



Vilawatt UIA-URBACT Transfer Mechanism Pilot Network **FINAL NETWORK REPORT**



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Foreword

For most of its implementation, **The Vilawatt URBACT Transfer Mechanism (UTM)** Project presented below has been developed in the midst of a global pandemic which has disproportionately affected the most vulnerable populations in terms of both economic and health impacts.

From a project implementation perspective, the pandemic made it impossible to hold project activities in person for much of its delivery. This had a significant and negative impact on the transfer process. Consequently, it took transfer partners longer and required more effort for them to understand how Vilawatt UJA “worked” and its applicability to their cities.

At a global level, the war in Ukraine accelerated the energy crisis, causing dramatic energy price inflation. These effects are on-going and may become more pronounced as we enter winter 2022 with low temperatures and high energy costs. Specifically, it made partners reflect on the impact of the global context on their local energy transition strategies.

The Cop26 summit in Glasgow showed the challenge in getting the necessary (unanimous) global agreement on actions to achieve the commitments made in the Paris Agreement (COP21).

In 2022 a severe extreme drought and hot summer provided evidence, if needed, of the rapid onset of Climate Change and the need for urgent action at both global and individual levels. A workable solution requires a commitment from all.

While the EU is stimulating the Green Deal and energy transition, member states find it difficult to achieve targets for reducing fossil fuel use and return to situations prior to the Ukraine conflict. Emergency solutions are appearing which do not comply with the principles of the Green Pact.

Vilawatt is an attempt to close the gap between global level climate targets and local level, complex, day to day lives of citizens. People are the focus of the Vilawatt project which uses local partnerships to develop solutions that are meaningful to people and help make cities better places to live and work.

Introduction

This document outlines the main outputs of the 20-month Vilawatt URBACT Transfer Mechanism Pilot Project (9 March 2021 – 9 November 2022) that four European cities embarked upon with the objective of transferring the new model to three other European cities. The Viladecans Urban Innovative Action (UIA) project, Vilawatt, aimed to move energy transition forward in the city through an innovative governance structure where citizens play a key role.

The profile of Vilawatt UTM Pilot Network cities is, as in other URBACT networks, representative of different regional areas and levels of development in Europe. It is composed of four small and medium sized cities (between 48k and 65k inhab.). The three Transfer Cities Nagykanizsa (HU), Seraing (BE) and Trikala (HU) have analysed, adapted and reshaped the Vilawatt UIA and, in collaboration with their local groups of stakeholders, have developed their own plans for implementation. The resulting Investment Plans, the main outputs of the transfer partners, foresee concrete measures with leading agents and resources associated with them.

In turn, the city of Viladecans, that had implemented Vilawatt between 2017 and 2020, has taken the opportunity of working in a European network of experienced cities to further develop and update its own project, with the same participative approach. Their resulting Springboard Plan improves and adapts UIA Vilawatt to the recent European regulatory and economic scenarios of the energy sector, characterised by fast renewable energy systems (RES) placement and the deployment of Energy Communities.

The four cities have received support from the URBACT Programme to take forward the project activities at transnational and local levels, applying the URBACT method for transfer and providing external expertise support throughout the process. The main outputs and key findings can be found in this document.

The present report is structured in four parts:

The first part introduces the Vilawatt Innovative Project that is being transferred, as well as the four partner cities: profile and principal goals they intend to achieve with their Investment and Springboard Plans.

The second describes the URBACT method that has facilitated the project partners to develop their own versions of Vilawatt: learning and exchange among cities and their local partners; mobilisation of key practitioners to develop a joint proposal adjusted to its context; and dedicated tools to support the planning work and capacity building activities.

The third part presents the main results of the transfer process shaped in the Investment and Springboard Plans: the work lines defined by each city, the main expected results and

the overall investment required to carry them out. Some lessons and challenges encountered can be found.

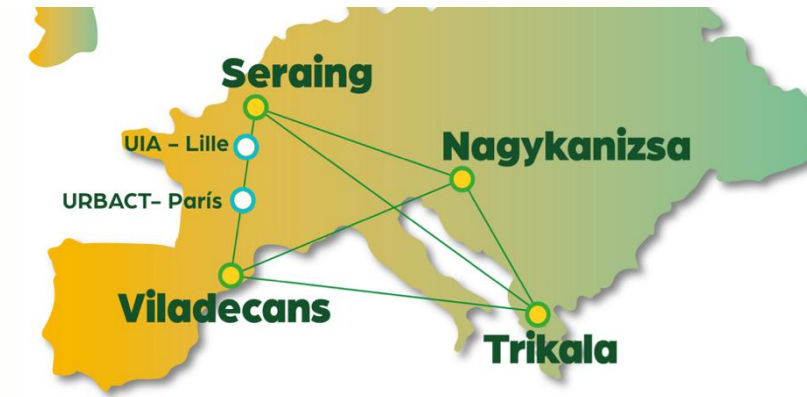
A final chapter shares some observations of this Vilawatt UTM Pilot Transfer Mechanism and conclusions on the overall transfer experience of Vilawatt, pointing at thematic and how-to aspects.

A set of embedded interviews with the respective cities' project leaders highlight the relevance of the project for each city, the key learning each has gained, and the added value of working in this URBACT Network.

This report is addressed to policy makers and practitioners interested in the change of energy models and broader ecological transition strategies initiated at the municipal level and reaching out and involving a diversity of population groups, including companies, schools, community organisations, experts and knowledge institutions to make energy democratisation possible.



I. INTRODUCING VILAWATT URBACT TRANSFER MECHANISM (UTM)



The 4 Vilawatt UTM Cities and UIA (Lille) and the URBACT (Paris)

The **Vilawatt URBACT Transfer Mechanism (UTM) Pilot Projects** were initiated to test how singular urban innovative projects, funded through the UIA Initiative, can be scaled up and out to other European cities. The UIA Initiative and URBACT Programme agreed to use the already tested transfer methodology adopted in previous rounds of URBACT Transfer Networks. In this case, instead of good practices of a limited scale, the method has been applied to more strategic and transformative projects typical of those UIA support.

The Vilawatt UTM pilot project has been tested by the **three transfer cities** mentioned: Nagykanizsa, Seraing and Trikala, and the lead partner, Viladecans. With different approaches and foci, they all have high political and strategic interest as well as previous experience in the area addressed by the Innovative Practice, namely Energy Transition and Climate Neutrality.

Following the **URBACT Transfer method**, the project partners went through three consecutive stages:

1. Understanding the original practice to be transferred (6 months)
2. Adapting it to the local context, adjusting as necessary and with the collaborative input of a local group of partners (9 months)
3. Preparing the adapted project for the local re-use and implementation through writing an operational and financial plan.

UNDERSTAND							ADAPT									PREPARE FOR REUSE				
Mar	Apr	May	Jun	Jun	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2021									2022											

The [URBACT toolbox](#), is a rich source of adaptable instruments to help prioritise and to support project planning in cities. Different tools were used at different stages of the project, as it is further detailed in the section dedicated to presenting the transfer journey.

 **Toolbox**

To guide and support transfer, the team of UTM experts developed the [Vilawatt UTM Transferability Study](#), which contains a description of the Innovative Practice with its inherent scalability and the transfer potential to the Vilawatt partner cities. It also defined a work plan for the network members to pursue.

As in all UIA and URBACT projects, all cities built their respective Local Groups of project stakeholders (local partnership in UIA initiatives). These are teams of local agents involved in the co-creation of the local strategies and Plans. In the transfer cities, these groups mirrored the Vilawatt UIA Partnership and shaped their membership to address the thematic areas that were relevant to them. As examples of profiles we find: Universities and research institutions; private companies from the energy and retrofitting sector; innovation and entrepreneurship organisations; primary and secondary schools; local development and housing agencies; and higher levels of governments, amongst others.

Viladecans also based its project on a core group of local stakeholders who performed as a driver for the project evolution in the city.

The Investment and Springboard Plans. Main outputs

As mentioned above the Investment and the Springboard Plans – transfer and lead partners project outputs respectively – are the main result of the Vilawatt UTM.






The transfer partners' Investment Plans are practical and results-oriented documents that identify actions and actors, with a specific focus on funding for implementation. They respond to the specific needs of the city and its people, since they have been agreed by the key group of local members, including relevant authorities, private sector representatives and knowledge institutions, and they align with national and European Energy Transition targets and priorities to reverse climate change.

The Viladecans Springboard Plan is a document that benefits from the exchange and learning with the three partner cities and that aims at upgrading the Vilawatt project, adapting it to the new regulatory context and contributing to the Viladecans' mission of being climate neutral by 2030.

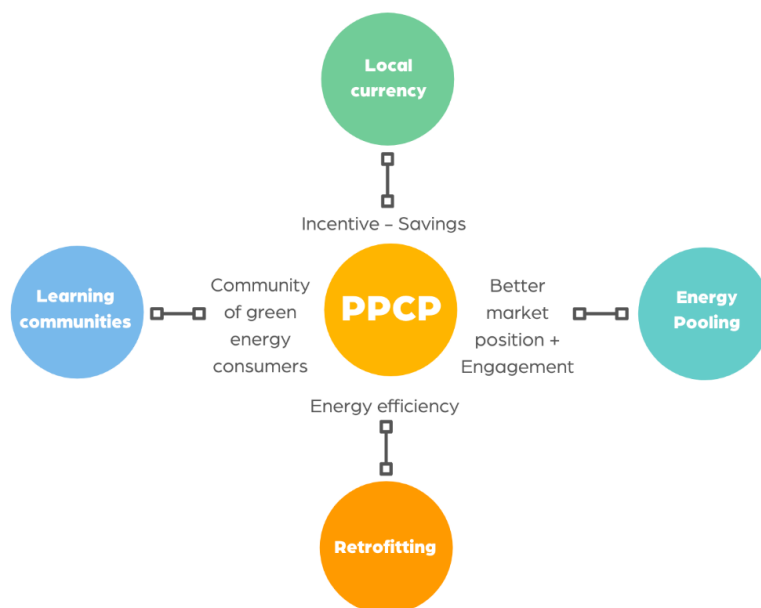
Vilawatt UIA: 5 Pillars for Energy Transition and Democratisation in the City

With the Vilawatt project, Viladecans aimed to develop energy culture and co-responsibility in the city, reversing the typical top-down approach and co-creating and co-managing energy with citizens.

When Vilawatt was first developed as a UIA project, the main objectives were to:

-  Promote energy culture and sovereignty in the city
-  Empower citizens for energy management
-  Achieve higher energy efficiency and savings
-  Ensure a just transition and promote green business and upskilling
-  Create a Public Private Citizens Structure to manage energy services

The relevance of Vilawatt Innovative Practice lies in the fact that the transformative change that Ecological Transition requires will not happen solely from the top-down policies of the highest EU and national regulatory bodies. While these institutions set essential strategic frameworks, profound bottom-up changes mainly come through the engagement of individuals, organisations and businesses changing their behaviour towards their use of energy. Local governments are uniquely positioned to influence citizens' attitudes and shape the urban context to facilitate energy transition at the local level.



The Vilawatt pillars and their functions

The five pillars in which the Innovative practice is composed include:

I. Project governance: Public Private Citizens Partnership (PPCP) for a shared energy management in the city

Viladecans has developed a City Energy Transition strategy that involves all local agents, both public and private, promoting the bottom-up changes needed to meet the municipally-established goals on Climate Change.

To make Viladecans' citizens jointly responsible for such a strategy, Vilawatt has set up this Partnership under the legal form of a consortium, which comprises the City Council, the Barcelona Metropolitan Area government level and two associations: The Citizen Association for Energy Transition and the Business and Retailers Association for Energy Transition. The PPCP's objective is to facilitate the co-governance of energy in the city and manage the other four key Pillar services described below:

II. Green energy pooling: Bulk Purchase of 100% renewable generated energy on behalf of the PPCP members to cut energy costs

Viladecans increased green energy consumption by pooling the demand and obtaining better tariffs from the bulk energy market. To achieve this, Viladecans integrates the demand of all consortium members and buys electricity wholesale through a collective purchase from a green energy supplier. Becoming a single and bigger client allows better prices and services to be negotiated. The pooling and purchase of energy enables Viladecans to bypass the energy oligopoly (the majority of the citizens are customers of one single big company); to obtain a better price thanks to the aggregation of demand; and to contribute to fight climate change, purchasing exclusively green energy, thus improving the ecological footprint.

III. Buildings' retrofitting: Facilitating higher energy efficiency of buildings, receiving and managing subsidies and grants

Buildings are responsible for 40% of EU energy consumption and 36% of CO₂ emissions, with older buildings consuming at least 5 times as much as new ones. In Viladecans, despite the wide and longstanding public policies for energy efficiency developed in the city – including photovoltaic panels installed in public buildings – reaching the energy saving and CO₂ emissions targets requires more private entities and citizens to get involved.

To demonstrate the benefits of investing in building energy retrofitting in the city, and encouraging private owners to undertake reforms in the building, the Vilawatt project started with three residential buildings in one city district. The three demo-buildings have incorporated renewable energy systems and have been energy-monitored throughout the process to track energy savings. This pillar aimed at saving 70% of the energy consumption in each of the buildings and generating 50% of the demand through renewable energies.

IV. Energy learning communities and citizens' engagement: Providing advisory services to local communities and business including energy audits, contract optimization, training and empowerment in energy culture, skills development and financing options

Work on Energy Learning Communities consisted of the development of a strong and articulated social base for the project, based on the differentiated target groups, and the provision of information and advisory services through a rich variety of awareness activities and the Vilawatt Information Office.

One of Vilawatt's main challenges was to communicate its value and create a sense of community and shared responsibility in the energy transition strategy of the City. This was only possible through reaching out and involving all public and private actors. To this end, Viladecans initiated several work lines designed to inform citizens, companies, children, retailers etc.

Viladecans launched the Learning Communities (schools, local authorities, retailers, unemployed, families living in energy poverty conditions..) and succeeded in involving them as members of the Vilawatt consortium, the legal entity supporting the Public Private Citizens Partnership. It eventually promoted behavioural change towards a more conscious and efficient energy use.

Capacity-building efforts also targeted city administration staff, which contributed to creating a new culture inside the municipal services.

V. Energy efficiency incentives: the Vilawatt local currency linked to the energy savings and used as a tool for circular economy

The Vilawatt currency was intended as the instrument to capitalise the energy cost savings and circulate them within the city and among local retailers.

Viladecans created its own local currency, the Vilawatt, to be used, in the early stages of the project, by those who engaged actively with the project. The Vilawatt took advantage of the multiplier effect that this type of currency has when spent within the local economy.

With the electronic local currency, the project contributed to raise awareness about energy transition and translated energy efficiency savings into a value that reverts back into the local economy, promoting the circular economy. Ultimately, it became a tool for the future beyond the European project.

* * *

At the time Viladecans was conceiving the Vilawatt project, the UIA call helped to accelerate the city's thinking and action. That said, Ecological Transition was already a priority policy in the city. The city's comprehensive Sustainable Energy and Climate Action Plan (SECAP) and other international commitments were proof of the city's determination.

To understand how Vilawatt has changed the city and placed Viladecans at the front line of EU cities for Climate Neutrality we interviewed one of the key leaders of the Vilawatt UIA project, Jordi Mazón (Deputy Mayor), who is now leading the Vilawatt 2.0 – the next steps towards adapting the project to the actual regulation framework and city context.

Interview with Jordi Mazón is Deputy Mayor for Ecological Transition, Mobility and Waste

Jordi Mazón is Deputy Mayor in Viladecans and also professor and researcher at the Technical University of Catalonia – BarcelonaTech

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In his position as political leader in Viladecans, he is responsible for the Mission of Climate Neutrality 2030 developed to make every citizen aware of the global challenge and co-responsible for the transition. This Mission will be developed in the way the city addresses other important challenges, in collaboration with all population groups, i.e. local companies, neighbours, schools, municipal services... so as to leave no one behind.

Jordi Mazón told us about the impact of the Vilawatt project on the city, how it managed to mobilise citizens and attract their interest to take part in the project and the future that lies ahead towards the ambitious goal of Climate Neutrality 2030.



How has the Vilawatt project influenced the Ecological Transition strategy in Viladecans?

It has been an inspiration for the Ecological Transition in the city. Its soul is found throughout all municipal levels and departments. Energy moves the world and is behind all human actions, and the city is no different. For the Vilawatt project to change the perspective and promote energy culture in Viladecans, requires the whole city to change to become a more efficient city, reducing energy dependence, producing and using green sources, capturing CO₂, changing mobility patterns, rethinking urbanism, etc... Vilawatt has been the tool to transform Viladecans into a XXI century city.



What are tangible impacts of Vilawatt in Viladecans? What has changed since 2016 when Vilawatt started?

We can see four basic impacts. The first is the spread of solar panels that we have installed on 23 buildings in the city, generating a total of 1 MW of power. The energy produced will be self-consumed and shared among Vilawatt members. The second impact is linked to the Vilawatt currency, initially conceived to re-investing the energy savings in local shops and thus engaging retailers in the project as well. The third is the refitting of buildings and flats we have completed since 2016. And the last one has been the learning communities that we have created under the Vilawatt project.

But also, a very important overall impact for the city is that we have been able to create a brand, Vilawatt, that is recognized by all citizens, whether or not they are members of the Vilawatt consortium, and has laid the basis for a better understanding and culture of energy topics.



After the ending of the Urban Innovative Action support, the URBACT Transfer Mechanism has helped to boost Vilawatt and place it to a new stage called Vilawatt 2.0? What is changing and progressing?

We are going through fast changes in Europe concerning energy and the laws that regulate the energy market. One of the most important developments included in Vilawatt 2.0 has been the creation of Energy Communities, and the installation of 1 MW of solar power in 23 public buildings, for self-consumption and to share among the Vilawatt members – those who participate in the Vilawatt consortium, the energy partnership in the City. Today, we are designing new projects sharing green energy produced in the public and private buildings in different neighbourhoods and premises in the city. In addition, we aim at reaching 10 MW of solar power by 2030.

We have learnt that we need to be resilient and ready to adapt to new scenarios as fast as possible, because we are experiencing rapid changes concerning energy management and rules – this is what we intend to do by evolving Vilawatt into its 2.0 version.



We know that citizens' engagement has been a very significant and successful aspect of Vilawatt, and that this continues. How did you manage to keep project stakeholders such as companies, knowledge institutions or citizens involved and participating in the project?

The crisis we are living in, the ongoing alarming news on the climate and more recently, the impact of the Ukrainian war on prices have all raised the awareness on energy related matters. All these are helping us to keep stakeholders aware and engaged in the project. The change that Vilawatt proposes concerning energy management, placing the citizen's needs at the centre, attracts the attention of people and enterprises. Viladecans is determined to become a net zero city by 2030. This new challenge and the method to work to achieve this goal helps us to involve the communities, the academia and the local companies to work hand in hand with the municipality in a common project.

Obviously, this has been possible and reinforced by the great efforts during previous Vilawatt phases that developed ongoing intensive and very creative activities to inform different population groups which led to the creation of the Vilawatt Learning communities for Energy Transition in the city.



In particular, what are key elements to have the local communities interested and participating?

I think the most important thing to motivate communities to participate in the Vilawatt and the energy transition projects in the city is to demonstrate that this is not an isolated or crazy project, but one of the many projects that aim to reach an objective: to build a healthy, green, net zero city by 2030, and that we intend to do this by sharing the energy we generate in public and private buildings, and transforming the city to pursue this goal.

In addition, the current crisis is helping citizens to change their point of view, in line with what Vilawatt proposes: a new concept of the energy culture, new ways to manage energy as a resource of public interest, that is, energy produced in Viladecans' roofs, shared with our neighbours and with non-lucrative interest but following climate and social criteria.



Can you name a key factor that helped consolidate an Ecological Transition strategy in the city?

I prefer the name "ecological change" to "ecological transition", because I think we need faster changes, and the time for transition has passed.

Answering the question, first of all, a clear political determination, with a clear objective: transforming Viladecans towards a green, healthy and sustainable city.

Second, the external support from the Spanish government and the European Commission programmes were, and still are, key to reaching the goals we are seeking. In this regard, having a coherent and comprehensive strategy based on a political consensus has been a good "trump card" to get the confidence on the project. In addition to this, new regulations from both Spanish and European institutions to enhance and promote ecological change are needed.

Finally, collaboration between political and technical teams within the municipal services is a key factor in reaching the two previous ones.

? Now that you have a new and updated strategy for the city around the Springboard Plan – Vilawatt 2.0, what do you expect to achieve in the coming years?

I expect to see a large number of Vilawatt members. The Covid pandemic slowed down the increase of new members engaging with the project but we are now starting to grow again. I expect reaching more than 1.000 members in the coming years, thanks to the Energy Communities that we are designing and just starting.

I anticipate a close collaboration between public and private buildings, generating and sharing solar energy throughout the city, thus reducing the external dependency and enhancing social justice, with wide access to affordable energy. Finally, I would like to see nearly 10 MW of green power by 2030.

? What advice would you give to another European City who is planning to implement the Vilawatt project or similar initiative?

First, a project such as Vilawatt should be a city project, I mean, a project involving citizens, local enterprises, social communities, and also all the political parties. It should also be a long term project, more than the usual four-year mandate.

Second, that the project must be a tool to transform the city, and all the political actions must be complementary and consistent with the project goals. Otherwise both the project and the government will lose credibility.

? Any idea to conclude this interview?

We have been through many difficulties of different types, the pandemic has slowed down the project, the crisis of energy prices caused the failure of the Vilawatt energy supply company, which provided aggregate green energy to the consortium, and the solutions that the Energy Communities Directives provide need to be transferred and adjusted, at the same time that we already build our local Communities. All this requires looking for alternatives, creative solutions and permanent reviews, so cities need to be ready and determined. Every city can become a provider of innovative solutions for their neighbours and for other cities too.

II. THE 4 VILAWATT PARTNERS. THEIR STARTING POINTS AND EXPECTATIONS

Viladecans – the lead partner



It will be clear from the discussion above that Ecological Transition (or more accurately Ecological Change) has been a priority in Viladecans for several years. The Vilawatt UIA project has been a key element to promote the ecological transition in the city and is now the main driver to foster energy transition and change. The five pillars were chosen to best address the city's priorities and ensure the community was actively involved.

Vilawatt is part of the city's wider ecological transition activities:

- Complementing Vilawatt, the city made the Climate Emergency Declaration (September 2019) which reinforced its commitment to the Covenant of Mayors, whose Sustainable Energy and Climate Action Plan (SECAP, last updated in December 2017). It commits to cutting CO₂ emissions and other greenhouse gases (GHG) by 40% by 2030 (with respect to 2005) through increased energy efficiency and greater use of renewable sources.

- The city has established an Ecological Transition Steering Committee which mobilises elected representatives, city council directors and officers, implementing 6 projects in this area.
- Viladecans is also putting new efforts into local energy production (increasing photovoltaic installations) and the creation of Energy Communities, with a new project financed by the Spanish Institute for Diversification and Economic Savings (IDAE), and consolidating the energy culture learning communities that were created during the Vilawatt UIA project.
- More recently, the city has approved a Viladecans 2030 Strategy and a Local Urban Agenda defining the city's future road map, observing the guidelines of the UN Sustainable Development Goals (SDGs) and the Urban Agenda. This strategy integrates the Ecological Transition as one of 6 priority axes and sets the mission to "make Viladecans a climate-neutral city by 2030".

In line with the 100 Climate-Neutral Cities by 2030 Mission launched by the European Commission, *Viladecans has the objective of being climate neutral by 2030. The Vilawatt project has provided great leverage to start building this process together with the citizens of Viladecans. It has opened the door to a sustainable and long-lasting energy transition process by developing a local platform to integrate all local energy transition efforts, while at the same time boosting the local economy.*

For the Vilawatt UTM, Viladecans expectations were that they would learn and share knowledge with other European cities. They anticipated that this would be achieved through sharing knowledge and exchanging ideas and learning from other cities where energy transition was a key goal.



What did Viladecans expect from the Vilawatt Network Project?



Seraing



Seraing is a city and municipality of Wallonia located to the east of Belgium in the province of Liège.

It has a strong industrial heritage built around steel manufacture and glass making. The city is currently undergoing an economic transformation. While it is embracing the industries and economic activities of the future, there is a significant socio-economic legacy from heavy industry. The city has developed its Master Plan 2040 and has been implementing it since 2004.

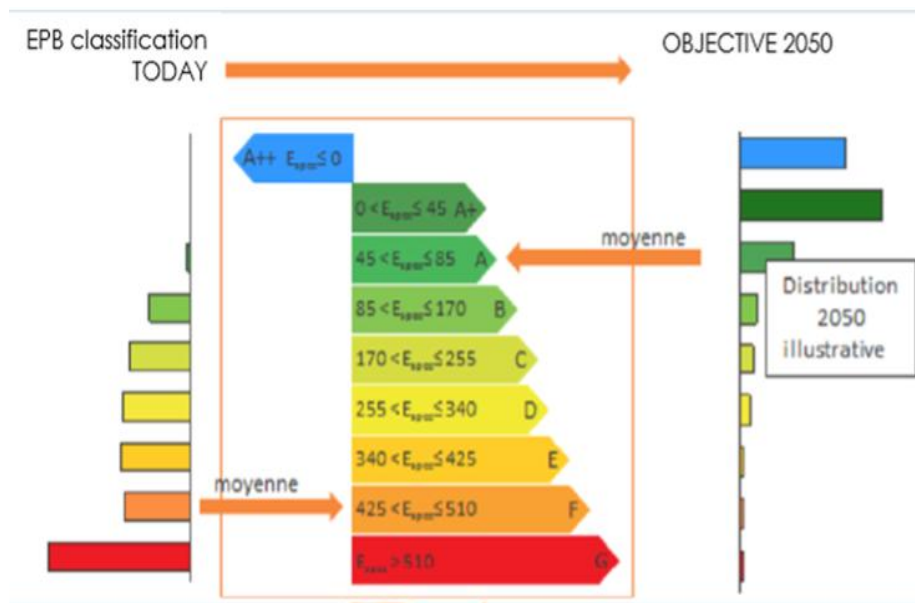
Seraing's current priorities for the city include: Industrial Transformation (Heavy Industry to High Tech sectors, Transportation & Logistics); and Urban Regeneration. The strategic context within which these priorities were identified is explained by Seraing's masterplan. At an operational level, the city has enabled the mechanisms (organisations such as AREBS, ERIGES) that allow agile planning of deep transformative projects and participation to happen.

Three energy-related thrusts emerged through Seraing's participation on the UTM:

- Energy efficiency
- Renewable Energy Adoption
- Behaviours & Uses.

The Seraing masterplan has a strong urban regeneration focus, with improvements in housing stock being a central thrust. While the most challenging stock can attract “improvement funding” through project regeneration activity, energy efficiency improvement of older, higher-quality buildings is a challenge. Being engaged on the Vilawatt UTM has helped the city see how energy issues might be addressed.

From an energy perspective, Seraing has work to do. Much of the housing for former industrial workers is of poor quality in terms of energy efficiency.



Upgrading low energy efficiency properties will be a central focus for the city’s Investment Plan. The schematic above shows the city’s starting point. The largest proportion of properties have an Energy Performance of Buildings (EPB) rating of “F” –which is very low as can be seen above. The goal is to have the bulk at “A+” by 2050. This is an ambitious objective but one the city will start to address through their UTM Implementation Plan.

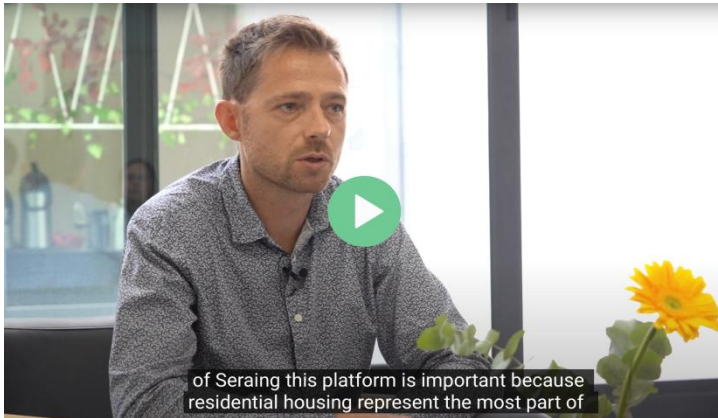
Vilawatt’s citizen engagement experience and its complementary implementation of the Energy Currency will be valuable in supporting Seraing’s measures to change energy use behaviours and uses.

The Walloon area has support funds for building retrofitting. However, the take-up of these funds has been much lower than might be expected due to the complexity of the application process. A key thrust of the city’s Investment Plan is to accelerate take up of this support through providing professional advice and financial support at the key “blockage points” within the current process. Effectively, it will act as an impartial broker for both households and companies, and will support them to take action.

For the Vilawatt UTM, Seraing has benefitted from several, large regeneration projects in recent years. These include URBACT funded initiatives. Seraing's expectations for the Vilawatt UTM were that it would help to stimulate private investment in building retrofitting while also enhancing citizens' awareness of the need for energy transformation.



What did Seraing expect from the Vilawatt Network Project?



Trikala



Trikala city is located on the fertile plain of Thessaly in central Greece and is the capital of the Province. The Municipality of Trikala comprises the city of Trikala and 13 settlements that are within a 5 kilometre radius of the city. The city has a population of 61,553 and covers an area of 70.1 km².

Its main economic sectors have a strong agricultural slant (reflecting its surrounding topography) and include the Dairy, Agrifood and Tertiary sectors.

Baseline information provided by the city shows that it is in a state of change. Trikala has a reputation for innovation dating back to 2004, when Greece's Ministry of Economics named it the nation's first digital city. The city has overcome financial challenges to implement several smart solutions through international collaboration with partners and by applying for funding from external sources, such as the European Commission.

One of the city's biggest challenges is "young person brain-drain". In Greece, about 420,000 people, mostly young graduates, have emigrated since the financial crash in 2010. The youth unemployment rate, which includes students, reached 50% in 2013 and is still hovering around 44%, the highest in the EU.

The building stock is mostly old and was built with no consideration of energy conservation. The majority of buildings in Trikala are between the D and G categories of Energy Building Performance Certificates, meaning there is significant potential for energy efficiency improvement. Buildings account for over 80% of the city's CO₂ emissions (residential buildings - 51%, buildings, equipment/facilities for the tertiary sector - 27%, and public buildings - 3%).

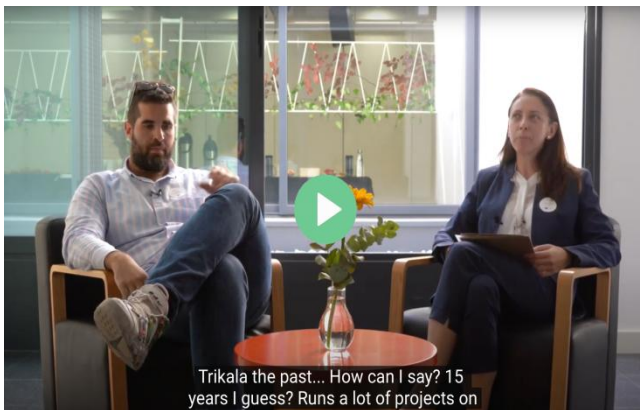
Vilawatt is Trikala's first (significant) energy themed project but has catalysed greater recognition of energy and climate in other related Municipal strategies. The Vilawatt UTM has contributed to internal debate and prioritisation exercise and contributed to develop the Energy Efficiency Strategy in the city. In 2022, Trikala was successful in its application to become one of the EU Mission for 100 climate-neutral and smart cities by 2030 in the domains of energy, transportation and urban planning.

The city's participation on the Vilawatt UTM has raised the profile of energy and climate priorities amongst partners. There is now recognition that the city's historic energy mix (with its strong emphasis on fossil fuels) has not been kind to the environment (although it has improved in recent years).

In terms of their expectations for participating on the Vilawatt UTM project, Trikala anticipated that their participation would contribute to the city's energy transition policies and also to citizens' well-being in a time of energy crisis.



What did Trikala expect from the Vilawatt Network Project?



Nagykanizsa



Nagykanizsa is located in the region of Zala. Agricultural production was the historical economic base of the region. Animal husbandry and fruit cultivation remain significant, and forestry is also important. The structural changes in the region's economy commenced with the railway construction of the mid-18th century and continued with the discovery and exploitation of crude oil. Zala evolved into a centre of crude oil production, and in the 1960s other industrial sectors moved to the region as well. The crude oil supplies were mostly exhausted by the 1990s, but the county's economic value increased due to its proximity to western Europe. Numerous foreign companies settled in the region, some of which also produce for export.

Nagykanizsa's main economic sectors are Services, Agriculture, Transport, Metals Industry, and Manufacturing (car parts). As presented below, the city's population is just under 50,000 which given its comparatively large area of 148.4 km², results in it being relatively sparsely populated at 321 inhabitants per sq.m. Unemployment is low.

Nagykanizsa was the first Hungarian city to join the UN Association of Climate Friendly Cities in 2006 and also the member of the Climate and Energy Association of EU Mayors and member of the Hungarian Association of Climate Friendly Cities. It produced its first Sustainable Energy Development Plan (SEAP) in 2013 with this being expanded into a SECAP in 2021.

Most of the climate awareness projects delivered by Nagykanizsa have involved collaborations with others. These have mostly been local educational institutions and NGOs, such as the Alliance of Green Kindergartens. This cooperative approach will be continued when implementing the Investment Plan.

Through using its ULG, the city has engaged a number of private organisations and knowledge institutions who have committed to deliver a range of renewable energy solutions as part of the city's overall response. The city will build on established interventions (with schools etc) and the commitments stated in strategic documents such as SECAP.

As with other partners, establishing pilot Energy Communities is a priority in different cities across Hungary. They form a core thrust of Nagykanizsa's Investment Plan focus and are being planned with the support of the Ministerial consultancy/advisory agency.

In terms of their expectations for participating on the Vilawatt UTM project, Nagykanizsa anticipated that their participation would help them to revitalise the local cooperation on energy issues within the city and, as part of this process, involve more stakeholders.



What did Nagykanizsa expect from the Vilawatt Network Project?



Partners' Key statistics

Partners' baseline data is aggregated in the tables below.

Partner	Population [Num.]	GDP/capita [€/yr]	Unemployment (Youth) [%]	Area [km2]	Population density [people/km2]	Housing stock	Housing Public [% total]
Viladecans	67,197	22,200	9.3% (7.7%)	20.4	3,293	27,616	
Nagykanizsa	47,349	10,560	<4% (<13%)	148.4	321	20-22,000	6%
Seraing	64,259	-	22.7% (-)	35.3	1,819	28,259	19.9%
Trikala (Urban)	61,553	11,091	17.2% (>30%)	70.1	886	21,755	3%

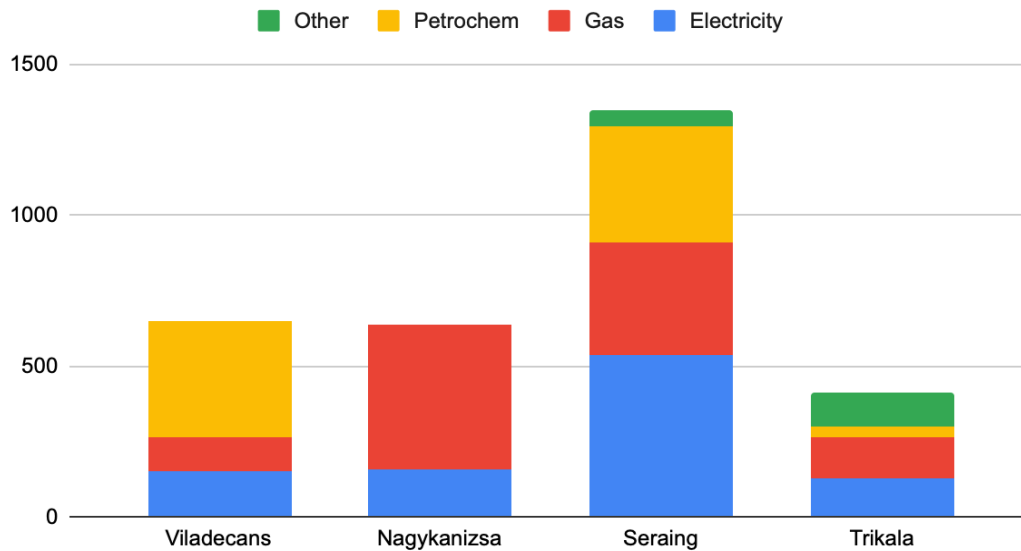
There are some key points to observe:

- The cities have similar population levels but show a much larger deviation in geographic area within their boundaries (thus population densities show a significant spread)
- Unemployment is similarly high in Seraing and Trikala and although not provided above, the youth unemployment is understood to be much higher than the general unemployment level in Seraing
- The proportions of public housing in Nagykanizsa and Trikala are similar and much lower than Seraing
- Seraing was one of Belgium's most significant industrial powerhouses – the economy is in transition as it enters a post-industrial phase and the city administration has been delivering a significant urban regeneration strategy since 2004 – this industrial heritage may (in part) explain the higher proportion of public housing ownership.

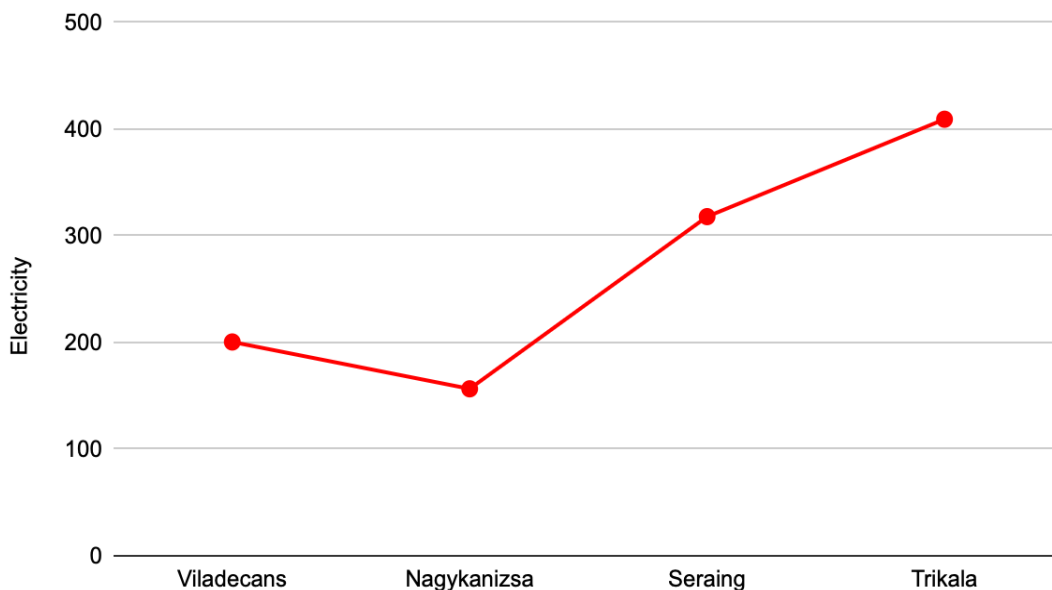
The partner cities' baseline energy related criteria are summarised below.

Partner	City cons p.a. [TCO2 GWh]	Public buildings cons p.a. [TCO2 GWh]	Energy Mix [GWh]	Electricity from Renewable Sources
Viladecans	200,466 TCO2		E: 153 G: 110 P: 383	
Nagykanizsa	156,500 TCO2 480 GWh	N/A E: 10 GWh G: 4 M m3	E: 155 G: 480	0.2%
Seraing	317,935 TCO2 1,346.2 GWh	6,112 TCO2	E: 535 G:373 P: 385 Other: 52	E: 9,178 GWh
Trikala	409,210 TCO2 413.8 GWh	- 8 GWh	29,86% Lignite 32,93% Gas 8,99% Liquid fuels 28,22% RES	110.4 GWh 0.16 GWh by City's PV system

Energy Consumption per annum (GWh)



tCO2 emissions per annum



From the graphics above, it can be seen:

- CO2 emissions are quite variable
- Electricity and Gas are the core energy types
- Petroleum products are a key source in Seraing and Viladecans
- Lignite is a key source of energy for Trikala (and may explain the higher CO2 emissions for that city) but there is a Governmental level policy commitment to drive down its use going forward
- All cities are engaged in Solar PV electricity generation
- Although not shown in the Table, Seraing also generates a significant volume of renewable heat.

Energy Communities

Before considering the detail of the UTM transfer process, it is worth explaining Energy Communities as they have emerged as a key EU policy tool that has seen a marked shift in favour of citizens having more say in their energy supply. Three of the four Vilawatt UTM partners will create Energy Communities in some form as part of their Investment and Springboard Plans – thus Energy Communities are central to the implementation of energy policies in the partner cities.

Energy Communities have been around for some time in Europe (early 1960s) and are used to engage local citizens and businesses in designing and governing energy projects undertaken in their localities.

The *Clean Energy for All Europeans Package* (2019) recognized, for the first time within EU law, the rights of citizens and communities to engage directly in the energy sector. This legislation also introduced the role of the prosumer and collective forms of energy users and generators. The *Clean Energy for All Europeans Package* uses two separate laws to define Energy Communities namely, *citizen energy communities* (introduced in the revised Internal Electricity Market Directive) and *renewable energy communities* (introduced in the revised Renewable Energy Directive).

The differences between the two types of energy community are broadly as follows:

- Citizen Energy Communities can support renewable or fossil fuel generated electricity, can engage in activities outside the local area in which its members are based and can deliver energy services and support electric vehicle infrastructure
- Renewable Energy Communities can support locally based projects generating renewable electricity and heat but *cannot* be involved in distribution, energy efficiency services or EV charging. There are also limitations on the size of commercial organisations who can be members.

	Citizens Energy Communities	Renewable Energy Communities
Generation	√ (only Electricity)	√ (Electricity & Heat)
Consumption	√	√
Storage	√	√
Sale/supply	√	√
Energy sharing	√	√
Distribution	√	
Aggregation	√	√
Energy efficiency services	√	
Electrical vehicle charging	√	

Source: B Grbić, Renewable Energy Coordination Group, Energy Community Secretariat

Cooperatives are the commonest form of control used to organise Energy Communities. [REScoop.eu](https://rescoop.eu) is the single largest representative body for these organisations, with 1,500 energy cooperatives and their 1,000,000 citizens (average of 666 members per cooperative).

When Vilawatt was being designed and developed as a UIA project by Viladecans, the definitions of Energy Community had not been finalised within the two EU Directives. The city developed its own governance and community engagement mechanism through the PPCP pillar. Now that Energy Communities are legally defined within EU legislation, and the scope of their activities is more widely understood, Viladecans will embrace their use for community engagement and governance as part of its Springboard Plan.

While the Directives have been approved, each member state is presently in the process of incorporating or adopting the Directives within their respective legislation. This has resulted in differences – in interpretation, application and practical implementation – as there are significant differences across member states’ legislation and electricity grid infrastructure – the latter of which can be the biggest constraint to local renewable energy generation projects. Viladecans must work within the framework in Spain.

Energy Communities and Vilawatt

Energy Communities provide an effective mechanism both to engage citizens on projects that are economically advantageous for them while also providing a governance mechanism that allows the EC members to have a say in how projects are implemented.

For Viladecans, the adoption of ECs is central to their Springboard Plan’s implementation. The city has already put in place the foundations of an ambitious EC pilot centred around a school, that will allow residents living within 2 Km to benefit from lower cost electricity. The city plans to establish many more such initiatives. It is foreseen that ECs in Viladecans build up on the existing governance structure –the consortium– and EC members will become new consortium members, thus increasing adherence to the City energy project.

Energy Communities provide a contemporary means of energy governance that can be adopted consistently by member states within the framework of the Energy Directives. That said, the differences in approach to adopting the directives by member states will mean that the implementation of ECs may differ from state to state. The adoption of the Directives by each member state is governed both by existing legislation and the characteristics of the local energy market, in particular distribution systems. Some Public Grids have severe capacity constraints leading to their national government stating that no new renewable projects can be connected for up to 10 years. Thus, while the Directives have made great strides in recognising the role of citizens in the energy process, the rate at which citizens are actively engaged may differ notably from state to state. These differences are likely to be reflected in the Vilawatt UTM partners.

It will be seen that Energy Communities play a central role in the transfer of the Vilawatt UIA project to partners.

III. PARTNERS' ADOPTION AND ADAPTION OF VILAWATT

Introduction

URBACT promotes integrated and participative urban development policies. It facilitates learning and exchange among EU cities in thematic networks by means of transnational meetings and interactive activities between partners. The programme facilitates strategic thinking and supports embedding the learning locally to be used in project development. Close monitoring, capacity building sessions and expert support facilitate the exchange of knowledge and provide working tools that help to develop city-based policy solutions.

Specifically in the case of the Transfer Networks, the purpose of the transnational work is to analyse and replicate an intervention that has been successfully implemented in the lead city. The URBACT method for city-to-city transfer has been successfully used for URBACT validated good practices and is based on a three-stage process: understand-adapt-reuse. In the case of URBACT Transfer Mechanism networks, this method has been applied to projects previously supported by Urban Innovative Actions (UIA).

UIA projects, such as Vilawatt, involve significant investment (up to 5 M€), complex policy solutions and multiple profile partnerships. For these reasons, the UTM established that the 20 month period allocated for these pilot transfer mechanisms – significantly shorter than the three years of the UIA period – was dedicated to creating a plan to be implemented afterwards, that is, to proceed as far as the planning stage. The principal outputs for the UTM transfer cities are Investment Plans, while the lead partner develops a Springboard Plan.

Below is a summary describing how the UTM method and tools were applied to the Vilawatt UTM network project to transfer the innovative Vilawatt urban action from Viladecans to Seraing, Trikala and Nagykanizsa.

How the Urbact Transfer Method and tools helped scale Vilawatt

In adapting the URBACT Transfer Method, Vilawatt UTM followed the three stages: understand, adapt, and prepare for the local reuse of the Vilawatt project.

UNDERSTAND

The first 6 months consisted of a forensic analysis for partners of Vilawatt's implementation in Viladecans, projecting a deep understanding of its components, the implementation processes and the innovative elements. Desk research of existing UIA documentation was matched with a series of individual interviews with key Viladecans UIA delivery partners, conducted by the UTM expert team.

The contents obtained through these meetings helped produce a comprehensive and detailed presentation of the Viladecans Energy Transition project as it was implemented during the three-year UIA period. These findings were collated and presented within the [Vilawatt Deep Dive document](#) and included information on:

- the project leaders and the participant partners who made possible the development of each of the Vilawatt pillars
- the benchmarking studies, financial reports and market analysis on topics such as green energy supply companies
- the assessment of the regulatory framework for issues like the aggregated energy purchasing, local crypto currencies or PPCP and project governance
- the solutions adopted for each of the pillars and the reasons for choosing them
- the difficulties encountered along the implementation
- the success factors and achievements
- the lessons learnt
- key project data.

In addition to the above content, the Deep Dive includes a presentation of the city profile to help understand the context and the relevance of Vilawatt for the lead partner city. The document also refers to the continuation and the future of Vilawatt actions and the links to the city Climate priorities.

The exhaustive and detailed information gathered in this initial Understand period also helped produce a second key project tool, the Vilawatt Scorecard tool. Vilawatt UIA was structured around five pillars (see description in section *Vilawatt UIA: 5 Pillars for Energy Transition and Democratisation in the City*, above). Following the



explanations of the Vilawatt key partners, each of the five pillars was disaggregated into key success factors and presented in a Scorecard.

Vilawatt Scorecard

For a more insightful understanding of the transfer capacities and the required adjustments at the local level, and to provide a tools that would ultimately be abstracted and applied to other transfer processes, the Vilawatt Ad Hoc Thematic Expert, Donal O’Herlihy developed the Vilawatt Scorecard tool.

The tool contains five individual scorecards, one for each Pillar. Each scorecard has a set of “axes” which describe the success factors that were identified by the lead expert, Mireia Sanabria, when undertaking the initial Deep Dive. This was an extensive and in-depth exercise – and it was essential for this to be completed before the scorecard was designed. A separate, detailed, handbook was also prepared that explained each set of axes and how the Scorecard tool should be used. This was essential to ensure consistency.

Partners completed their city’s scorecard at the first Transnational Meeting (May 2021) and then again at the midpoint of the project (January 2022) – an example of a city’s PPCP scorecard is shown below – red are the initial assessments, green are those at mid-term.

Cities found the Scorecard useful in a variety of ways. It allowed them to position themselves against each of the success criteria and identify those areas in which they might be weaker. It provided a common, visual representation of the project that was valuable in explaining each of the five pillars to stakeholders engaged through the ULG. And it provided a point of reference for cities’ internal project management meetings.

PPCP Scorecard	1	2	3	4	5	6	7	8	9	10	
There is no political support in my city to create a PPCP								●			There is strong political support in my city to create a PPCP
Our country’s laws make it difficult to create an entity such as a PPCP	●										Our country’s laws make it easy to create a PPCP
We have no vision for how a PPCP might work – partners are unaware of the concept	●	→			●						We have a clear vision for how a PPCP would operate –we have already discussed this with partners
Our city has no knowledge of how to establish an Energy Community							●				Our city has already established Energy Communities
It will not be possible to establish a virtual energy currency in our city					●	←		●			Our city can create a virtual energy currency before establishing the PPCP

We have no links to energy, construction or retrofitting professionals (or their rep. organizations)										We have a strong links to energy, construction or retrofitting professionals (or their rep. organizations)
We have no resources available to engage with citizens, explain the PPCP concept and to encourage them to join										We have a team with suitable programs in place to engage with citizens, explain the PPCP concept and to encourage them to join
We have no or weak links with key stakeholder groups										We have good or strong links with the key stakeholder groups

The local groups of project partners

As in all URBACT cities, project activities, both at the transnational and local levels are followed and developed by the members of the URBACT Local Groups, a multiprofile team of local stakeholders who participate in the project activities, contribute their know-how and co-create the local plans. Profiles are diverse and representative of the work areas addressed in the project.

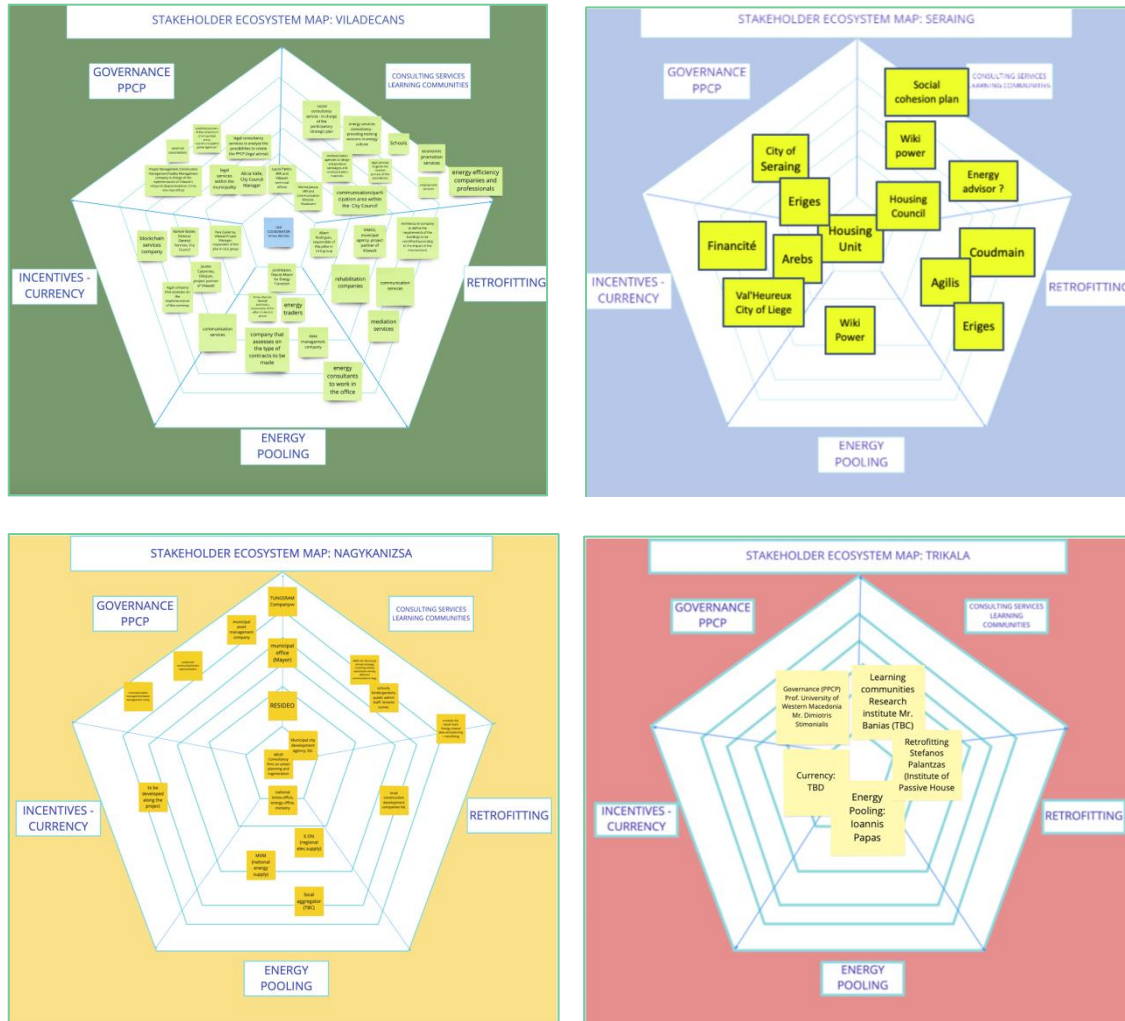
URBACT local groups were set up in all Vilawatt UTM cities, including the lead partner. These groups studied and planned the transfer of Viladecans Innovative Practice (improvement and updating in the case of Viladecans) and jointly assessed and shaped practical solutions that adjusted to the city priorities.

Although ULG membership is naturally different in each city, some profiles can be grouped as:

- Municipal agencies: economic or business development,
- Local companies: water, waste, companies managing condominiums
- National Energy Office (regulator)
- University and research institutes
- Construction sector companies with building renovation projects
- Energy sector companies of production, storage and supply services
- Non-profits managing green energy pooling and purchase in the market
- Currency development and management companies
- Social Housing Agencies
- Schools
- Innovation hubs
- Media

Below are the four URBACT Local Groups for the partner cities. Viladecans presents the key services and project partners during the Vilawatt UIA implementation while Seraing, Nagykanizsa and Trikala present the group of key Vilawatt UTM partners that they

attracted to participate in the transfer project during this first stage.



The tables above provide a summary of ULG members, and it is clear that there has been strong stakeholder engagement in each of the cities.

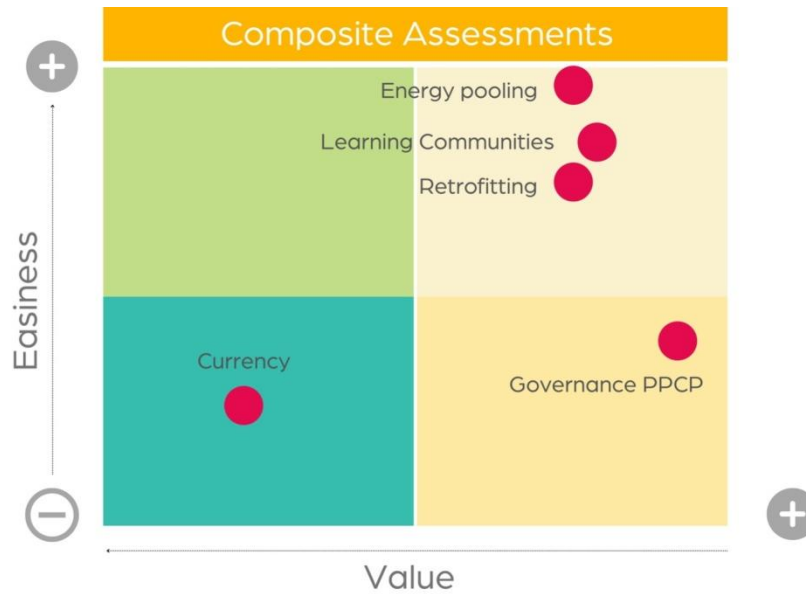
Assessing cities' priorities of Vilawatt pillars

The deep dive analysis of the Vilawatt innovative project revealed the value and functions of each of the five pillars within the whole Vilawatt system and clarified the existing interdependencies.

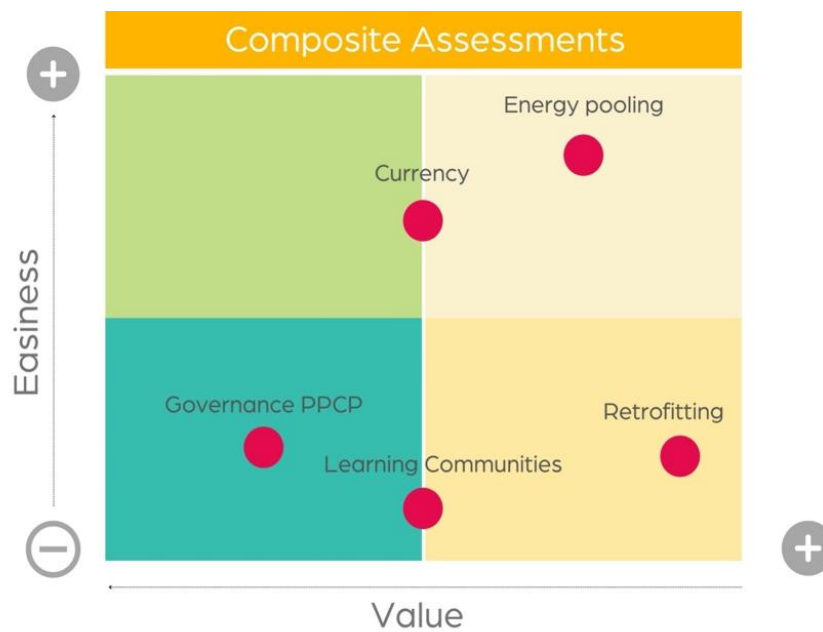
It was assumed from the start of the project that reproducing Viladecans' Vilawatt UIA project in each of the transfer cities would not be possible – local conditions and legislation were too diverse to support such an adoption. Therefore, it was necessary for transfer partners to assess the relevance and capacity of transferring each component and see to what extent they should be adapted. So, the next step was to assess the practicality, interest and the transfer potential of each of the five pillars to the partner cities.

The prioritising exercise presented below allowed transfer cities to reflect on the feasibility (ease of adoption) and interest (value of adoption) of each Vilawatt pillar. This provided a first indication of the “fit” of the adapted project in each of the three new contexts. Below is the result of the three assessments.

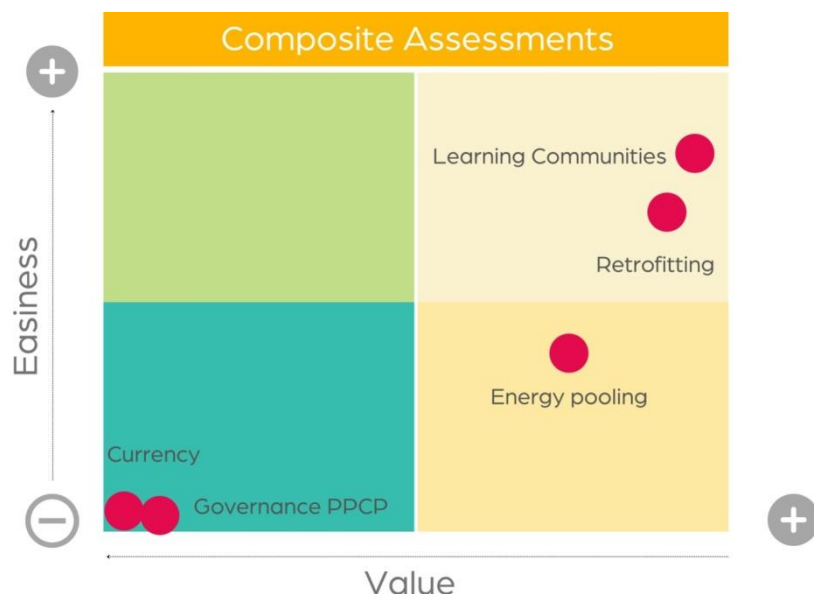
Nagykanizsa



Seraing



Trikala



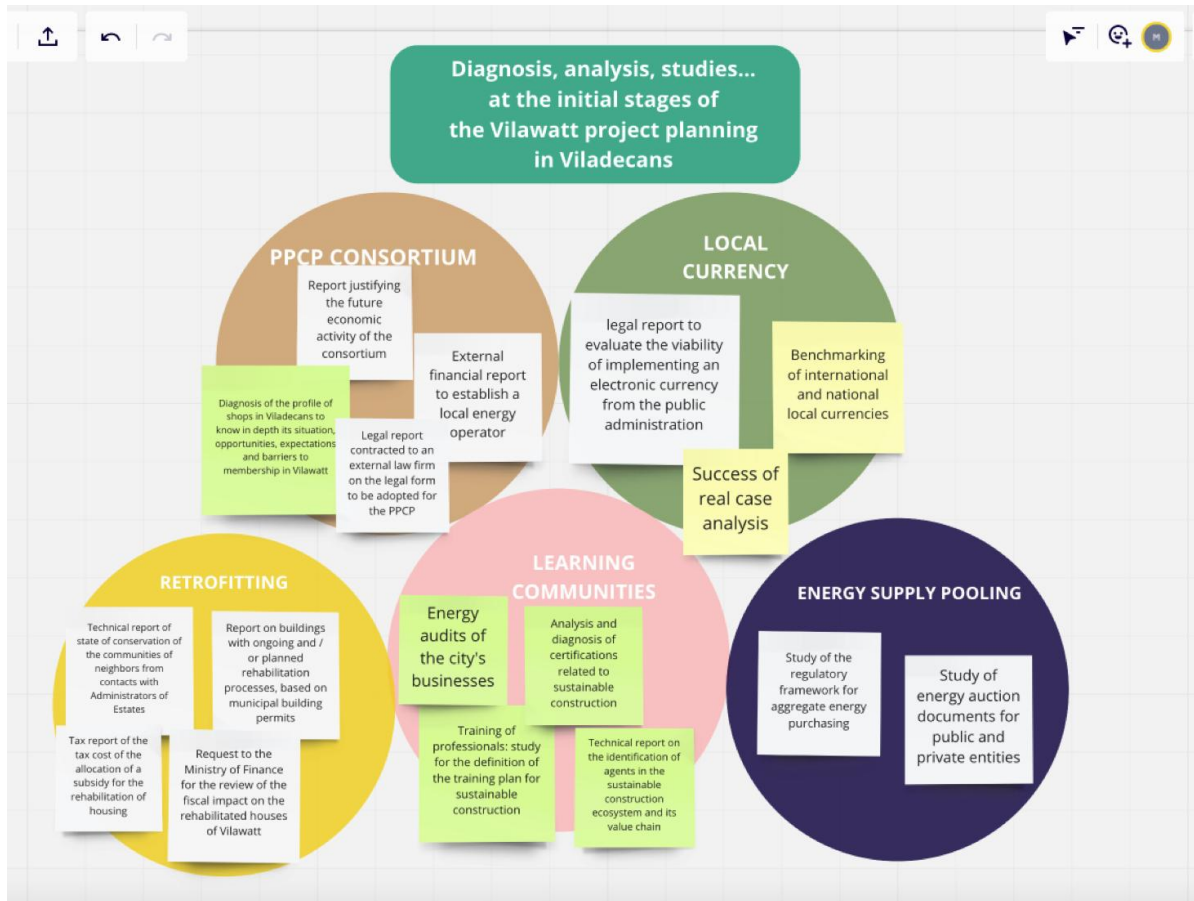
This assessment exercise shows that three pillars were of higher value to the partners:

- The aggregated energy purchase (energy pooling), because all partners could envisage potential implementation routes to facilitate this – one of them was the Directives on Energy Communities being transposed by their national government as this facilitates shared energy production and consumption.
- The learning communities and advisory services, as developed in Vilawatt, were perceived as relevant for all partners –partners also understood the complexity and the time and resources that these interventions required so it was not seen as an easy project area.
- Finally, retrofitting seemed a more straightforward pillar to transfer and of very high value, fitting well with all partners’ priorities.

Of lower interest were:

- Introducing a local currency, because it was perceived as not relevant in Nagykanizsa and Trikala due to political reluctance and a lack of enabling regulation. Seraing, though, had similar currencies within the Liège region that could be replicated so found it more feasible, although the city was not seeing a high value of the token at that time.
- The PPCP form of governance was considered of low interest in all cities. This was actually one of the most difficult pillars to be understood: the central role that shared governance played in the Vilawatt ecosystem. Also, it was particularly difficult to implement in some cities that had restrictions on public and private agents being engaged under the same legal structure (Trikala and Nagykanizsa). The introduction of the Energy Communities directive was anticipated to be helpful to address a joint common governance in all countries.

As explained above, during the Understand phase, Viladecans mobilised all Vilawatt local delivery members to present the project to their peers, giving interviews and also participating in network meetings (online during this period). They made available all technical details and documentation produced during the implementation. See results as placed on a Miro board.



Map of the lead partner's studies and diagnosis that Viladecans used to explore and shape solutions for the five pillars

At the same time, the lead partner city opened an internal debate at the highest political level to decide how to progress the Vilawatt project into a more up-to-date version, aligned with, and taking advantage of the possibilities offered by the newly approved EU regulations on Energy Communities. Vilawatt became and intends to be in the future, the main driver to foster ecological transition and to reach climate neutrality by 2030 in Viladecans.

As stated in the Springboard Plan of Viladecans: "The Springboard Plan will help adapt and update the Vilawatt project to the new context and possibilities. It will focus on defining a methodology ("guidelines") to develop Energy Communities in Viladecans (...) This was not possible when the Vilawatt-UIA project was approved and executed, as the legislation at the time did not allow it."

 **How has Vilawatt influenced Viladecans Climate Strategy?**

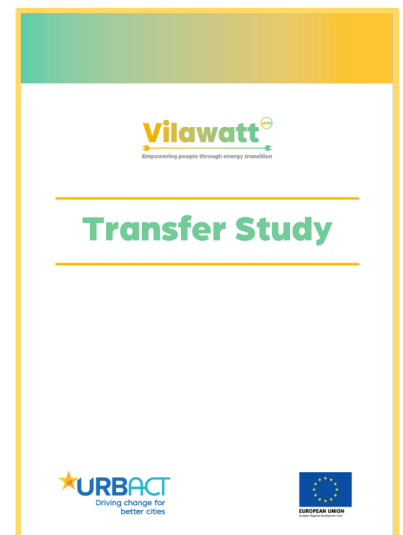


At the end of the Understand period (September 2021), the [Vilawatt Transferability Study](#) led by the team of Vilawatt experts, collected all the above analysis and assessment results. The study presents the EU policy context for Vilawatt thematic areas; a description of the Vilawatt Innovative Practice; the profile and background of the lead partner city as well as the main challenges during implementation; it introduces transfer partners, their priorities and the assets and barriers influencing transfer potential; finally it proposes a transfer methodology and a roadmap for project development and related outputs.

ADAPT

The adaptation phase was developed over a period of nine months and, like the previous phase, it had all network activities and most of the local meetings developed online.

In this time all the partners, with their group of local stakeholders, went through each pillar to explore relevance and suitability, while considering their respective city context and priorities. They engaged in local discussions to define transfer objectives and main areas of work and looked into how Vilawatt could create value in their cities.



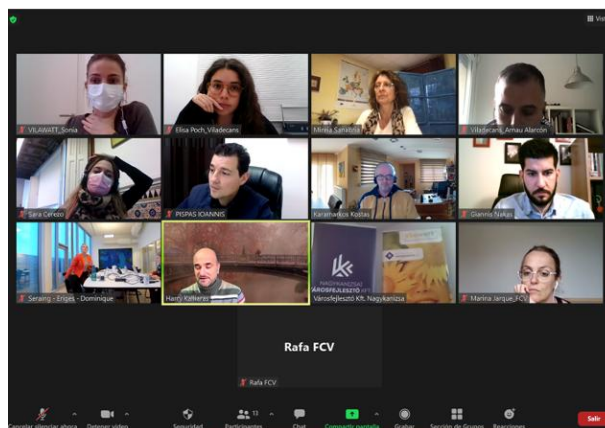
Transnational Network Meetings and Capacity Building

The transnational meetings delivered a series of online Deep Dives of transfer cities, similar to the one presenting Viladecans' project at the beginning. These allowed partners to understand others' contexts and priorities.

Participants at the transnational events included members of the respective groups of

stakeholders who could exchange information and ideas on technical, legal and project development aspects with peers of the other partner cities.

To contribute to presenting the city's profile and context, each Partner developed their Information Pack. These documents (Seraing, Nagykanizsa, Trikala) provided an overview to virtual visitors before attending the transnational events online. They have been used subsequently for communication and dissemination purposes by the Vilawatt UTM project.



During the adaptation phase, five online thematic sessions (Vilawatt Learning Webinars) addressed specific Vilawatt topics. Themes were identified by partners during the Understand phase as areas where they required further knowledge to support local decision making and planning:

1. **Retrofitting.** Solutions to facilitate affordable interventions in buildings. The role of the private sector and how municipal governments are best positioned to promote and provide technical advice and economic support for both companies and citizens. Specific topics included one-stop-shop examples and financial solutions available through local administrative bodies.
2. **Energy Communities.** Legal entities and opportunities to recreate Vilawatt governance. The example of REScoop, the European Federation of Citizen Energy Cooperatives illustrated the most usual type of legal structure for EC in Europe today.
3. **Energy Pooling.** Solutions to optimise the energy budget for individuals and professionals: the non-profit Wikipower (BE) and the example of Energy Communities being piloted in Hungary showed solutions adapted to different EU contexts.
4. **Citizens' engagement in energy transition projects.** Viladecans strategy developed to involve groups of citizens in the city-wide Vilawatt project.
5. **Incentives to efficiency measures.** Local currency, digital vouchers or other smart solutions to help encourage a change in energy use, including: targeted support to companies, energy audits and certifications, energy efficiency awards, tax reductions.

At this point of the project, internal discussions enabled partners to align their visions and project expectations from a diversity of public and private stakeholders in each city. The results of this critical phase can be seen in the summary of the four partners' projects which is presented in the following chapter. They established their respective cities' value propositions, key objectives and main project areas to be developed.

Enxaneta School –the school where the first Energy Community is being built– to introduce and to start planning the Vilawatt 2.0.

Through the UTM, Viladecans decided that Vilawatt would become an instrument to further evolve the City Energy Transition Strategy to become Climate Neutral City by 2030 – Energy Communities emerged as the key component to achieve local targets and continue with the energy democratisation process in Viladecans. Thus, the city wanted to figure out how to embed this new energy management structure within the five pillars of the project.



How has URBACT helped create your Vilawatt Springboard Plan?



PREPARE FOR RE-USE

The final five-month phase of Vilawatt UTM was dedicated to producing a detailed and concrete plan of action to implement the adapted Vilawatt project within each of the respective cities. The focus of attention shifted from the original UIA project to each city's own proposals and partners developed their roadmaps that identified: concrete actions; project leaders; resources; calendar; funding sources and a monitoring and evaluation framework with indicators.

While the Investment Plan guidance and template indicated the content to be included, the use of selected tools facilitated planning the operational aspects. Below are the main ones used:

Action Cards for action planning

Taken from the URBACT toolbox, the Action Cards were slightly adapted to the Vilawatt UTM. All partners, including Viladecans, used them to develop their main project actions. Action Cards facilitated mapping key elements to be considered for a detailed operational plan. See an example from the lead partner below:

Objective 1 – Prepare and deploy the first EC in Viladecans, around Enxaneta School (2022-2023)

Action Num.	2	Action Name	Technical adaptation of the Enxaneta schools PV installation to turn it into a shared self-consumption installation		
Lead actor	Key partners	Outcomes	Cost of delivery	Resources available	Timescale
Viladecans City Council	Electricity installation company (external) Electricity distribution company (external) Municipal engineer (internal)	PV installation of the school operating as a shared self-consumption installation	Approx.15.000 €	Municipal budget for the maintenance of municipal facilities	January 2022 – March 2023
Context. Links to the strategy	To create the first energy community, an existing installation from 2013 will be used, which was legalised as an individual self-consumption installation. In order to create the energy community, it is necessary to transform this facility into collective self-consumption. This action consists precisely in making this transformation.				
Main activities the action entails	<ul style="list-style-type: none"> - Hiring a specialised company to modify the connection point of the installation, and to install a generation metre (requirement to legalise the installation as shared self-consumption) - Legalisation of the photovoltaic installation as a shared self-consumption installation 				
Milestones. Main achievements that show action progress	<ul style="list-style-type: none"> - Write the specifications for the contracting of the specialised company - Awarding and contracting of the winning company - Modification of the connection point - Installation of the new photovoltaic generation metre - Legalisation procedures for the installation - Launching of the installation -Establishment of the distribution coefficients of the energy generated by the installation 				
Expected results					
Social	Environmental		Economic		
The city's first self-consumption photovoltaic installation, with all the social implications that this entails	The same results as action 1. This action is a fundamental part of the creation of the energy community.		The same results as action 1. This action is a fundamental part of the creation of the energy community.		

Risks	<ul style="list-style-type: none"> -Delays of the distribution company in responding to the requirements -Until action 1 is completed, the legalisation of the installation cannot begin, so any contingency in action 1 is a problem for action 2 	Contingency actions	
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Budget definition and sourcing

Central to the Investment Plans was the definition of project costs. Partners clustered the budget lines, differentiated between operational and investment expenditures, and aligned them within a realistic timeframe. They also stated the available and the expected sources of funding to be used.

As a result of the budget planning, transfer cities' adapted projects revealed a higher share of operational costs with respect to investments. Unlike the original UIA-funded Vilawatt in Viladecans, where a significant amount of resource was allocated to the retrofit of three demonstration buildings, the budget structure of the transfer cities' proposed solutions makes greater use of national and regional funds. These funds support citizens' and companies' renovation projects, complementing these with advisory services and support on energy efficiency measures. Still, Seraing secured EUR 800.000 of regional funds to deliver a buildings refurbishment project; and, in Trikala, a total of EUR 160.000 will be used to fit-out an energy office and to establish an energy innovation hub.

With regards to the existing vs. the prospective resources, clearly Seraing did very well in securing funding from the local and regional levels of governments during the project development period. This is the main reason they did not point to calls from EU programmes in the immediate future. Trikala has mapped a number of regional and national sources within the short-term (2023-2024): Recovery facility; Horizon 2020; and national programmes. Nagykanizsa presents an extended list of funding options and aims at a mix of Municipal and ERDF funds, however, the budget does not point to specific programmes or calls.

Below are the examples of Seraing and Nagykanizsa budget summary tables:

Municipality of Seraing – Energy Transition Investment Plan

	OPEX CAPEX	Year 1 2022	Year 2 2023	Year 3 2024	Year 4 2025	Year 5 2026	Total	Investment source(s)
Citizens Mobilisation								
Communications	OPEX	€ 9.600,00	€ 3.000,00	€ 3.000,00	€ 3.000,00		€ 18.600,00	2022 communication budget includes the external expertise of CORENOVE 2022/2025 Walloon Region funding (PLRE)
Retrofitting								
Personalised Support - URBACT	OPEX	€ 36.500,00					€ 36.500,00	External expertise for the first year URBACT
Personalised Support - after-URBACT	OPEX	€ 222.196,00	€ 222.196,00	€ 222.196,00			€ 666.588,00	Walloon Region funding (PLRE)
Energy Consultant	OPEX	€ 50.000,00	€ 75.000,00	€ 75.000,00			€ 200.000,00	PIV funding (Walloon Region)
Self-renovation workshops	OPEX	€ 30.000,00	€ 15.000,00	€ 15.000,00			€ 60.000,00	Walloon Region funding (Pollec)
Pre-finance 50 Energy Audits	OPEX	€ 20.000,00	€ 20.000,00	€ 20.000,00			€ 60.000,00	Walloon Region funding (Pollec)
New Refurbishment Project	CAPEX	€ 100.000,00	€ 350.000,00	€ 350.000,00			€ 800.000,00	PIV funding (Walloon Region)
Group Purchase								
Energy Pooling campaign	OPEX	€ 6.000,00	€ 6.000,00	€ 6.000,00	€ 6.000,00	€ 6.000,00	€ 24.000,00	City of Seraing
Local Company Mobilisation								
Contact Local Companies	OPEX	€ 3.000,00	PIV	PIV			€ 3.000,00	External expertise for the first year URBACT. 2022/2024 Energy consultant PIV
Communication Local Companies	OPEX	€ 1.000,00	PIV	PIV			€ 1.000,00	External expertise for the first year URBACT. 2022/2024 Energy consultant PIV
Energy Coaching - Vulnerable Citizens								
Free Energy Workshops	OPEX	€ 800,00	€ 800,00	€ 800,00	€ 800,00	€ 800,00	€ 3.200,00	City of Seraing
Training for Social Workers	OPEX	€ 2.000,00					€ 2.000,00	External expertise
Support Local Economy								
Voucher Development	OPEX	€ 20.000,00	€ 20.000,00				€ 40.000,00	City of Seraing
Local Currency	OPEX			€ 30.000,00	€ 30.000,00	€ 30.000,00	€ 90.000,00	City of Seraing
IN-YEAR TOTAL		€ 501.096,00	€ 711.996,00	€ 721.996,00	€ 39.800,00	€ 36.800,00	2.011.688,00 €	

Nagykanizsa Investment Plan

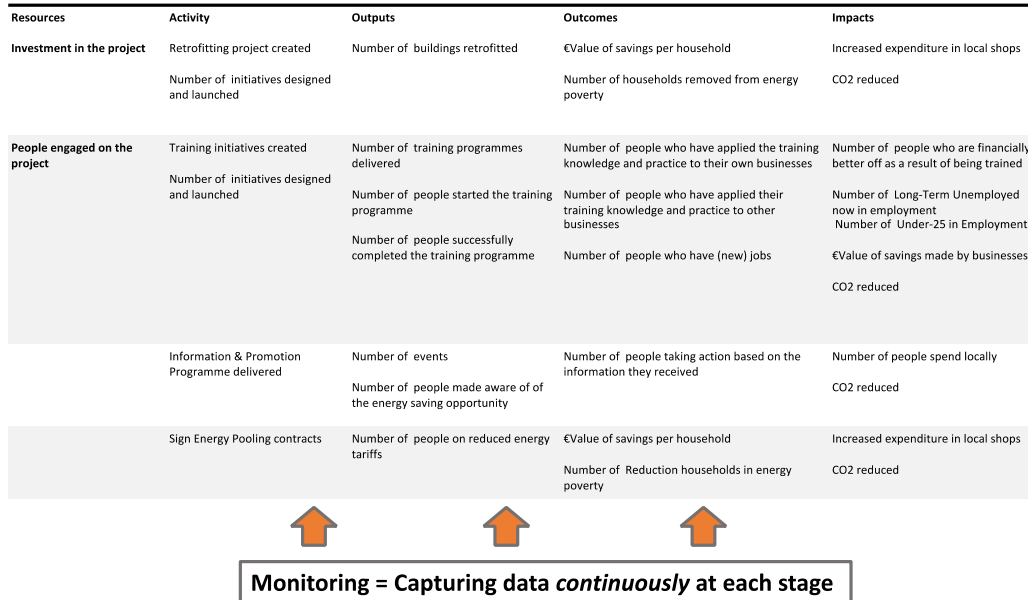
Action	Type of expenditure	Estimated cost (€)	Investment source(s)	Years
1.1. Creation of the local energy efficiency cooperation structure (Local Stakeholder Platform)	Capital Operational	0 8.700	Municipality Platform members National and EU Grants	2021-30
1.1.1. – 3. Venue, HR (City + Platform members)	Capital Operational	0 8.700	Municipality Platform members National and EU Grants	2021-30
1.2. Creation of the local energy efficiency implementation structure (Energy Efficiency Hub)	Capital Operational	0 88.600	Municipality Platform members National and EU Grants	2022-30
1.2.1. – 2. Venue + HR (also for 2.1.1. – 12.)	Capital Operational	0 23.600	Municipality Platform members National and EU Grants	2022-30
1.2.3. – 4. External services related to project creation and preparation	Capital Operational	0 65.000	Municipality Platform members National and EU Grants	2022-30
1.3. Preparatory process to build up a local energy efficiency cooperation (EC or similar form of energy cooperation)	Capital Operational	10.000 40.000	Municipality Platform members National and EU Grants	2022-30
1.3.1.-4. Assessments (legal + possible sites and infrastructure, IT)	Capital Operational	10.000 40.000	Municipality Platform members National and EU Grants	2022-30



Monitoring and evaluation framework, outputs and indicators

To facilitate developing the Monitoring and Evaluation framework, a dedicated seminar led by Donal O’Herlihy, introduced different types of evaluation approaches as well as the logic model and the theory of change. The template below was provided for partners to use in defining their evaluation tools and indicators.

Logic Model + Monitoring Vilawatt



Final Peer Review of Plans

Towards month 17 and coinciding with the in-person visit to Viladecans (July 2022), all four cities prepared for the second Vilawatt peer review exercise of their Investment and Springboard Plans.

In pairs (Nagykanizsa & Viladecans – Trikala & Seraing) and with the guidance of the URBACT experts and the 4 Cs evaluation tool provided (see below), they shared their feedback, made suggestions for improvement and discussed further developments to finalise the documents.

COHERENCE	COMPLETENESS
<i>Checking the plan stacks up</i>	<i>Checking that all the parts have been considered</i>
CONCERNS	CONTINUATION
<i>Listing the things that still need some attention</i>	<i>Finding ways to address the Concerns</i>

The results of this peer review assessment are detailed in the corresponding Meeting Report. As a general conclusion, it was clear that some partners, having experienced delays and difficulties, required more time to think through their proposed actions. They all benefited from their peers' comments.

Summary table of Vilawatt UTM journey and tools

Below is a condensed presentation of the transfer journey steps for each of the transfer stages and at the transnational network level; at the city level with the local groups; and the tools that have been used in each period.

	At Transnational network level	At Local Level	Tools
UNDERSTAND	<ul style="list-style-type: none"> Kick Off Meeting (May 2021) TM2 Seraing Learning webinars 1,2 and 3 	<ul style="list-style-type: none"> Create URBACT Local Groups Understand Vilawatt UIA Develop City Information Packages 	<ul style="list-style-type: none"> IP Template and guidance ULG Ecosystem Map Vilawatt Scorecard 5 pillars priorities tool
ADAPT	<ul style="list-style-type: none"> TM3 Nagykanizsa Learning webinars 4 and 5 Peer Review 1 TM4 Trikala Peer Review 2 with UTM's 	<ul style="list-style-type: none"> Discuss pillars' priorities for the city Define Vilawatt objectives and value to the city 	<ul style="list-style-type: none"> Transferability Study City Information Pack contents and guidance Canvas for objectives and value definition Peer Reviews guidance and questions
PREPARE FOR REUSE	<ul style="list-style-type: none"> Deep Dive Viladecans Peer Review 3 Final event 	<ul style="list-style-type: none"> Plan actions with responsible teams and timings Plan budget Set Monitoring & Evaluation Framework 	<ul style="list-style-type: none"> Action Cards Budget template M&E table



***How has the URBACT method facilitated the transfer of Vilawatt to Trikala?
And to Seraing?***



The Investment and the Springboard Plans Key Project Ideas

What follows is a summary of the main project objectives and areas of project development included in the respective Investment and Springboard Plans. Full versions of the 4 plans can be found in a dedicated space and in annex to this report: [Seraing Investment Plan](#); [Nagykanizsa Investment Plan](#); [Trikala Investment Plan](#); [Viladecans Springboard Plan](#)

Viladecans

The Public-Private Citizens consortium (PPCP) is the central pillar of the Vilawatt concept. It enables the engagement of all key stakeholders within the project. It provides a medium through which key stakeholders, and citizens in particular, can be engaged in the oversight and governance of Vilawatt's activities. These include energy bulk purchase, building retrofitting and upskilling as well as the introduction and management of the virtual currency.

Through the collaborative capacity building activity of the partners, it became clear that while the PPCP model worked well in Viladecans, aspects of its constitution and design would not be possible for transfer partners, principally due to legal barriers that prevented public bodies engaging in an entity of that kind in their respective member states. Thus, a different mechanism was needed to gain the PPCP's functionality. Partners' discussions around Energy Communities (ECs) led Viladecans to investigate whether Energy Communities would be an effective tool to achieve its aims for expanding Vilawatt in the future. This assessment indicated that Energy Communities could make a powerful contribution to Vilawatt's future operation.

For the next phase of Vilawatt's implementation in Viladecans, it will use Energy Communities to strengthen and grow the project. The Springboard Plan focuses on defining a methodology ("guidelines") to develop Energy Communities as a central theme:

- Energy Communities represent a new opportunity to strengthen further the project that was not possible when the Vilawatt-UJA project was approved and executed, as two principal EU Directives, that define Energy Communities within an EU context, had not been finalised by that time
- Vilawatt, as a living project and Viladecans' main city driver to foster an ecological transition and to reach climate neutrality by 2030, needs to keep adapting to new contexts and legislation, while retaining the core of Vilawatt's DNA. That is
 - preserving the essence of Vilawatt while incorporating this new element (ECs), that will be key in the city's ecological transition process and
 - analysing how it relates/interacts with the Vilawatt pillars (governance, energy culture, energy production, currency, etc.).
- Linking Viladecans' Energy Communities to the Vilawatt project will give added-value and enrich its ECs while also providing appropriate city-wide Governance through being overseen by the PPCP.

- Energy Communities are an opportunity to improve Vilawatt’s sustainability in the future (and strengthen its economic autonomy). This will, in part, be achieved through having all EC members as members of the PPCP which will increase its social reach.
- According to European Directives EU2018/2001 and EU 2019/944, the Energy Communities must be a legal entity. Taking advantage of the already created legal entity of the Vilawatt consortium places Viladecans at an advantage when implementing the model of energy communities in the city.

Critically, the inclusion of Energy Communities allows Viladecans to scale Vilawatt more rapidly while at the same time providing engagement opportunities that are bespoke to the individual communities and neighbourhoods who will benefit from new supply of renewable energy.

The focus of Vilawatt 2.0 for Viladecans will be to build Energy Communities and incorporate them within the established Vilawatt ecosystem.

	TOTAL	COMMENTS
Objective 1 – Prepare and deploy the first EC in Viladecans, around Enxaneta School (2022–2023)		
Research process of the first 50 families participating in the Enxaneta School energy community	€ 8.500	January 2022–November 2022
Technical adaptation of the Enxaneta school's PV installation to turn it into a shared self-consumption installation	€ 15.000	Already procured
Objective 2 - Incorporate the ECs within the Vilawatt ecosystem		
Transfer the management of the municipal photovoltaic installations to the Vilawatt consortium	€	During 2023
Analysis of the fiscal impact associated with the transfer of energy to private citizens	€ 3.000 approx.	
Formalising the Vilawatt consortium as an Energy Community and reinforcing it (Governance pillar)	€ 0	

Studying the link (and feasibility) with the Vilawatt currency (Currency pillar).	€ 45,000	15,000€ (viability study) Communication campaign 30,000€ (altogether actions 4, 5, 6)
Promoting ECs as a main driver for citizens' mobilisation around energy transition and continuing to promote the energy culture in the city (Energy Culture pillar)		30.000 € for the communication campaign shared with actions 4, 5 and 6 are calculated in Action 4 above (2023–2024)
Promotion of the implementation of photovoltaic installations in the city both in public and private sectors (Energy production and supply pillar)	€ 2,000,000	2022– 1.200.000 € (50% municipal budget – 50% ERDF funds) 2023 – 800.000 € (municipal budget + pending European funding) 30.000 € for the communication campaign shared with actions 4, 5 and 6 are calculated in Action 4 above (2023–2024)
Incorporation of the EC beneficiary families into the Vilawatt consortium (governance pillar)	€ 0	
IN-YEAR TOTAL	€ 2,076,500	

Trikala

Engagement in the Vilawatt UTM has had a strong “catalysing” effect for Trikala. It helped to raise the profile of energy issues politically within the city, stimulated the development of the city’s Energy Transition Strategy and significantly contributed to the successful application to participate in the EU Mission for 100 climate-neutral and smart cities by 2030.

Through its Investment Plan, the value of Vilawatt to Trikala is that it will lead to the creation of a new Energy Innovation Hub which will act as a focal point both for supporting activities that will reduce GHG emissions and will create a high profile asset that the city can use to retain enterprising young people in the city. The Municipality hopes that receiving funding and implementing high-tech projects will create jobs, especially for young people, and fight one of the municipality’s biggest challenges: brain drain. In Greece, about 420,000 people, mostly young graduates, have emigrated since the financial crisis in 2010. The youth unemployment rate, which includes students, reached 50% in 2013 and is still hovering around 44%, the highest in the EU.

Trikala has a well established reputation as being a leading Greek Smart City. The introduction of a green energy transition vector to the innovative profile of Trikala is one

more step to keep the city in line with the demands of climate policy and carbon emissions reduction, while actively improving the life of citizens through reduced energy costs and citizen collaboration for a better, cleaner energy future. The added value of adapting Vilawatt project actions/pillars is considered to be of critical importance, since it will contribute to energy transition within the Municipality.

Trikala’s Investment Plan addresses four project pillars:

- Consulting Services
- Building Retrofitting
- Project Governance
- Green Energy Pooling

The Trikala Investment Plan also supports a range of complementary initiatives, using the Vilawatt five-pillar model to inform its design. These initiatives target businesses, citizens and municipal organisations.

Trikala’s work-plan is organised around seven Action areas:

- Establish an Energy Innovation Hub (2023–24)
- Provide consulting services for energy supply PPPs (2023–30)
- Establish an Energy Poverty Office (2023–24)
- Awareness raising for citizens and businesses (2023–30)
- Adoption of PassivHaus standard in public buildings to achieve NZEB/ZEB targets (2023–30)
- Establish an informal to coordinate and manage energy related activities (2023–27)
- Establish Energy Communities (2023–24).

Investment will be sought to support each Action area and the proposals are summarised in the table below:

Action	Estimated cost (€)	Possible Investment source(s)
1. Establishment of the Energy Innovation Hub	400.000	Thessaly ROP 2021–2027 or other EU Funds
2. Provision of consulting services regarding participation in energy supply PPPs	1.000.000	Greek Sectoral OP 2021–2027 or Horizon Europe
3. Establishment of the energy poverty office	180.000	Thessaly ROP 2021–2027 or other EU Funds

4. Awareness activities for companies/citizens regarding financing tools for the energy upgrade of their buildings	€10,000 (per year)	Thessaly ROP 2021–2027 or other EU Funds
5. Adoption of the PH standard in public buildings in order to achieve the NZEB/ZEB targets	€ 52 million	Various Funds
6. Establishment of an informal supporting structure (PPCP)	0	-
7. Establishment of Energy Communities (EC)	50.000 per EC	'Filodemos' programme or other National Funds



How has Vilawatt influenced Trikala's Climate strategy?



Seraing

For Seraing, Vilawatt helped shape the direction of its long-term urban regeneration activities which targeted districts and communities that have been strongly affected (both socially and economically) by post-industrialisation.

The city has developed a comprehensive strategic Masterplan setting out how it will be transformed over a 20 year period. This supports a range of project activities that, to date, have mainly focused on urban regeneration. The City of Seraing and its public authority ERIGES are constantly looking for additional projects to support their energy transition efforts and the activities of the private sector. The VILAWATT project fulfils this mission and is a perfect fit with a broad set of activities that will reinforce actions already started in Seraing.

The Vilawatt project offers real added value for the city of Seraing as it mobilises different

audiences in the process and raises awareness not only on the issue of energy saving – which is especially necessary in the context of the energy crisis – but also of the support of local economy, which is particularly important in this period of post-pandemic growth.

The Vilawatt project in Seraing will be named as the Local Energy Platform. The Vilawatt methodology introduced relevant pathways for carbon-reduction while also addressing underlying socio-economic challenges. A building retro-fit programme is central to Seraing’s Investment Plan. Those engaging with the Platform will:

- benefit from a complete energy and financial diagnosis of their house to help them to find the best solutions for their particular circumstances so that they can finance and implement their energy retrofitting project
- be encouraged to work with a network of local entrepreneurs and energy auditors, thus leveraging value into the local economy and developing new local skills-sets
- be encouraged to participate on grouped purchases not only for energy but also for insulation materials and photovoltaic panels
- be encouraged to support the local economy by using local vouchers (eventually local currency) in local shops.

To go one step further in the support for the local economy and to link reductions in energy use with energy savings, the idea of creating an “energy voucher” is under discussion. The idea would be to distribute energy vouchers as a reward for energy savings made through participation in group purchases or in energy workshops – one voucher could also be offered to people applying to the Energy Platform.

Thus, Vilawatt has introduced a strong energy focus that incentivises citizens’ to reduce the amount of energy they consume while simultaneously contributing to the implementation framework of Seraing’s Masterplan. It will leverage the expertise of Wikipower for a new energy group purchase scheme and, separately, both Seraing’s and Liège’s experience of local currencies will introduce and link the currency to the reductions in energy use.

For implementation, Seraing will adopt four of the five Vilawatt pillars:

- Building Retrofitting
- Learning Communities
- Energy Pooling
- Local Currency

Its Action Plan is informed by the four pillars and Seraing has been particularly successful in attracting €2 million funding to date to support delivery. Proposed actions include:

- Citizens’ Mobilisation – comprising mainly communications’ activities
- Buildings Retrofitting – comprising a mix of funds to assist with the building works coupled with audit advice and workshops for citizens to ensure the retrofitting projects are realistic and successful

- Group Purchase – led by WikiPower with the project supporting annual promotional campaigns
- Local Company Mobilisation – a company engagement initiative
- Energy Coaching for Vulnerable Citizens – through training Social Workers who can advise individual citizens and families
- Supporting Local Economy – developing vouchers and a local currency.

A top level summary of the anticipated project expenditure is presented in the table below:

ACTION AREA	Total
Citizens Mobilisation	€ 18.6k
Buildings' Retrofitting	€1.76mn
Group Purchase	€ 24k
Local Company Mobilisation	€4k
Energy Coaching – Vulnerable Citizens	€5.2k
Support Local Economy	€130k
TOTAL	€2.10mn

 *How has Vilawatt influenced Seraing's Climate strategy?*



Nagykanizsa

Nagykanizsa aims to become the logistics and circular economy centre for the Zala region. In order to achieve this vision, the city has planned and implemented various energy efficiency and renewable energy projects over the past decade, ranging from awareness raising to building retrofitting.

However, recent developments and transformation of the energy and transportation markets require further and more efficient measures and initiatives to be developed. These will enable all local stakeholder groups (local population, SMEs, companies and the city), to address new energy and social challenges. Vilawatt provides the framework within which Nagykanizsa's response can be framed.

The Nagykanizsa Investment Plan comprises three principal interrelated, activity areas:

1. Establish and maintain a new local energy cooperation platform and enabling local institution structure to enhance renewable energy and heat developments
2. Create a Stakeholder Platform and Energy Efficiency Hub to develop new common projects and activities that support core Vilawatt priorities – energy efficiency and cost reduction, stakeholder engagement, local energy and heat cooperation
3. Design and implement Awareness raising campaigns related to Vilawatt priorities and provide energy efficiency development consultancy and training to the local population.

For Nagykanizsa, Vilawatt has provided coherence to a range of existing and planned climate mitigation activities such as the development and mitigation targets of its SECAP. The challenge for the city has been to identify how these somewhat disparate activities can be taken forward coherently. To date, many of Nagykanizsa's environmental and circular economy activities have been delivered by the City Development Agency on behalf of the Mayor's office. There has been growing awareness of the need to engage other stakeholders – one of Vilawatt's most valuable contributions has been the tools, techniques and approaches for engaging key stakeholder groups in the project development process as this will enable the city to continue to actively engage key players in the future.

In addition, the experience of Viladecans has been invaluable in providing insights into how the PPCP can operate effectively and how a derivative (likely using Energy Communities) might be introduced in Nagykanizsa.



How has Vilawatt influenced Nagykanizsa Climate strategy?



Overall summary

The table below summarises the key areas of value each city has derived from its Vilawatt UTM participation. It also summarises its proposed areas for action and associated (top line) budgets.

City Value Proposition	Key Actions	Financial Commitment [€]
Trikala <ul style="list-style-type: none"> Retain young people Reduce CO2 emissions 	Create Energy Innovation Hub Provide Energy Consulting Services Establish Energy Poverty Office Awareness Raising for companies and citizens Adopt Passiv Haus standard for public buildings Establish informal governance structure Establish Energy Communities	€400k €1Mn €180k €10k p.a. €52Mn – €50k per EC
Seraing <ul style="list-style-type: none"> A project to embed CO2 reduction within Seraing's activities Mobilise a broad range of stakeholders in energy reduction activities Engage citizens in an active and meaningful way and address fuel poverty 	Engage and mobilise citizens Buildings retrofit support programme Energy Group Purchase scheme Company engagement and mobilisation Energy Coaching (vulnerable citizens) Supporting the local economy	[For period 2022–26] €10k €1.8Mn €10k €3k €3k €15k
Nagykanizsa <ul style="list-style-type: none"> Coherence for previously disparate Climate mitigation activities Toolkits, roadmaps and methods for implementing collaborative Climate projects Formation and engagement of the ULG 	Establish & maintain local stakeholder platform New project design New project implementation Create and fund local energy community } Citizen engagement }	€51k €383k €540k €237k
Viladecans <ul style="list-style-type: none"> Energy Communities are a core focus – discussion with partners identified their value EC offer a new means for engaging communities EC will allow more rapid scaling of community RE generation EC's support greater localisation of renewable energy generation 	1 Establish first EC (Enxanteta School) 2 Incorporate ECs within Vilawatt ecosystem – this is a significant programme that will see roll out of management of photovoltaic installations to the Vilawatt consortium; analysis of citizens' fiscal impact; rationalising the Vilawatt Governance pillar; integrating the currency within EC operation; promotion of Energy Communities to citizens; creating public and private PV installations; bringing member families of ECs as consortium members.	€23.5k €2mn – to create the PV infrastructure €51k – for other activities

Vilawatt Partners talk about their main difficulties in transferring the Vilawatt to their cities

What did you find more difficult?

What have been key learning aspects?



Interview with Alicia Valle, City Council Manager in Viladecans

Alicia Valle was member of the leading team of the Vilawatt UIA project in the city. She is explaining in this interview what she learnt and what she recommends other cities willing to transfer Vilawatt to their cities.

.....

? Besides the ecological effect, what has been the impact of the Vilawatt UIA in the City management and administration?

Being allowed to participate in a project with such innovative and new system has been a complete challenge for Viladecans and the City Council staff. The impact can be measured in so many aspects but regarding the City management and administration, the effect has been significant. Internally, we had to work in a more transversal way and involving different stakeholders from the city council (different departments).

Another key aspect to be mentioned is the innovation factor in the creation of the project, which has been the necessary lever to accelerate an internal innovation project, the City Council Innovation Model, MIA (as per the name in Spanish).

? Do you expect Vilawatt 2.0 (the Springboard Plan) to have a similar effect?

Vilawatt 2.0 it is not only a strategy to improve the existing Vilawatt; it is also a lever and a new approach which incorporates new objectives and elements. We have been developing a roadmap, the Springboard Plan, that will guide us in the next steps of the project.

We expect an impact on the citizens – as in the initial Vilawatt, and that citizens benefit from the new actions and measures adopted through Vilawatt 2.0. As well as raise awareness among citizens and prosper in climate neutrality.

The necessary work to build energy communities implies a new methodology in the relationship of the administration with the citizenry of equals. We are using it as a pilot project to work on missions, inspired by Mariana Mazzucato.

? What have been main difficulties for Viladecans to implement Vilawatt?

Viladecans has faced some difficulties during the process to develop and implement Vilawatt. Legal barriers became the main ones (process of creating a PPCP, bureaucratic aspects...). The timing for implementation was also very challenging. Also, one of the pillars of the project is awareness and citizen participation and that requires time to get the involvement and approval of the residents of the buildings to be renovated, for example.

In general terms, facing a new model and implementing a very innovative intervention in the city.

? Are the municipal services (Dpt. and staff) better positioned today in terms of knowledge and skills than they were in 2016? What are the improved areas?

One of the main improvement areas has been the knowledge acquired by the people involved in the project and to all the different departments and staff of the City Council. The information, contents, steps and improvements escalated to the rest of the team.

Not only in relation to the project's own theme but also to the established methods and way of working. There have been substantial changes and ways of working that have been acquired during the project and after it.

A European project of such magnitude brings with it many advantages and many lessons learned.



Without the significant UIA economic support (EUR5M), what would you advice transfer cities to look at? Other EU sources of funding, private sources, other types of support for implementation...

Financial support is, without a doubt, a fundamental base from which to start to implement a project of this size. But key project activities are also important to undertake Vilawatt which are not directly related to high levels of investment: partner's research and engagement; public-private collaboration ideation; consortium with higher levels of government (metropolitan entities in the case of Viladecans); partner with other cities with the same willing.



What is your recommendation to another mid-sized City embarking in a strategy such as the Energy Transition or the Agenda 2030?

Given the situation experienced in recent years, a learning that we carry on our backs is the ability to be resilient. And not only that, it is important to respond quickly and up to date to the needs around us.

The medium-sized cities play an important role within the system and are the promoters of local policies, pilot tests and innovative projects that contribute to global development.

Citizen participation and the associative fabric are key to going in the same direction, as well as raising awareness among citizens and equity. Transversal axes that, whatever the strategy in which a city embarks, are essential to meet the established objectives.

An important aspect to take into account is the linking of various agents within the city: public administration, private company, young people, associations...

Internally, there must be a strong and determined political leadership, accompanied by an internal structure dedicated to the Project and capable of identifying synergies (internal and external).

Vilawatt cities political authorities speak about relevance of the adapted project to their cities



Jácint Horváth, Member of the City Council, Nagykanizsa

Benoit Giot, Climate Plan Manager for the city of Seraing

Vasilena Mitsiadi, City Councilor of Trikala

IV. TRANSFER OBSERVATIONS AND CONCLUSIONS

The highlights and conclusions presented in this section include lessons learnt from the Vilawatt UTM transfer experience. Observations are presented in two blocks:

- A first block addresses findings of transferring each of the five Vilawatt UIA pillars, the challenges posed to partners and the results achieved.
- A second block includes observations about the process of transferring and planning the UIA and the expected conditions in place for a city willing to reuse Vilawatt UIA.

Vilawatt transfer highlights, achievements and challenges

Vilawatt UIA project, as implemented in Viladecans, is a compendium of integrated policies and solutions with a single overall goal: Energy Transition by means of energy democratisation in the city.

The transformative scope of the Vilawatt UIA project led to it becoming the actual Ecological Transition strategy for the city and the main future driver for other policies towards Climate Neutrality.

A number of factors influenced the process of adapting the original Vilawatt to the other 3 cities. As anticipated, the final solutions adopted by transfer partners resulted in different versions with respect to the original Vilawatt UIA project implemented in Viladecans.

The summary below introduces the relevance of each Vilawatt pillar for the overall project; the challenges faced by partners when transferring that pillar; and the actual achievements and results. It also includes a reference to the innovation elements of Vilawatt.

Mobilisation and engagement for a better energy culture: Local Energy Communities

From the five pillars that comprise Vilawatt, energy culture is one of the most important components that enables the rest of the project to be successful. Building a strong energy culture among the community of citizens, education agents, companies and other local groups, while also creating a brand that is recognised by anyone in the city, was a key achievement for Viladecans and offered a significant advantage for future city energy projects.

The table below considers the Relevance, Transfer Challenges and Transfer result of this pillar.

Relevance	Transfer Challenges	Transfer Results
<p>GHG emissions come mainly from households, businesses and mobility. A significant impact will come from the sum of everyone's involvement.</p> <p>City campaigns coupled with personalised information generates understanding, awareness and motivation for a change of behaviour in energy usage.</p> <p>Engagement in the city-wide project generates confidence, commitment and a sense of ownership.</p>	<p>Awareness and real engagement of citizens takes time and effort.</p> <p>Energy related concepts are abstract and far from day-to-day lives of citizens. Building knowledge requires creativity and well-designed activities and campaigns: games, contests, shows, well-designed education materials..</p> <p>The above translates into intensive use of human resources, which needs to be sufficiently calibrated by transfer cities.</p>	<p>Investment Plans effectively foresee information campaigns addressed to different publics and have already been successful in attracting the attention of target groups.</p> <p>The campaigns tend to be linked to the services and activities designed within the Vilawatt Plan, not yet as a broad city initiative, and not with the same level of resulting co-responsibility as it was the case in Viladecans.</p> <p>Transfer partners have achieved a good level of knowledge improvement on energy transition matters in their respective cities.</p>

 **The Vilawatt Governance: Public Private Citizens Partnership consortium**

The Public Private Citizens Partnership (PPCP) under the legal form of the consortium was an innovative element at the time it was conceived in the city of Viladecans. It was a mechanism to formalise the citizens and companies involvement generated with the intensive information activities (see above). The PPCP was ahead of its time since it anticipated the type of governance that Energy Communities allow building today.

The table below considers the Relevance, Transfer Challenges and Transfer result of this pillar.

Relevance	Transfer challenges	Transfer Results
<p>The PPCP was a key building block for achieving energy democratisation because it consolidated the shared energy decision-making of its members.</p> <p>Being part of the consortium created a sense of project ownership and helped members keep abreast of key energy sector developments</p>	<p>Such partnership requires exploring legal solutions and overcoming rigid legal frameworks. Some regulations do not support joint public, private and citizen projects.</p> <p>Takes time, political commitment and municipal services "thinking out of the box".</p>	<p>All transfer partners have created informal structures, e.g. Platforms in the case of Seraing and Nagykanizsa, as a first step towards a more formal governance solution in the future.</p> <p>These Platforms managed to include municipal and non-municipal members, such as knowledge institutions, construction and energy companies, local agencies</p> <p>Citizens or community representatives have not yet been reached as project partners.</p>

Retrofitting

At the time Viladecans implemented the Vilawatt project, the economic support of the UIA initiative allowed the demo renovation of three buildings in the city to show benefits in terms of energy savings and emissions. However, significant and impactful interventions are only possible through commitment of a critical mass of building owners and the companies and the existing financial resources.

The table below considers the Relevance, Transfer Challenges and Transfer result of this pillar.

Relevance	Transfer challenges	Transfer Results
<p>Contributes to reducing GHG emissions in a sector that is responsible for a high percentage of them in cities</p> <p>Generates a return through energy savings that can be reinvested in further efficiency measures or in the revitalisation of local shops.</p> <p>Contributes to healthy homes and peoples' wellbeing.</p>	<p>Requires the involvement of a big number of homeowners and the agreement of dwellers.</p> <p>Requires strategies to reach out to neighbours through property agents and representatives.</p> <p>Costs of interventions are high, particularly for smaller cities.</p> <p>Cities need to develop investment strategies that depend on an external and usually complex mix of sources of funding.</p>	<p>Partners have approached the retrofitting in different ways:</p> <p>Focusing on public buildings for which they already had funding from higher levels of government (Trikala)</p> <p>Channelling regional funds through information and support offices to encourage and incentivise retrofitting among owners (Seraing)</p>

Energy pooling

At a time when Energy Communities were not yet formalised with EU energy legislation, Viladecans looked for a way to facilitate supply of green energy to a significant share of the population. It was not possible to include the public sector in this pool of recipients, but the consortium managed to aggregate the demand of the other members so as to get a better price in the wholesale energy market, while also ensuring that all electricity purchased was produced renewably.

The table below considers the Relevance, Transfer Challenges and Transfer result of this pillar.

Relevance	Transfer challenges	Transfer Results
<p>Expands green energy use in the city</p> <p>Allows lower better energy prices through bulk purchase</p>	<p>Energy market fluctuations and high prices that started before the war in Ukraine and deepened in the recent period.</p> <p>Vulnerability of smaller energy suppliers who cannot compete in the oligopolistic market.</p> <p>Regulation poses difficulties to include public buildings in the aggregate demand.</p>	<p>Project partners are looking at Energy Communities as the most feasible and similar solution to the energy pool.</p> <p>In Seraing Wikipower organises the energy pool. This is a non-profit entity in Belgium which, besides managing the purchase, it provides comprehensive information to the consumers.</p>

Local energy currency

The Vilawatt currency aimed at incentivising citizens to join the Energy Transition project and to change their habits in the use of energy. It took significant efforts in researching and finding the most suitable solutions –technical and legal– for the local currency to be operating. But once in place, it became a tool with a diversity of uses beyond energy savings’ capitalisation and incentive.

The table below considers the Relevance, Transfer Challenges and Transfer result of this pillar.

Relevance	Transfer challenges	Transfer Results
<p>The currency attracted interest of the neighbours and shop owners to the energy project and played a key role in creating the Vilawatt brand.</p> <p>Once circulating, the currency became a useful instrument for other economic and social support mechanisms: subsidies and vouchers were paid in Vilawatts that could also be spent in the local shops.</p>	<p>Regulations are different from country to country and local governments do not easily support such new and complex developments.</p> <p>In general, alternative currencies are not easily embraced. Although Vilawatt is a completely different case, some tokens are associated with the crypto currencies and to a lack of transparency and speculation.</p>	<p>This pillar did not receive enthusiastic support in the cities. Lack of existing regulation and lack of previous experience led to scepticism.</p> <p>Only Seraing has a close example of a local currency (Liège Val’hereux), which it is considering now to adopt, taking advantage of its existing deployment in the neighbouring city.</p> <p>Other incentives have been considered by all partners as an alternative, e.g. bonuses, but these are so far disconnected from the energy saving of the consumer.</p>

 **Keep innovating**

This priority, Keep Innovating, is not a pillar in itself. It is not an area of work that can be planned. Still, it is considered here as part of the contents because it is cross cutting to the rest and represents the internal coherence and strength of the Vilawatt project. Thus, it deserves some specific consideration.

Relevance	Transfer Challenges	Transfer Results
<p>Vilawatt integrates social and technical interventions coherently.</p> <p>It designed new approaches for citizen engagement on energy matters while enabling complex technical and administrative projects.</p> <p>It transformed processes and services from different municipal departments to contribute to the ultimate Energy Transition goal.</p>	<p>External factors change from one city to another, which inevitably affects the capacity to replicate the original innovative elements of Vilawatt: when one given pillar is not possible to adopt, the overall coherence of the Vilawatt ecosystem is affected.</p> <p>Change is uncomfortable, and the solutions found in Viladecans were far from easy and straightforward. In this regard innovation requires time and support.</p>	<p>Although Vilawatt could not be replicated in the same way for each transfer city, it had an acknowledged impact on local energy decision-making processes, generating new approaches, services, policies and strategies in transfer cities.</p> <p>The transfer influenced other strategic activities taking place in related work areas such as energy poverty (social justice) or skills development (just transition), thus opening new pathways to address local priorities.</p>

* * *

What are ideal conditions in place for a city willing to reuse Vilawatt

Below are a set of observations referring to the process of transferring and planning the UIA and what needs to happen in a city looking to reuse Vilawatt.

As with other UIA projects, Vilawatt is a complex and comprehensive project touching on a variety of interventions. Transferring from city to city requires certain conditions to be in place.

When transferring models that work in one city to others, some can be recreated or facilitated through implementing projects as originally designed while others need to be facilitated by the cities themselves. Regardless, the URBACT Transfer Mechanism method has the capacity to mobilise different services and stakeholders – it can accommodate a broad range of project transfer scenarios and is a very powerful method as a result.

 **Lead partner Guidance**

Viladecans commitment and willingness to share with partners was critical to the success of the UTM process. The city made available a broad range of key personnel who could provide practical guidance to the partners on how to implement the project successfully. Vilawatt is an integral and broad ranging part of Viladecans’ services delivery to its citizens

and businesses. Having access to specialists in individual departments added value to the overall project transfer process.

The need to build capacity in teams

The profile of local stakeholders, reflecting diversity of the project workstreams, is important. These stakeholders include not only city agents external to the municipality, but also those responsible for delivering internal services. Consequently, in-house technical and management capacities for such a complex project are required.

Capacity to mobilise key local partners for a share city project

The Vilawatt UIA was planned and delivered by a project partnership composed of public, private, knowledge and community organisations. This has been mirrored in the transfer cities.

According to project partners' responses to the Vilawatt UTM final evaluation survey, the URBACT Local Group, the group of stakeholders participating in the project, is one of the most useful tools that has facilitated the adoption of Vilawatt locally. The local groups of stakeholders integrate views but most importantly allow the participation in negotiations of those directly involved and with interest in the project. The local group looks for joint solutions that are interesting to each of them individually and relevant for the city as a whole.

The exchange and joint discussions are in favour of this shared responsibility amongst stakeholders. Through these meetings, visions are aligned and, as authorities take part in the process, the decisions taken are validated and incorporated within local policies. In all transfer partners, as well as for the lead partner, members of the local group will remain as delivery partners during the implementation phase, ensuring continuity and sustainability.

All this needs to be taken into consideration to ensure that the interest and motivation is preserved amongst all project partners while the overall project goal remains intact.

Clear understanding of the Innovative Practice

A first and sufficient assessment period needs to be dedicated to create a set of clear success criteria and communicate these accurately to local partners so that everyone has a consistent understanding of each and every project element. Identification of critical success criteria and clear understanding of the Vilawatt UIA project was a condition to start local discussion on the transfer potential and understand the project's relevance for the transfer city.

In this regard analytical methods and tools such as the modularisation in five pillars or the Vilawatt Scorecard are of most relevance. However, full understanding of Vilawatt by the transfer cities was not possible until the project teams considered the application of Vilawatt to their local circumstances and contexts. That delivered a much better understanding of Vilawatt's core value.

Policy Alignment

It is especially valuable if partners have previous experience of energy transition projects and they have previously developed strategies in the energy transition area, i.e. SECAP. In Vilawatt cities, this alignment with transfer cities priorities and climate targets helped in the coherent embedding of the project. Most partners used Vilawatt UTM to complement and move forward their respective energy transition strategies and plans.

Political commitment

Viladecans had to look for creative (innovative) administrative and legal solutions to deliver some of the project pillars, for example creating a public-private-citizens consortium or enabling a local currency. While these developments do not depend on high economic investment, they are essential elements for a successful initiative. Introducing new approaches and processes within the administration requires commitment of the municipal teams and leadership from the political authorities. These are the ones that will approve innovative solutions, convince higher level officers and mobilise city resources.

Likewise, the experience of Viladecans emphasises the importance of leading by example and showing action from the municipality along with asking for citizens and companies responsible actions. It is easy to place the responsibility on citizens but this is not an effective pathway – people need to see there is an effective commitment and action from the public institutions.

Project timing

The scale and complexity of Vilawatt require deep understanding at the local level and significant transformations to adapt it, which need to be discussed and agreed at the highest political level in the city, and with a diversity of stakeholders.

Time has been perceived as short throughout the UTM period. Even confining the project scope to the planning stage, the period of 20 months was tight for transfer partners to: understand Vilawatt UIA's unique characteristics and their application to their cities; inform and build a relevant and committed group of project partners; jointly examine the original UIA project; and engage in discussions about the elements of the project. Within the time available, partners have developed practical plans with associated human and financial resources.

A longer phase to assess the project partnership and a deeper analysis, understanding and visits to Viladecans would have facilitated deeper understanding of the time and resources that were required in Viladecans. Interestingly, when asked if they would have been able to transfer the Vilawatt 100% if they had had more time, all three transfer cities said that they would not have been able. This probably relates more to the complexity of the Vilawatt project than the UTM timing.

★ The importance of the intangibles

Because it was not possible to have a physical visit to Viladecans due to the COVID pandemic travel restrictions, cities had only an abstract idea, as summarised in written reports, of the Vilawatt UIA project for most of the UTM period. Although shared documentation and online meetings helped partners to understand Vilawatt UIA and how it was implemented in Viladecans, partner project teams missed the intangible benefits gained through a visit, i.e. follow up spontaneous questions to explanations, personal interactions with peers, informal conversations and most of all, seeing first-hand how the project is delivered and how citizens and business gain through being involved. It was only towards the end of the project, that the field visit to Viladecans was possible. Partners noted that despite working in depth over the previous 14 months, the visit revealed many (often subtle but important) details and hands-on solutions that they had not fully understood previously. This reinforces the value gained by in-person visits in projects of this kind.

Summary of 5 Vilawatt pillars' value and interactions

Public Private Citizens Partnership

*Creates a formal structure for local energy management in the city
 Transfers decision making capacity to the associates, thus increasing
 commitment*

- Reinforces the Energy Pooling capacity because it provides the legal base for a joint demand and stronger position in the energy market
- Reinforces retrofitting because it provides PPCP members with advisory and support services about energy efficiency measures

Learning Communities

*Helps build a community of green energy consumers
 Promotes an energy behavioural change*

- Reinforces the governance because it encourages citizens and companies to join the Public Private Citizens Partnership

Local Currency

*Incentivises energy efficiency actions through tokenizing the savings
 Reverts into the economic revitalisation and economy circulation
 Becomes a tool to channel other social subsidies and support to citizens*

- Reinforces the community of green energy consumers because it attracts more members to the project incentivised by the supplementary advantages offered by the local currency

Energy pooling

*Expands green energy use in the city
 Allows a better energy prices through bulk purchase*

- Reinforces the PPCP because it attracts citizens' interest for green energy and lower prices

Retrofitting

Generates a return through energy savings that is reinvested in the local shops

- Reinforces the local currency because energy savings are reinvested into local shops through the Vilawatt currency

Final thought.. URBACT makes things happen!

