (where feasible) different setups of financial schemes and instruments, considering a variety of contexts. Indeed, the table describes not only the categorisation by financial scheme, but also the differentiation of sources of funds developed in the learning programme's content (D.3.1) (Table 1).

Table 1: Source of Funds

No.	Source of Funds	Description
1	**Own Local (City or Municipal) or Regional Budget**	Funds drawn from the budget of local or regional public authorities
2	**National Funds**	Subsidies provided by national governmental bodies or funding through grants from national programmes
3	**European Funds**	
	Managed at the EU level	Funds that allow investments, usually for demonstration / pilot projects (e.g. European Innovation Partnership on Smart Cities and Communities, INTERREG Programmes, such as the North-West Europe Programme)
	Managed at national/regional/local level	Funds provided through the European Structural and Investment Funds and administrated by managing authorities trough defined operational programmes.
4	**Private funds**	Funds provided by **citizens** through participative financing (cooperatives, crowdfunding contribution to local investment funds, saving accounts), **investors & financing institutions** (via loans, equity, green bonds, etc.), and **ESCOs** (third party investment/financing).
5	**European Investment Bank**	Loans with guarantee from the Commission via European Fund for Strategic Investments and European Structural and Investment Funds

The table below (Table 2) identifies the final selection of best practices selected:

Table 2: Selected Best Practices

Module	Financing scheme	City/Region (Country)	Best practices	Source of Funds[2]	Justification	Link
Public Buildings	EPC	Umeå (SE)	Creative financing for energy renovation	**Private Sector Institutions and Investors + Own Local budget**	This is Sweden's largest energy performance contract (EPC) project, combining private investment from Siemens with public funds. 130 properties were retrofitted (425,000 m2 floor area, 50%+ of total area of municipally owned buildings) over 8 years from 2008-2016. Consistently exceeding its targets, the total investment of EUR 15.2 million has resulted in an annual saving of EUR 1 million from an energy reduction of 20%, along with a decrease in CO2 emissions by 5,800 tonnes/year and a number of other, smaller benefits. This project has been chosen due to its ambitious scale, its recent completion and the highly beneficial ratio of investment/return for the municipality.	http://www.covenantofmayors.eu/IMG/pdf/CovenantOfMayors_BestPracticePublication_web.pdf#page=7 http://www.umea.se/download/18.65c1214d14f38ac155364e34/1446109851846/01.+Climate+change+Mitigation+and+Adaptation.pdf

[2] All listed sources of funds are referring to Table 1 presented above in page 4

Public Buildings	EPC	Rotterdam (NL)	Rotterdam Green Buildings	**European Funding Programmes (INTERREG NEW) + Own Local budget (City of Rotterdam invested EUR 1 million)**	This project combines European structural investment funds (ESIF), municipal investment, and energy service company (ESCO) funding. It has already achieved scale-up from its pilot phase. The pilot, focussed on public swimming pools, raised an investment of EUR 2.6 million, 10% from equity provided by the ESCO, 90% from bank loans to the ESCO. It resulted in improved energy efficiency of 34%, and savings on gas, electricity, heating and water of 43%, 56%, 35%, 9% respectively, representing a CO2 emissions decrease of nearly 2,000 tonnes. Additionally, there was a saving of 15% in maintenance costs, and in seven of the nine pools the water quality actually improved too.	http://www.citynvest.eu/content/rotterdam-green-buildings-0

Public Buildings	EPC	Greater London Authority,England and Wales (UK)	RE:FIT	**Project Development Assistance (ELENA) EUR 2,884,680 (LDN) EUR 2 228 227 (Wales) + Own Local budget (Greater London Authority GBP 270 000 (approx. EUR 307 000)+ Other public authorities' building owners + public financial institutions and funds such as Public Works Loan Board, Salix or London Energy Efficiency Fund**	This project has already been both scaled up and replicated in various British local authorities, making use of several different sources of investment and funding vehicles. ELENA investment for Wales was based on previous experience with RE:FIT London. It has managed successful outcomes, both in terms of savings and sustainability (e.g. London: GBP 5 million (approx. EUR 5.7 million) and 34,500 tonnes of CO2 per annum). With retrofitting completed or underway in a total of 460 buildings and GBP 68.6 million (approx. EUR 77.2 million) achieved in capital investment, RE:FIT has won a number of awards in the fields of government and sustainability. Parts of the project have managed to secure up to 100% of their value in interest free loans.	http://citynvest.eu/content/london%E2%80%99s-building-retrofit-programme-refit http://www.eib.org/attachments/documents/refit_wales_project_factsheet.pdf http://www.eib.org/attachments/documents/refit_project_factsheet_en.pdf

Public buildings	EPC	Flemish Region (BE)	Regional Energy Services Company Vlaams Energiebedrijf - VEB	**Own Local budget (Flemish Region, Flemish investment company & VEB)**	This two fold model, which encompasses both energy supply and energy efficiency for public buildings has been qualified as having high scalability by CITYnvest. By May 2015 its supply arm had already generated savings of EUR 12 million, 20% of the region's total energy bill, EUR 9.8 million directly in energy savings and EUR 2.2 million in admin and billing expenses, while only delivering to 8% of the total market. In terms of energy efficiency, the VEB has one project with OPZC Rekem (Psychiatric centre) successfully tendered based on the EMPC model, and is currently in the process of tendering two other projects (De Vlaamse Opera (Flemish Opera) and BLOSO Gent (Regional Sports administration of Flemish authorities).	http://www.citynvest.eu/content/vlaams-energiebedrijf
Public Buildings	EPC	Paris (FR)	Refurbishment of municipal schools via EPC (ELENA project)	**Project development Assistance: ELENA EIB + Own Local budget + ESCO (public-private cooperation)**	This project is being conducted with replication in mind, and the report focuses on key takeaways for other interested public authorities. Utilising three types of EPCs, the retrofitting of schools (20% of municipal buildings) is occurring in several phases, allowing for reflection and learning between each iteration. The initial phase of energy retrofitting, in 45 schools, resulted in 33% energy savings. The phase involving 100 schools in an EPC is expected to save 10,000 MWh and 2,300 tonnes of CO2. This will translate into savings of EUR 750,000 per year after the payment of the contractor, a profit of EUR 15 million over 20 years.	http://www.energy-cities.eu/IMG/pdf/reviewelena-eib_projects_june2015.pdf#page=8

Public Buildings	Revolving funds	Stuttgart (DE)	Stuttgart's Internal Contracting scheme (Infinite Solutions)	**Own Local budget (Municipality)**	This project is an internal contracting scheme, making it strongly replicable for other local authorities. The fund size has increased steadily from EUR 2.3 million in 1995 up to EUR 11.8 million in 2013. The energy savings generated were EUR 1.8 million in 2013 and EUR 18 million in total over the 19 years of operation. In this time investments of EUR 15 million were made possible.	http://www.energy-cities.eu/IMG/pdf/guidebook_intracting_web.pdf#page=31, http://www.energy-cities.eu/db/stuttgart_136_en.pdf
Public Buildings	Revolving funds	Águeda (PT)	Águeda's Internal Contracting scheme (Infinite Solutions)	**Own Local budget (municipality)**	Relevance: This revolving fund has a seed of EUR 300,000 (32% of annual energy costs), supplemented by the water and energy savings it generates. Two measures have been implemented through it, and it has covered investments of between EUR 5,800 – EUR 145,000. It has high transferability, and, as it takes place in a typical small EU city, it contributes to the geographical balance of this report.	http://www.energy-cities.eu/IMG/pdf/guidebook_intracting_web.pdf#page=43

Public Buildings	Revolving funds	Koprivnica (HR)	Koprivnica Fund	**Own Local budget (Municipality + Regional Authorities)**	This EUR 84,000 revolving fund concentrates on large investments, passing over the 'low-hanging fruit'. This means that the fund had to be large, and replenishing it takes some time. Three measures have been implemented through it, and it has covered investments of between EUR 19,000 – EUR 45,000. As this fund is managed by the regional energy agency, it may encourage the creation of a larger regional fund covering projects for many municipalities. This fund has already demonstrated its transferability, inspiring other public institutions, such as General County Hospital Dr. Tomislav Bardek Koprivnica's EUR 500,000 fund. The small size of the implementation area contributes to the geographical balance of this report.	http://www.energy-cities.eu/IMG/pdf/guidebook_intracting_web.pdf#page=47
Public Buildings	Third Party Financing – EPC	Ljubljana (SL)	(Energetska Obnova Ljubljane (EOL)	**Project Development Assistance (ELENA) + Own Local budget +Private Investments (bank consortium)**	**Results** With a total cost of EUR 1,498,400, 90% supplied by ELENA, this project mobilised investment of EUR 50,700,000. The replication potential is considered high, notably the use of ESCOs for energy efficiency and renewable energy products. The largest project of its kind in Slovenia, it may become the model for similar projects in the country. To achieve economies of scale, several tenders have been organised for groups of similar buildings, or buildings looking to implement the same green technologies. It has resulted in total energy savings of 79 GWh per year, achieving a 24,593 tonne annual reduction of CO2.	http://www.eib.org/attachments/documents/elena-completed-eol-en.pdf http://www.transparense.eu/tmce/Gradiva/7-the_energy_retrofit_programme_by-_loose.pdf

Public Building	EPC	Province of Liège (BE)	RenoWatt	**Own Local budget + Private Sector Institutions and Investors + Financial Institutions Instruments (EEEF – Technical Assistance EUR)**	This EUR 40 million retrofit project, with EUR 2 million supplied by EEEF1 for technical assistance, involved 10 public authorities, 75 sites and 150 buildings. Through two to four tendering procedures it managed to generate between 27%-36% electricity savings and 26%-35% fuel savings. The project made work on less profitable buildings appealing by pooling them with more profitable buildings under one EPC tender. It also reduced cost and increased convenience by conducting all business through a single agency, a one stop shop for all the project's stakeholders. It also exploits economies of scale by grouping large and small municipalities together.	http://www.citynvest.eu/sites/default/files/library-documents/RenoWatt%20Toolkit%20disclaimer%2004.01.17.pdf#page=4
Public lighting	EPC	Upper Austria, North-West Croatia, South Bohemia, Pomerania, Carlow & Kilkenny County, South East Sweden, Podravje, Macedonia, North & Central Spain	The Streetlight-EPC Project	**Project Development Assistance under European funding + Own Local budget + Private Sector Institutions and Investors**	This initiative has resulted in the implementation of 47 projects, using various EPC models, and 16 more with other financing or operational models. It has triggered investment of EUR 29 million. It has been implemented in nine regions in nine countries with a broad geographical scope, and thus rates extremely highly in terms of transferability.	http://www.streetlight-epc.eu/ http://www.streetlight-epc.eu/fileadmin/redakteure/Streetlight-EPC/Project_outputs/WP7/Streetlight-EPC_Project_Publication.pdf

Public lighting	EPC	Province of Teramo (IT)	PARIDE	**Project Development Assistance: IEE + Third party financing (ESCO)**	This project aimed to reduce electricity consumption of public lighting by more than 44%, and thus to reduce CO2 emissions by over 6,800 tonnes per year. Its bundled EPC model was specifically designed with transferability in mind. Here, the province of Teramo acted as a supporting structure for its 47 municipalities to manage European funds. The project was intended to prepare three sustainable energy projects, one for each association of municipalities, and to define a common standard approach, resulting in a new way of managing street lighting installations through private companies and ESCOs.	https://ec.europa.eu/energy/intelligent/projects/en/projects/paride
Private buildings	Soft loans & third-party financing	Picardy (FR)	SPEE Picardie	**Private Sector Institutions and Investors + Own Local budget**	This project invested EUR 25 million in the renovation of 1000 private homes, resulting in 50%-75% energy savings. The investment had as a condition the generation of financial energy savings equal to the reimbursement of the loan over the duration of the project, without additional subsidies. SPEE, the regional agency created to implement these retrofits, combines third party financing and soft loans with zero interest rate to overcome the financing logic of commercial banks, which typically change high interest on energy efficiency investment due to perceived risk. The model qualified as being 'highly scalable' in the assessment of CITYnvest.	http://www.citynvest.eu/content/spee-picardie-3 http://www.pass-renovation.picardie.fr/project-funded-by-europe/
Private buildings	Soft loans	Parma (IT)	Parma Progetto ENERGIA - Soft loans for energy renovation of residential	**Private Sector Institutions and Investors (Cariparma Bank)**	This project established a needs-based soft loan scheme in partnership with a bank. The project earmarks EUR 10 million to finance energy efficiency work, up to EUR 50,000 per project, with a loan maturity of between 5 and 10 years and a variable interest rate of 2.9%.	http://www.energy-cities.eu/IMG/pdf/guidebook_softloans_web.pdf#page=54 http://buildinterest-project.eu/wp-content/uploads/2017/07/D4.2

			buildings (Infinite Solutions)		The idea is to replicate the financing schemes tested in Stuttgart and Delft, by adapting these experiences to the national and local regulatory frameworks.	_Financing-Platform-Report_IT_FIN.pdf#page=83
Private buildings	Soft loans & guarantee funds	Brussels Region (BE)	Brussels Green Loan	**Own Local budget (Regional Energy fund & regional budget) & financial cooperative (Crédal)**	This project combines loan, subsidy and guarantee funds, and has achieved transferability through the region of Brussels' 19 municipalities. From 2008 to 2010, the region allocated between EUR 12,000 and EUR 14,000 per year to the guarantee fund. The current balance of the guarantee fund comes to EUR 160,924 which is 2.16% of the total amount lent. Given that the risk is really low (1 case of non-payment since 2008), it was decided to stop feeding the guarantee fund in 2016. The project has managed to distribute 857 loans for more than EUR 8 million, implementing green measures such as building envelopes and technical building systems in 518,494 housing units.	http://www.energy-cities.eu/IMG/pdf/guidebook_softloans_web.pdf#page=59
Private Buildings	Revolving funds & Soft loans	Lithuania (LT)	JESSICA Holding Fund	**European Structural and Investment Funds (EIB JESSICA, UDF) & Own Local budget**	This North-Eastern European, national government level project has so far resulted in the renovation of 800 buildings, representing around 200 signed financing agreements totalling EUR 160 million. Energy savings of 50% are typically achieved. Not only is this expected to result in enormous savings, but also to generate employment in Lithuania's shrinking construction sector.	http://www.energy-cities.eu/IMG/pdf/infinite_solutions_lithuania.pdf http://www.covenantofmayors.eu/IMG/pdf/junona_bumelyte.pdf

Private Buildings	Third party Financing /EPC	Ile de France (FR)	Energies POSIT'IF	**Project development Assistance (H2020) & Own Local budget & Private Sector Institutions and Investors**	This project involves different levels of government, different stakeholders such as the cities of Paris and Créteil, municipalities, private and public banks and several local communities. Through financial engineering involving banks, investment funds, grants and fiscal advantages the project had already signed off on an investment of EUR 50 million into 3,200 homes by 2015, and that year was set to engage in a further EUR 30 million of works, covering the renovation of 2,553 apartments. The project accompanies clients through the stages of development: audit, assistance, design and implementation.	http://www.citynvest.eu/content/energies-posit%E2%80%99if-3 http://www.energiespositif.fr/ http://www.energy-cities.eu/IMG/pdf/infinite_solutions_iledefranceregion.pdf

Transport	Green Bond	Greater London Authority (UK)	Transport for London (TfL) Green Bond	**Private Sector Institutions and Investors**	Next to Paris, Gothenburg, Stockholm, and Orebro Kommun, London is a pioneering issuer of Green Bonds. This bond of GBP 400 million (approximately EUR 447 million) will fund low carbon transport projects from TfL's business plan until 2021, including station and line upgrades on rail and Underground, low-emission hybrid buses and cycling improvements.	https://www.climatebonds.net/files/files/Case%20study%20-%20TfL%20final(1).pdf http://content.tfl.gov.uk/dnv-gl-green-bond-opinion.pdf http://content.tfl.gov.uk/tfl-green-bond-framework.pdf https://www.climatebonds.net/files/files/How-to-Issue-Green-City-Bonds.pdf
Cross-sectional (Public Buildings, lighting, energy efficiency)	EPC	Province of Barcelona (ES)	REDIBA (Renewables and Energy Efficiency Diputación de Barcelona)	**Project development Assistance: ELENA EIB & Own Local budget (Barcelona Provincial Council)**	This project, which Combines EPC and Energy Supply Contracting (ESC), has so far received investment applications from 183 municipalities. It is easily transferable since it was created to support local and provincial authorities in energy efficiency projects, and has had a very high success rate. It has given support to 108 implemented projects, representing around EUR 96 million of investment and a CO2 reduction of 21,600 tonnes per year.	http://www.citynvest.eu/content/rediba http://citynvest.eu/sites/default/files/library-documents/Model%201_Renewables%20and%20Energy%20Efficiency%20Diputacion%20Barcelona_final.pdf http://www.eib.org/attachments/documents/rediba_project_factsheet_en.pdf
Cross-sectional	Cooperatives	Upper-Palatinate Region (DE)	Bürger-Energiegenossenschaft West	**Not available**	This project, an inter-communal energy cooperative, is transferable in other contexts, in particular in regions with an established legal feed-in tariff system. On the national level, this is one of the largest and fastest growing energy coops. Aiming for 100% energy independence, it has so far invested into three large-scale solar panel installations and several smaller roof-mounted	https://web.archive.org/web/20140714182103/http://managenergy.net/instruments/4?casestudy=1481&pagename=usecases http://www.buildup.eu/sites/default/files/content/Beckerich%20-%

					systems. Cumulative investment made by stakeholders in sustainable energy is EUR 14,500.	%2030%20years%20working%20towards%20energy%20self-sufficiency.pdf http://www.buildup.eu/sites/default/files/content/Beckerich%20on%20the%20way%20to%20energy%20self-sufficiency.pdf
Cross-sectional (public buildings & public lighting)	Third party financing of an ESCO & EPC	Piedmont Region (IT)	2020TOgether Torino	**Project Development Assistance: IEE MLEI & Private Sector Institutions and Investors (private ESCOs)**	The metropolitan city of Turin acts as a coordinator and contracting authority to help local public administrations group together their initiatives and achieve economies of scale. Replicability is one of the focusses of this project, and Turin is enthusiastic for other locales to take it up. The project has resulted in 11 municipalities coordinating successful energy efficiency tenders, five municipalities entering into a contract with an ESCO for the retrofitting of 18 buildings, 10 municipalities starting to replicate the initiative and an EPC for the replacement of 120 boilers in 118 buildings.	http://www.cittametropolitana.torino.it/cms/risorse/ambiente/dwd/ris-energetiche/progetti/2020together/attivit%C3%A0_progetto/EN_pubblicazione_finale_2020.pdf http://www.cittametropolitana.torino.it/cms/ambiente/risorse-energetiche/progetti-energia-sostenibile/2020together-english/2020together-english http://www.cittametropolitana.torino.it/cms/risorse/ambiente/dwd/ris-energetiche/progetti/2020together/attivit%C3%A0_progetto/2020together_WP6_D6_4_project_flyer_EN_DEF.pdf

Cross-Sectional (adaptation)	Green Bonds	Paris (FR)	Climate bond financing adaptation measures	**Private Sector Institutions and Investors + Own Local budget +**	This green bond targets private investors interested in investing in the sustainability of Paris, for a profit rate of 1.75 % per year. Vigeo, a non-financial rating agency, reviews the process to reassure investors about the use of their funds. The projects are expected to generate revenue for the city through reduced energy consumption, and the city will in turn pay investors out of its general budget. Initially, the bond had applications of investors worth EUR 475 million to fund it. Now, more than 30 investors are involved. Insurers and pension funds bought the lion's share of the trade (51%), followed by asset managers (49%).	http://climate-adapt.eea.europa.eu/metadata/case-studies/climate-bond-financing-adaptation-actions-in-paris https://www.eea.europa.eu/publications/financing-urban-adaptation-to-climate-change
Cross-sectional	Revolving funds	Amsterdam (NL)	The Amsterdam Investment Fund	**Own Local budget**	This EUR 75 million, 15-year revolving fund invests in financially sustainable and profitable projects implemented by local businesses, residents, housing associations, and knowledge and community organisations, providing them with soft loans. The city's involvement reassures the banks, encouraging them to provide further financing. This fund has financed 29 projects for a total of EUR 14 million, including the largest solar panel installation in the Netherlands, and 'HR+' glass in social housing, the instillation currently investing around EUR 80,000 per day. The city sees investments in energy efficiency projects as sure gains, with 'cash-back' in the form of saved money.	http://www.energy-cities.eu/IMG/pdf/infinite_solutions_amsterdam.pdf
Cross-sectional: Public-Private Buildings	Revolving Fund	The Hague (NL)	Energy Fund Den Haag - ED	**Project development Assistance (JESSICA) & European**	This fund deploys financial instruments such as provision of equity, subordinated loans and guarantees below market rates to private or public investors that carry out sustainable urban development projects. It also aims to achieve	http://www.citynvest.eu/content/energy-fund-den-haag

				Structural and Investment Funds (ERDF) & Private Sector Institutions and Investors	50% private co-investment at risk. Projects include enlarging the district-heating network, geothermal drilling, and sustainable power stations feeding the district heating and cooling network. As of 1 December 2014, the project had paid out EUR 72,000 for the installation of solar panels, with four projects totalling EUR 4.2 million to follow.	
Cross-sectional	Cooperatives	Eeklo, Asse & Beersel (BE)	**Ecopower cvba**	**Private Sector Institutions and Investors (Individual funds)**	These funds are geared towards local municipalities that have signed the Covenant of Mayors (CoM) but face difficulties in writing their Sustainable Energy Action Plans (SEAP). They use the revenues of wind projects in Eeklo, Asse and Beersel to pay the monthly wage of an SEAP expert who initiates renewable energy sources (RES) and energy efficiency (EE) projects at the local level. The citizens collaborate with the municipality through direct ownership of the RES cooperative, benefiting from the profits. Mobilised in a small municipality, this funding structure has a very high level of transferability.	http://www.citynvest.eu/content/cooperative-case-ecopower
Cross-sectional (e.g. climate change adaptation, public transport, energy efficiency, sustainable housing)	Green bond	Gothenburg (SE)	**Green Bonds Framework**	**Private Sector Institutions and Investors**	In 2013, the City of Gothenburg became the first city in the world to issue green bonds, which enable it to borrow money for investments that benefit the environment. More than 75% of proceeds from green bonds issued between 2013 and 2015 are used by the city to fund climate change projects that promote the transition to low-carbon and climate-resilient growth. In 2016, Gothenburg won the UN climate prize for its green bond framework. The city's green bond programme has served as a model for other cities, including cities in the EU as well as in developing and emerging economies that wish to learn from and emulate	http://finans.goteborg.se/en/greenbonds http://unfccc.int/secretariat/momentum_for_change/items/9935txt.php http://unfccc.int/secretariat/momentum_for_change/items/9935.php http://finans.goteborg.se/wpui/wp-content/uploads/2016/06/Impact-Report-20161.pdf

					it. To date, the city has used the system to raise a total of SEK 4.36 billion (approx. EUR 4.49 billion) via the financial markets.	
Cross-sectional (EE & RES in public & private buildings)	Revolving funds & crowdfunding	Bristol city & wider sub-region (UK)	BRITE – Bristol Retrofitting – Innovative Technologies for Everyone	**Project Development Assistance (ELENA EIB) & Own Local budget & National and Subnational Governments & Citizens finance**	Bristol has established a municipal energy company (ESCO) to give more responsibility to the city. This was inspired by an existing model of the German municipal energy companies. So far, 28,000 social housing units and over 200 private homes have benefited from energy retrofitting, and the city's renewable energy capacity has been improved, with measures such as solar panel installation. Bristol has a framework in place to leverage the EUR 2,612,207 provided by ELENA to trigger investments of EUR 161 million. They are aiming for energy savings of 30%, reducing CO2 output by 37,834 tonnes per year.	http://www.energy-cities.eu/IMG/pdf/reviewelena-eib_projects_june2015.pdf#page=21 http://www.eib.org/attachments/documents/brite_project_factsheet_en.pdf

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Terminology

Energy efficiency actions

- **Sustainable energy and climate actions:** These refer to actions that fall under the five (5) thematic modules of the PROSPECT learning programme; namely public buildings, private buildings, transport, public lighting and cross-sectoral.
- **Public buildings:** This covers buildings and facilities owned, managed, or controlled by public authorities. Facilities refer to energy consuming entities that are not buildings, such as wastewater treatment plants.
- **Private buildings:** This covers buildings owned, managed, or controlled by private individuals or corporations. This refers primarily to the tertiary sector (services), such as private companies, banks, commercial, and retail activities, hospitals, etc. and residential buildings, including social housing.
- **Transport:** This covers the provision of and management of mass transit systems by public authorities, as well as private transport.
- **Public lighting:** This covers the provision of public lighting (e.g. street lighting and traffic lights) owned or operated by public authorities. Non-municipal public lighting is under private buildings.
- **Cross-sectoral:** This covers all those interventions falling under two or more thematic modules; climate change adaptation; local electricity production (e.g. wind power, hydroelectric power, photovoltaic); and local heat/cold production (e.g. combined heat and power and district heating plant).

Innovative financing schemes

- **Citizens finance (crowdfunding and cooperatives):** A crowd-funding involves an open call, mostly through the internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights. This can happen in combination with energy cooperatives, which are business models based on shared ownership and democratic decision-making procedures.
- **Energy Performance Contracting (EPC):** EPC is a method to implement energy efficiency projects, by which an ESCO (Energy Services Company) acts as a unique contractor and assures all of the steps of a project, from audit through installation up to operations and maintenance. The ESCO delivers a performance guarantee on the energy savings and takes responsibility for the end result. The EPC contract is the contractual agreement by which the output-drive results are agreed upon.
- **Green bonds:** Local government (or their agencies) can issue green bonds to fund their sustainable energy and climate actions. A green bond can operate as a normal bond, which is a debt that will be paid back, depending on the characteristics of the bond, with interest. These can be made attractive via tax-exemptions.

- **Guarantee funds:** These are loan guarantees provided to lenders which serve as buffers against first losses of non-payment by the borrowers.
- **Soft loans:** Soft loan schemes are loans below market rates and with longer payback periods derived from public funding to facilitate investments.
- **Revolving funds:** A Fund established to finance a continuing cycle of investments through initial amounts received from its shareholders, creditors or donors and later on through amounts received from reimbursements of provided funding or loans to projects. These recovered funds become available for further reinvestment in other projects under similar scope (e.g. revolving funds for sustainable energy will use the loans recovered funds to finance new sustainable energy projects.
- **Third party financing:** This refers solely to debt financing. The project financing comes from a third party, usually a financial institution or other investor, or the ESCO, which is not the user or customer.

Project & Investment Cycles

- **Bankable projects:** Project or proposal that has sufficient collateral, future cash flow, and high probability of success, to be accepted for funding by a financial institution or investor.
- **Investment cycle:** This refers to the stages of pre-financing or servicing/operations from the financial institution's perspective.
- **Pre-financing:** This includes origination (e.g. own funds, technical assistance, EU facilities e.g. PDA, ELENA), underwriting (determining value and risk, requiring final project information, accurate costs and savings, procurement and contracting approach), and the investment decision.
- **Post-financing includes (servicing and operations):** Investment administration (legal documentation), draw down of funds (the external financing entity's final inspection) and on-going servicing for the life of the investment (following the agreement).
- **Project cycle:** This refers to the stages of development, implementation, and monitoring of a sustainable energy and climate action project financed by an innovative financing scheme.

Learning Programme

- **Mentor:** An individual representing a local or regional authority who have had direct experience on or have a specific expertise in financing a sustainable energy and climate action through an innovative scheme and is willing to share insights to a mentee.
- **Mentee city/region/agency:** An individual representing a local or regional authority who would want to learn from an experienced or expert peer on financing a sustainable

energy and climate action using an innovative scheme and is interested to apply what they learned in their own context.

- **Peer mentoring:** A one-to-one relationship between a mentor and a mentee and is characterized by open ended counselling and joint problem solving.
- **Matched pair:** A pair of mentor and mentee who would participate in the peer learning programme through peer mentoring.
- **Peer mentoring visit:** This refers to an activity wherein the mentor visit the mentee to understand the learning context and carry out mentoring activities.
- **Peer group:** A group of more than two peers (maximum of seven) with similar learning needs and objectives who can participate in the learning programme via study visits with the support of a mentor and a facilitator.
- **Study visit:** An activity that involves a peer group observing first-hand how a mentor city or region has implemented its sustainable energy or climate action project using an innovative financing scheme and get insights and recommendations directly from the implementers.
- **Online peer learning:** A learning activity that involves virtual discussions wherein the matched pair or peer group can discuss their issues and challenges and work on how they can achieve their learning objectives.
- **Facilitator:** An individual who supports the interaction among the matched pair or peer group by establishing the purpose of the program, steering the discussions, and collecting feedback on the peer learning process. All partners in the PROSPECT consortium will act as facilitators.


PROSPECT