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ACCELERATE CLIMATE ACTION IN EUROPE

JOINT BRIEFING

GOOD PRACTICES ON CLIMATE ACTION AND ENERGY TRANSITION AT LOCAL LEVEL

December 2024

CONTENT

INTRODUCTION

There is no doubt that humanity faces today and against the clock an unprecedented climate emergency. Science has already long warned us that climate change could have devastating consequences if urgent, forceful, long-lasting and coordinated measures are not taken to stop the increased and accelerated march towards excessive warming of the Earth. In the past years, extreme weather events have been hitting with greater frequency and magnitude causing damage and havoc throughout the planet. This means that climate change is a global challenge that requires a joint response going from the individual perspective to the international approach, where any political, economic or social agent play a fundamental role.

Local authorities, close to their territories, have enormous potential to carry out direct actions that allow promoting substantial changes to reduce greenhouse gas (GHG) emissions, increase the resilience of urban and rural systems and improve the life quality of citizens. Accordingly, cities and municipalities play a key role in accelerating climate action and advancing towards decarbonised economies and resilient societies, while at the same time, they inevitably occupy the front line in the fight against climate change and therefore are being most directly affected by this mayor challenge.

To respond jointly to the great challenge of climate change and propose clean and sustainable alternatives from the very heart of urban and rural areas, local authorities have different planning tools. Specifically, the energy and climate plans at the local level represent an essential roadmap to address this problem from a holistic perspective and an integrative approach, in line with what is established by regulations both at national and European level.

LOCAL CLIMATE ACTION AT EU LEVEL

More than half of the world's population already lives in cities and metropolitan areas and the figure is expected to reach 60% by 2030, and even more, with over 70% of EU citizens expected to live in urban areas by 2030. Globally, cities account for around 75% of global energy consumption and 70% of global greenhouse gas emissions, according to IEA. But both urban and rural areas can contribute to curbing emissions thanks to their local capacities and accelerate climate action across the European Union. They will play a central part in moving forward the necessary transformation of economic sectors, and therefore contributing to the long-term objective of the Paris Agreement to limit global temperature rise to 1.5°C.

The Covenant of Mayors (CoM) for Climate & Energy is an initiative launched in 2008 in Europe to support local authorities in their energy transition through a bottom-up approach. By joining the initiative, cities and municipalities voluntarily commit to implementing EU climate and energy objectives, and to developing and implementing Sustainable Energy and Climate Action Plans (SECAPs).

Since 2021, signatory entities share a common vision for 2050. In addition to aligning with the new EU-goal of -55% GHG emissions by 2030 and climate neutrality by mid-century, they seek: to accelerate the decarbonization of its territories, to strengthen its capacity to adapt to the unavoidable impacts of climate change and ensure that its citizens enjoy access to safe, sustainable and affordable energy. However, not all action plans presented have been updated in line with these regulatory changes, and they often include targets that are too low.

The initiative has quickly become a primary point of reference for EU municipalities engaged in climate action, and has already gathered nearly 12,000 signatories in the EU-27. However, by now, only 8,575 action plans have been submitted, although around 22,580 best practices actions have been shared. The use of the SECAPs methodology to develop local action plans ensures their scope is rather comprehensive (SECAPs include both mitigation and adaptation aspects) and should—at least theoretically—ensure stricter compliance with EU targets, easier access to streams of funding and more attentive monitoring.

PURPOSE OF THIS BRIEFING

A previous analysis from the Life Unify project on the development and implementation of Sustainable Energy and Climate Action Plans, or SECAPs, reveals that applying a "one size fits all" approach towards municipalities can be a challenge given how very different the contexts are in each Member State. It also highlights that institutional support from higher level authorities (regional, national and European), especially for smaller municipalities, is crucial along with availability of funding for both SECAPs drafting, and - more importantly - their implementation.

In some cases, the involvement of municipalities in the activities of the Covenant of Mayors has been undermined by the already existing requirement - or at least expectation - for local authorities to adopt climate and/or energy planning documents that are, however, not in line with the SECAP methodology. It also appears that quite often, regional development agencies or independent associations of municipalities are best poised to coordinate common climate and energy efforts of individual villages and towns.

This joint briefing pretends to serve as an informative and useful compilation tool for local authorities by offering different examples of successful best practices on climate action and energy transition at local level. Based on the collected positive experiences implemented in seven EU countries (Belgium, Croatia, Estonia, France, Poland, Portugal and Spain), this briefing is meant to be an inspiration for local entities that do not yet have climate action plans and a motivation to start preparing their own local action plan by replicating climate action measures implemented by other entities with similar characteristics, regarding energy transition, and mitigation and adaptation to climate change.

KEY FINDINGS

The climate crisis will not be fully addressed if governments at all levels are not actively involved, cities and municipalities don't do their part, and the whole society does not acknowledge the urgent need to face this huge environmental challenge for the sake of humanity and the planet.

European local authorities exercise delegated power in numerous sectors responsible for direct emissions of greenhouse gas and energy consumption, such as transport, buildings, fluorinated gases (refrigeration and air conditioning systems), industry, agriculture and waste.

Various cities and municipalities across the EU already have local action plans on climate and energy. Their actions include measures in sectors such as energy (through renewable self-consumption, energy communities and efficiency energy), mobility (through traffic restrictions, modal changes in transportation, teleworking...), urban planning (through urban regeneration and naturalisation), buildings (through energy renovation), waste collection and recycling, among others.

This briefing highlights the wide diversity of local actions on climate and energy that local authorities may develop in their territories, as well as the similarities between sectoral measures put in place in different Member States to curb energy use and GHG emissions, which allows to replicate or adapt best practices in other EU territories, while ensuring the protection of nature and strengthening socio-economic aspects.

TYPES OF MEASURES IDENTIFIED BY SECTOR

For each sector, this briefing focuses on measures already implemented with success in some municipalities of the involved countries to push for climate action and energy transition at local level, while providing social, economic and environmental benefits.

Renewable energies and citizens projects	Building renovation and energy efficiency
- Solar PV installations in public & municipal buildings - Largest solar park - Solar PV power plants through crowdfunding - Energy community in small rural area - Energy community in a neighbourhood	- Communal air-water heat pump - Houses' insulation and renovation - Energy efficiency in public buildings - Decarbonised heating network - Renewable energy demonstration centre - Combating energy poverty - Neighbourhood urban regeneration

Sustainable transport and active mobility
- Public charging infrastructures - Shared mobility and car-sharing networks - Free and attractive urban transportation - Cycling plan and networks of cyclable and healthy pathways - Municipal bike rental service - Grant cash for youth bike purchase - Linking regional and local urban transport

Greening cities and biodiversity increase
- Green link between residential area and business park - Increasing biodiversity in urban parks - Mowing reduction by municipality - Specialised local entity for adaptation - Public park as a living lab for decarbonization - Water management partnership - Rain gardens in urban area - Retention basins in urban parks

Sustainable waste management and circular economy
- Food waste reduction in households - Waste management municipal company - Permanent places for goods repairing - Selective collection of municipal waste

Ecotourism and sustainable agrifood systems
- New ecotourism experience in a protected maritime area - Global sustainable food program - Rainwater management with farmers

RECOMMENDATIONS FOR LOCAL AUTHORITIES

➢ *Recommendation 1:* Recognize the role of cities and municipalities in climate action.

Local government staff and local communities should be aware of the importance of their role in promoting and accepting the policies and measures to be taken. This could be done through different channels, such as climate awareness and social acceptance campaigns, involvement of stakeholders and citizens through local initiatives, and regular briefings to inform citizens on the current situation of the action plans developed in their municipalities.

For smaller municipalities, technical offices with qualified staff could be useful instruments for better understanding and information sharing if facilitated by supra-municipal governments in strategic points of the territory.

➢ *Recommendation 2:* Stimulate co-governance and capacity-building in local response.

A broad municipal response to the global climate challenge will not be reached without the collective involvement of all levels of action. This should be done internally within the responsible

department itself, through transversal work between the different departments linked to climate and energy and other municipal management areas, such as inter-administrative coordination and multi-territorial at different levels, including co-construction with civil society and citizens.

For smaller municipalities, a climate and energy plan at supra-municipal level could give consistency to the local planning at a larger scale and ensure a common mechanism that structure the climate action in the various municipalities of a specific territory. Also, in smaller municipalities, initiatives such as 'territorial custody for climate' or 'citizen projects' could also be promoted in which private entities or local communities cooperate with local authorities to help them establish climate action measures.

➢ *Recommendation 3:* Effectively commit to develop robust climate and energy plans.

Fully addressing climate challenge will not be possible without the involvement of all political levels, including local authorities doing their part. This could be done through of greater promotion from the supra-municipal level to the adhesion of new local entities to initiative such as the Covenant of Mayors, a major global initiative with a shared common vision aligned with European climate objectives, some firm commitments acquired and its own and robust methodology which includes the definition of objectives and actions and the preparation of inventories and monitoring reports, among others.

➢ *Recommendation 4:* Provide cities and municipalities with needed resources.

Local climate commitments will not be achieved if local authorities lack the necessary technical and human resources. This should be done by forming, training and hiring technical staff specialised in climate action and energy transition.

In smaller municipalities, local development agents could play a key role in this kind of initiatives by facilitating the exchange with experts to inform and advise on climate and energy targets, competencies, ability to act or measures adopted by other similar municipalities.

➢ *Recommendation 5:* Make economic and financial support available for local planning.

Climate action response from European local entities, many of them small or very small, will not be quick and effective if there is a lack of economic and financing resources. This could be done using funding aimed at the drafting and implementation of local climate action plans, facilitated by supra-municipal governments, including national and European funds. Although there are already financing formulas for municipalities, such as the ERDF, through operational programs, or the RRF, through national Recovery and Resilient Plans, a specific financial line should be created for local climate planning, easily accessible for all local entities, which does not depend on specific financing over time but lasts long enough to guarantee the correct development of all stages of the process (preparation, execution, monitoring and revision).

For small municipalities, supra-municipal level governments should provide or facilitate the necessary means to support the lack of sufficient technical and economic capacity to develop their plans, also promoting 'joint climate action systems'.

➢ *Recommendation 6:* Tools at the local level to monitor the implemented measures.

Each local action plan should include at least data on energy consumption and greenhouse gas emissions, as well as the specific percentage of reduction of these consumptions and emissions that is to be achieved, in order to be able to evaluate in the mid- and long-term their success. To better inform both citizens and supra-municipal level governments on the degree of execution of local action plans, as well as the climate benefits obtained, could be interesting to have a state registry available through an accessible and open website, in which municipalities annually update their progress in the implementation of planned measures. To do this, common indicators should be established to measure both the effectiveness of measures at local scale and the synergistic effects at the supra-municipal level.

➢ *Recommendation 7:* Share useful information and good practices of local action.

National governments should engage in an open and accessible repository of useful information for both the design and the execution of local climate action plans. Local authorities should be provided with IT tools to share their best practices to this national database. It is about compiling measures that have already proven to be effective and successful in cities and municipalities. To be more useful and widely used, this national database should differentiate collected measures by population size, type of measures, areas of action, etc., and offer information on the start-up and maintenance costs, as well as the benefits (environmental, climatic, social, economic, etc.) reached.

Also, this tool could have a broader coverage to any municipality in the EU. For instance, although with smaller scope, the AdapteCCa platform offers a bank of practical cases of adaptation to climate change developed in Spain (not only by local entities), which in turn is connected with the European Climate Adapt platform and, therefore, with experiences at the European level.

SELECTED LOCAL BEST PRACTICES

RENEWABLE ENERGIES AND CITIZEN PROJECTS

SOLAR PV INSTALLATIONS IN PUBLIC BUILDINGS

Country: Belgium
Name: Bonheiden
Inhabitants: 15,458 (in 2023)
Local government: Municipality
Type of measure: Solar PV installation
Origin of the measure: SECAP
Since when it has been implemented: 2023
How was it financed: 100% citizens' cooperative
Other actors involved: -

Context

The municipality of Bonheiden aims to maximise rational energy use and to do so in all the buildings it owns or uses. Energy neutrality should be pursued in this respect, with maximum incorporation of renewable and sustainable energy techniques such as solar panels, solar boilers, heat pumps, heat storage, etc. By 2030 the municipality aims to reduce COR2R emissions in the municipal patrimony by 8% by energy care, 25% by technical measures, 10% by organisational measures, 6% through awareness-raising measures.

Description

The municipality of Bonheiden installed solar installations on more than 10 public buildings through citizen participation. Besides accelerating investments in renewable energy, this also provided an opportunity to involve residents in the energy transition. The municipality started installing solar installations through citizen participation in 2019 for the town hall and library. In 2020, 10 more installations were installed on municipal buildings, including the community centre and municipal schools.

Outcomes

- In total, 214,100 Wp of solar panels were installed on municipal buildings.
- Through these investments, some 300 residents of Bonheiden also became shareholders in the energy cooperative, which means they are now also more closely involved in the energy transition.

Challenges faced

Convincing everyone internally about the benefits of investing through citizen participation.

Lessons learned

Investments through citizen participation can also subsequently contribute to additional projects and provide an opportunity to activate more citizens around climate policies, thereby contributing to social inclusion and awareness raising.

LARGEST SOLAR PARK IN THE BENELUX

Country: Belgium
Name: Lommel
Inhabitants: 34,828 (in 2023)
Local government: Municipality
Type of measure: Solar PV installation
Origin of the measure: SEAP approved in 2012, SECAP approved in 2020
Since when it has been implemented: In 2019 the solar park has been inaugurated
How was it financed: Public and private funding
Other actors involved: -

Context

Lommel is a pioneer in renewable energy. On the Kristalpark III site, the city strives for an ideal integration between industry and green space. Lommel is the largest commercial centre in the north of the Belgian province Limburg and an economic growth pole for future-oriented companies. Kristalpark lll is located on an industrial zone totalling almost 900 hectares in the North Limburg town of Lommel, in the heart of the Euregio. This location is a strategic added

value for the established companies thanks to the accessibility of the province in general and of the business park in particular by car, rail and waterways.

Description

With 99.5 MW of photovoltaic panels, Kristal Solar Park at Lommel's Kristalpark III business park is the largest solar park in the Benelux. The 93-hectare site, equivalent to 200 football fields, contains no less than 303,000 solar panels and 2,200 kilometres of cable. The mega solar park produces 85,000 MWh per year, the equivalent of an annual consumption of nearly 25,000 households, and avoids annual CO2 emissions of more than 30,000 tonnes. The companies that will establish themselves at Kristalpark III in the future will be able to plug into the solar installation, thus ensuring green energy. Moreover, the nature present on the site was taken into account in all phases of this project. The solar park was installed by ENGIE Fabricom, which will also be responsible for maintenance of the solar panels for fifteen years. LRM, the city of Lommel and Nyrstar together invested 60 million euros in Kristal Solar Park.

Outcomes

Significant increase in renewable energy production and CO_2 reduction.

Challenges faced

No challenges have been faced.

Lessons learned

The project is an opportunity to involve a wide range of stakeholders and raise awareness leading to a positive dynamic. In 2024 it was decided to further expand the park. This brings the Kristal Solar Park to a total area of 100 hectares with 340,000 solar panels, good for generating electricity for 30,000 families.

SOLAR PV POWER PLANTS THROUGH CROWDFUNDING

Country: Croatia
Name: Križevci
Inhabitants: 18,949 (in 2021)
Local government: Municipality
Type of measure: Solar PV installation
Origin of the measure: SEAP approved in 2014, SECAP approved in 2019
Since when it has been implemented: In 2018 the PV power plant has been installed
How was it financed: Crowdinvesting campaigns
Other actors involved: -

Context

The city of Križevci, joined the Covenant of Mayors for Climate and Energy in 2011, committing to reducing CO2 emissions by over 20% by 2020. In collaboration with the Northwest Croatia Regional Energy Agency, it developed its Sustainable Energy Action Plan in 2014, and in 2019, expanded its goals with the Sustainable Energy and Climate Action Plan, aiming for a 40% reduction in emissions by 2030. Implemented measures include promoting renewable energies, enhancing energy efficiency, and engaging the community actively.

Description

Innovative practices stand out, such as the construction of photovoltaic power plants through crowdfunding. First one was installed in 2018 on the roof of the Križevci Development Centre and Technology Park (RCTP), and the second one in 2019 on the roof of City Library, both with the power of 30 kW each.

Outcomes

This initiative not only aims to reduce CO2 emissions but also to foster social inclusion, generate employment, and serve as a model for other cities on the path to sustainability. The measure has been successful to date, with a positive community response and active citizen participation in the energy transition.

Challenges faced

This was the first time crowdfunding for the RES system was implemented in Croatia so there were some minor uncertainties in the process. However, with the assistance of experts, at the end the whole process has been performed with very few setbacks.

Lessons learned

It became clear that investing in RES systems is very interesting for citizens as they see that the powerplant is built in their city/municipality and the clean energy produced is being used in their public and private buildings. With right communication and cooperation between experts, local authorities and citizens, such successful initiatives can be replicated to other local communities.

Additional information

The financing of both power plants was achieved through crowd-investing campaigns. The campaigns were very successful, reaching needed amounts in under 10 days each. The third crowdfunding campaign was implemented in 2024 for a 200 kW PV power plant on the marketplace in Križevci with similar conditions. Needed funds (140.000 €) were raised within 10 days and the power plant should begin production in autumn 2024.

ONE OF THE FIRST "ENERGY COMMUNITIES" IN FRANCE

Country: France
Name: Montigny-en-Arrouaise
Inhabitants: 310
Local government: Municipality
Type of measure: Local energy communities
Since when it has been implemented: 2024
How was it financed: 80% state financing
Other actors involved: -

Context

Montigny-en-Arrouaise is a rural municipality in Northern France. Its climate-energy action is organised with a territorial coherence program. By the beginning of 2024, Montigny-en-Arrouaise became one of the firsts "energy communities" in France. Facing rising costs of energy bills, the municipality and inhabitants launched an initiative to mitigate the impact of the energy crisis on their wallets.

Description

The energy community works as follows: all municipal buildings, as well as several individual houses were equipped with solar panels, providing energy for municipal activities and individual consumption. The excess energy is either sold at half price or provided for free to other inhabitants, especially underprivileged inhabitants.

Outcomes

The initiative is both ethical for energy-producing building, and the rest of the village. For equipped buildings, they produce local, low-carbon energy for their daily activities. Selling the excess energy, even if half-price, is a complimentary income that will pay the investment off. For the rest of the village, it offers low-cost or even free energy, at a time when energy bills are at an all-time high. The initiative promotes smart use of energy as well: inhabitants can track how much energy is produced, and use the excess when available, therefore anticipating their energy consumption. Inhabitants confirmed their energy bill dropped 50%.

Challenges faced

The project is an innovative way of producing and consuming local energy. Montigny-en-Arrouaise is one of the first local governments to experiment with this type of local production. At first, the inhabitants were cautious with the project. It took some time to create the community.

Lessons learned

Involving inhabitants in the project was a real boost to inspire this initiative inspired a deeper change in the village: the installation of charging stations for electric vehicles, supplied with solar

energy and free of charge, encouraged some inhabitants to switch from a combustion to an electric vehicle.

ENERGY COMMUNITY IN A LISBON NEIGHBOURHOOD

Country: Portugal
Name: Lumiar
Inhabitants: 46,334 (2021)
Local government: Parish (Lisbon Municipality)
Type of measure: Energy Community
Origin of the measure: Citizen's initiative
Since when it has been implemented: 2024
How was it financed: citizens' own resources
Other actors involved: Citizens – Associação Viver Telheiras, Renewable Energy Cooperative Coopérnico, CENSE NOVA-FCT

Context

The idea for the creation of the Telheiras/Lumiar Renewable Energy Community (REC) came from the citizens, from the Telheiras community itself. In September 2020, the Telheiras Local Partnership (Parceria Local de Telheiras)- an informal network of more than 20 associations - organised a collection of ideas for projects that residents would like to see implemented in their neighbourhood. One of these ideas was to produce clean energy that could be shared between neighbours. In November 2021, a working group was set up, with the support of Associação Viver Telheiras and open to residents of the neighbourhood and friends, to think about how to set up an energy community. A partnership was then established with the Lumiar Parish Council and the Renewable Energy Cooperative Coopérnico to implement the project. Although the idea first emerged in September 2020, when the Telheiras Local Partnership collected ideas from the public, the REC's licence application was only submitted to the Directorate-General for Energy and Geology (DGEG) in June 2023, and the project was considered viable in November 2023. The pilot photovoltaic system was installed in May 2024, starting to produce renewable energy for the community.

Description

The Renewable Energy Community of Telheiras/Lumiar is a group of people who have come together to contribute to more sustainable, fair, cheap and democratic energy. With an innovative approach to producing and sharing solar energy locally, the REC has already installed its first photovoltaic system, 16 panels covering an area of 50m^2, in a building of the Parish. The REC of Telheiras/Lumiar aims to be an inclusive project with a strong social support component for vulnerable families. Thus, the project's promoters - the Telheiras Local Partnership and Lumiar Parish Council - have established that, in the pilot project with 17 participants, 3 participants must be vulnerable families, in a situation of energy poverty, who join the community

benefiting from special conditions. In particular, they benefit from entry with no initial investment - which is paid for by Lumiar Parish Council (2 families) and the other 13 participants (1 family) - and a reduced annual fee.

Outcomes

- Decentralised renewable energy production close to consumption (avoiding losses in transmission and distribution).
- Active participation of citizens enabling the democratisation of the energy system.
- Social inclusion and community empowerment.
- Combatting energy poverty in vulnerable populations by reducing their energy bills.
- Reduced cost of energy (estimated annual savings of 110€ per family) and increased resilience in the face of price instability.
- Investment with a positive return that contributes to local development

Challenges faced

- Deciding where to set up the pilot project.
- Defining the REC's operating model.
- Defining the legal entity of the REC.
- Defining criteria for the inclusion of social consumers (the main challenge so far).
- Registering the CER in the Directorate General of Energy and Geology.

Lessons learned

- The creation of a REC is more likely to succeed when there is already a community with existing dynamics.
- Partnerships with several associations/organizations, including local authorities, are essential to its success.
- Literacy and empowerment of the local community are extremely important.
- When the motivation is strong, people find the financial resources to make it happen.

Additional information

Practical Guide on '[Development of renewable energy communities by citizens, associations and local authorities]' developed by the Renewable Energy Community of Telheiras.

SOLAR PV INSTALLATIONS IN MUNICIPAL BUILDINGS

Country: Spain
Name: Málaga City
Inhabitants: 571,000
Local government: Municipality
Type of measure: Solar PV installation
Origin of the measure: Economic (investment plan)
Since when it has been implemented: > than 5 years
How was it financed: National public funds
Other actors involved: No citizen involvement

Context

The city of Málaga, one of the five largest cities in Spain, joined the European Covenant of Mayors for Climate and Energy in 2008, committing to reducing CO2 emissions by over 20% by 2020, and developed its Sustainable Energy Action Plan (SEAP) in 2011, which was later updated in 2014. The SEAP develops the strategies, actions and tools that are needed to achieve sustainable development of the use, consumption and energy production. This development must be based on promoting renewable energy, energy saving, energy efficiency, sustainable mobility and public awareness and training. This Plan should be able to drive Málaga's society to greater quality of life. Once the Plan has been implemented is expected that Málaga will reach: (i) decrease the energy consumption (per capita); (ii) environmental and energy planning improvement; (iii) increase the proportion of renewable energy and energy efficiency improvement; (iv) adequacy of municipal infrastructures. In 2016, the city committed to the goal of 40% reduction in emissions by 2030 but has not yet developed its Sustainable Energy and Climate Action Plan.

Description

Since 2008, Malaga has been actively working on mitigation measures, such as: remote reading of municipal photovoltaic facilities; participation in energy efficiency projects in cities and companies; optimising the use of biogas from municipal waste landfill sites. The best practice selected for this analysis consists of installing solar photovoltaic panels in municipal buildings. It aims at increasing the use of renewable energy in these public buildings.

Outcomes

The main results of the measure in terms of climate action and/or energy transition are:

- Reduction of greenhouse gas emissions.
- Increase of public investment in renewable energy/energy efficiency.

An additional result obtained with the measure is citizen awareness, as there are many photovoltaic installations in primary schools. The main environmental, economic and social impacts produced as a result of the implementation of this measure in the municipality are:

- Reduction of CO2 emissions.
- Municipal economic savings.
- Citizen awareness about renewable energies.

In addition, there is a monitoring plan to evaluate and monitor the long-term results of these measures. The intention is to have a monitoring platform for municipal photovoltaic installations.

Challenges faced

The problems or obstacles that the municipality has faced in the implementation of this measure are mainly bureaucratic/administrative barriers. The justification of the aid for some of these facilities by the Institute for Energy Diversification and Saving (energy aids granting organisms at national level) is an absolute bureaucratic hell.

Lessons learned

The main lesson that the municipality has learned from the experience in the implementation of this measure is that we must continue betting on renewable energies. Among the elements that are considered essential for a better implementation of the measure from now on, the simplification in the contracting and billing of facilities stands out.

Additional information

The measure implemented could be easily replicated in other municipalities. One specific aspect of the implementation that could facilitate its replicability is to consider the facilities as a supply and not as a construction work, since the latter greatly complicates the associated bureaucracy.

LOCAL ENERGY COMMUNITY IN SMALL MUNICIPALITY

Country: Spain
Name: La Mata
Inhabitants: 177
Local government: Municipality
Type of measure: Local energy communities
Origin of the measure: Legislative (local action plan) and social (citizen initiative)
Since when it has been implemented: 1 - 2 years
How was it financed: Own resources, together with regional funds and European funds
Other actors involved: The local community itself

Context

La Mata, one small municipality of the Eastern province of Castelló, joined the European Covenant of Mayors for Climate and Energy in 2021, committing to reducing GHG emissions by over 40% by 2030, and developed right away its Sustainable Energy and Climate Action Plan (SECAP).

Description

The best practice selected for this analysis consists of putting in place the local energy community of La Mata -CEL La Mata-.

Outcomes

The main results of the measure in terms of climate action and/or energy transition are:

- Improvement of the energy efficiency of buildings, industries, homes.
- Reduction of greenhouse gas emissions.
- Reduction of energy consumption/Savings on the electricity bill.
- Increase of public investment in renewable energies/energy efficiency.

An additional result obtained with the measure is citizen and neighbourhood cooperation. The main environmental, economic and social impacts produced as a result of the implementation of this measure in the municipality are:

- Reduction of energy poverty.
- Improvement of social inclusion.
- Proximity services.

In addition, there is a monitoring plan to evaluate and monitor the long-term results of these measures. A specific commission for the local energy community has been created.

Challenges faced

The main problem/obstacle that the municipality has faced in the implementation of this measure is the lack of financing. Patience and grants have been applied to address this issue.

Lessons learned

The main lesson that the municipality has learned from the experience in the implementation of this measure is the importance of cooperation and patience. Among the elements that are considered essential for a better implementation of the measure from now on, awareness and honesty stand out.

Additional information

The measure implemented could be easily replicated in other municipalities. Some specific aspects of the implementation that could facilitate its replicability are patience, active listening and professional support.

BUILDINGS RENOVATION AND ENERGY EFFICIENCY

COMMUNAL AIR-WATER HEAT PUMP

Country: Belgium
Name: Assenede
Inhabitants: 14,636 (in 2023)
Local government: Municipality
Type of measure: Green heating
Origin of the measure: SECAP
Since when it has been implemented: 2023
How was it financed: 100% citizens' cooperative
Other actors involved: -

Context

In 2011, there were 10 heat pumps in the municipality of Assenede. The installed capacity was 130 kW in 2011. This corresponds to an annual energy production of 191 MWh. In 2015, this number increased to 31 heat pumps. According to the renewable energy scan for East Flanders, the technical potential for heat pumps in the municipality of Assenede is 11,738 MWh. By 2030 the municipality of Assenede wants 250 new PV installations of 4 kWp (=installation for private individuals) and 750 kWp of installations at companies, organisations, collective buildings, 6 wind turbines (already realised), 75 heat pumps, 250 solar boilers, 3 pocket digesters, stimulating a further increase in renewable energy (electricity and heat) from

biomass and commit to collective heat. In terms of heat pumps Assenede engaged to stimulate its implementation by, among other things:

- Raising awareness and providing information around heat pumps targeted to residents, organisations, (agricultural) businesses and schools
- Playing the role of example by installing heat pumps in suitable municipal buildings
- Possibly making heat pumps compulsory in new residential developments instead of installing a gas network
- Developing specific solutions for sustainable heat in polder (dyke) houses in the area, including possibilities for heat pump applications using water

Description

The 16 service flats and communal areas were electrically heated, which gave rise to high costs and a poor EPC. The electric heating was replaced by a communal air-water heat pump. All flats were equipped with 3 ventilo-convector heaters that can provide both heating during winter and cooling during summer. A steel frame was installed on the roof, on which the 2-step heat pump was placed. This frame was necessary to ensure stability. Buffer tanks were installed in the technical room, from which the heated/cooled water flows to the 16 flats via a distribution network. Each flat has a calorimeter so that thermal consumption can be monitored individually for each flat. Electric heaters were removed and replaced by fan coil units. Upon commissioning, residents were informed in detail about the most efficient way to keep their flat at the desired temperature.

Outcomes

- Nuisance remained limited due to good communication between all stakeholders, OCMW, municipality, residents, installer and Streamflood.
- Residents are satisfied. For the time being, the impression is that by informing residents about efficient heating (i.e. no longer on during the day and off in the evening), consumption will have fallen even more than the 35%, without compromising (quite the opposite) comfort.
- To be confirmed after 1 year.
- PV panels were also installed on the same building within this assignment.

Challenges faced

Business model is not evident; subsidy for joint investment is unfortunately significantly lower than for individual investment.

Lessons learned

Installing a heat pump is a very efficient measure to bring down CO2 emissions from municipal patrimony if it replaces fossil heating (given electricity is calculated with zero emissions). In this case, it replaces direct electric heating, so primary energy consumption will be greatly reduced due to higher efficiency.

HOUSES' INSULATION AND RENOVATION CAMPAIGN

Country: Belgium
Name: Genk
Inhabitants: 67,573 (in 2023)
Local government: Municipatity
Type of measure: Renovation campaign
Origin of the measure: SECAP
Since when it has been implemented: 2016
How was it financed: 75% own resources, 25% provincial resources
Other actors involved: -

Context

By 2050, the city aims for a climate-neutral Genk with no net CO2 emissions. To achieve this objective, it is committed to a vigorous climate policy. Sustainability and climate are an integral part of Genk's multi-year policy plan 2020-2025. About one third of the investments in this period will go towards climate actions. The city is reducing its carbon footprint by focusing on housing renovation, renewable energy, more cycling and walking, and sustainable business parks. In addition, Genk is arming itself against the changing climate. More space for greenery, more space for water, more open space and less paving are the recipes for this.

Description

As part of 'Genk isoleert samen' (successor to 'Genk isoleert'), Kolderbos was the pilot project. With this, the city encourages insulating and renovating houses and supports their residents in doing so. As many as 59 families from the Kolderbos participated. In December 2014, Genk held an information session for residents. In winter 2015, the city did street chats. This was an initiative to convince residents to renovate their homes. The city lowered the threshold by doing this and also, in winter, people are more inclined to think about energy. In early 2016, Genk did a final campaign wave so that late deciders could still join. In the end, 59 households out of 265 participated in the project, which is 22%. Cavity wall insulations were mainly carried out. Afterwards, the city started another collective renovation project in Boxbergheide.

Outcomes

- 59 households out of 265 participated, which is 22% and therefore a great success.
- 51 residents had the cavity insulated, 25 insulated or renovated their roof, 7 owners had the external joinery and glass replaced and 5 families opted for a new boiler.
- On average, 4,676 euros was invested per family, a rather low amount, due to the high number of cavity wall insulations.
- Social inclusion.

Challenges faced

- The rather limited available capital to spend on renovation and energy saving.

- The owners in the Kolderbos area were able to buy their property from the social housing company at the time.
- There were only 4 different types of houses in the district. This made the technical work very easy (tendering, etc.) and certainly reduced the cost of the collective work. It was also important for the success that there was strong social cohesion and that the neighbourhood work was well-developed.

Lessons learned

Ensure a good and ongoing communication campaign, e.g. through the district operation. Give late deciders the opportunity to get involved as well. Continue to communicate well with all partners involved throughout the project. Via such renovation campaigns citizens who initially were not planning to renovate their homes are being convinced to do so nevertheless.

ENERGY EFFICIENCY IN PUBLIC BUILDINGS

Country: Croatia
Name: Zagreb
Inhabitants: 769,944 (in 2021)
Local government: Municipality
Type of measure: Energy efficiency
Origin of the measure: SEAP in 2010, SECAP in 2019
Since when it has been implemented: 2023
How was it financed: ELENA grant for documentation; Recovery and Resilience fund, national funds, own funds for works
Other actors involved: -

Context

The city of Zagreb was one of the first European capitals that joined the Covenant of Mayors for Energy and Climate back in 2008. Following the adhesion, they developed Sustainable Energy Action Plan (SEAP) in 2010 and Sustainable Energy and Climate Action Plan (SECAP) in 2019. Apart from this, they are a member of the Energy-Cities.

Description

The City of Zagreb and the European Investment Bank (EIB) signed a new ELENA contract on technical assistance for increasing energy efficiency and reducing greenhouse gas emissions in public buildings on June 1st, 2023. ELENA grants will support the City of Zagreb in increasing the energy efficiency of 50 public buildings, including installing solar power plants on roofs, changing heating methods and building electric charging stations.

Outcomes

- After the implementation of the project, renovated buildings will produce over 14.9 GWh of renewable electricity every year, avoid the emission of 8700 tons of carbon dioxide equivalent and save 29.8 GWh of energy.
- The project is called ZA-GREEN, and it will last until April 2026.
- The City of Zagreb has established a project team for this work, which will carry out detailed revisions of existing energy inspections and documentation.
- Other key activities will include the preparation of all necessary technical documentation, securing financing from various sources, preparing solar power plant installations and all other necessary activities that must lead to concrete investments.

Challenges faced

The biggest challenge was preparing the application to the ELENA programme. This can be a challenging task when local authorities lack expert staff. However, the City of Zagreb had external experts with experience in ELENA applications, so the process was completed successfully.

Lessons learned

The application to the ELENA programme and managing the implementation of the project is the most relevant lesson that was learned in this process. Also, coordination of several various stakeholders (building owners, workers, consultants) brings a valuable experience to the city's employees.

NEW COMPLETELY DECARBONISED HEATING NETWORK

Country: Poland
Name: Potęgowo
Inhabitants: 7,147 (in 2006)
Local government: Municipality
Type of measure: Green heating
Origin of the measure: Municipality of Potęgowo and biogas plant owner
Since when it has been implemented: Preparation of project since 2015 and realisation of project since 2017.
How was it financed: ERDF, Regional European Funds on Pomerania Region
Other actors involved: -

Context

Poland is a country with numerous small heating networks. They are mostly using heat that is produced in old coal or gas power plants. Small municipalities rarely have enough resources to make substantial investment in those heating systems. On the other hand, close to many small cities there have been commercial energy installations created that can provide much cheaper energy than from coal burned. Such low hanging fruits have been used in Potęgowo.

Description

Potęgowo is a small town near the Polish seaside. In 2020, it finalized a major investment, which completely decarbonised its heating network.

Outcomes

- It realized 5000 meters of a completely new heating network, including the connection to a new heating source – biogas plant.
- The biogas plant was built a few years ago, with the main aim to produce electricity and has plenty of unused heat from this process.
- Over 29 heating nodes were created and connected to the network, which allows over 1000 inhabitants and public buildings to use the heat.
- Because the heat was previously unused, the cost of its current utilisation is about 20% lower than use of the heat from old coal heat plants.

Challenges faced

Small municipality had not enough resources to modernise its heating network and system, so they used external funds to make an investment. A chance to use residual heat from a biogas plant had to be identified and proved feasible.

Lessons learned

There is a need to coordinate more closely between private and public energy managers in order to utilise chances that emerge to use new sources of renewable energy. Currently in Poland there is a possibility to create Clusters of energy, that would easier identify cooperation possibilities between public and private entities. This was not possible in the times of preparation of Potęgowo investment.

Additional information

The coal heat plant has been cut off and closed, resulting in reduction of 3000 tons of CO2 yearly. The investment cost about 2 mln EUR.

CITY'S FIRST RENEWABLE ENERGY DEMONSTRATION CENTRE

Country: Poland
Name: Bydgoszcz
Inhabitants: 330,038 (in 2022)
Local government: Municipality
Type of measure: Renovation campaign
Origin of the measure: SEAP approved in 2012
Since when it has been implemented: 2013
How was it financed: Various funds, from municipal budget, through European and EEA Funds
Other actors involved: -

Context

Polish municipalities very reluctantly introduce the energy transition. They rarely create special mechanisms that would plan and speed up the process. Bydgoszcz has created such a mechanism, and this proved to be a very effective way of introducing the necessary change.

Description

One of the leaders in the energy transition in Poland is the city of Bydgoszcz, a county seat. The transformation process began inconspicuously with the city joining the Covenant of Mayors for Climate in 2012. At that time, a position of Municipal Energy Officer was created in the city to manage the entire process of implementing the Sustainable Energy Use Plan (aka: SEAP). A year later, the city's first renewable energy demonstration centre was opened to play an educational and informational role in the city's climate change efforts. Bydgoszcz is also active in the field of climate change adaptation, and in 2021 confirmed its membership in the Covenant of Mayors for Climate, which has been encouraging the integration of emissions reduction and climate change adaptation since 2018.

Outcomes

- The activities of the city's energy officer mainly boiled down, in the first years of his work, to the introduction of monitoring of energy consumption in the city's buildings and the search for opportunities to introduce savings in their energy consumption.
- Already the first 3 years of such work proved so successful that the savings generated allowed the hiring of additional people to form a municipal energy team.
- By 2018, it had implemented a comprehensive electronic system for remote energy management in buildings in the city, which contributed - under the supervision of the team - to further savings.
- The electronic application developed for this purpose in Bydgoszcz can be purchased and implemented in other cities.
- At the same time, the team developed concepts for investments in energy and climate measures and applications for their implementation for Bydgoszcz.
- This is how a plan was developed for the local government's transition to energy self-sufficiency.
- With the funds saved from improving the energy efficiency of buildings, planned investments were implemented or provided as an own contribution to investments in renewable energy sources in city institutions.
- Thanks to the work of the team, the city has at least 1.2MW of solar installations, 1.5MW of biogas plants, 30MW of waste incineration, 6MW of installations working in cogeneration.
- In 2024, Bydgoszcz produced almost 70% of the energy needed for public tasks through its own companies and generating units.
- Half of this energy is certified as green energy.
- The plan is to provide 100% of the energy from its own sources for the purposes of city institutions and to sell it to residents.

Challenges faced

Polish big cities face fragmentation of management between different sectors. It is difficult to overcome this problem and persuade different offices to talk about the problem of energy transition.

Lessons learned

A special person responsible for the energy transition of a city, can bring a lot of financial and real changes in the city management, so that the energy transition can really happen. Currently in Poland more and more local authorities are using this type of management to start their energy transition.

INNOVATIVE APPROACH TO ADDRESS ENERGY POVERTY

Country: Portugal
Name: Almada
Inhabitants: 177,268
Local government: Municipality
Type of measure: Implementation of PV Energy Self-Consumption Support Scheme
Origin of the measure: Horizon 2020 Project
Since when it has been implemented: 2024
How was it financed: Municipality own funds (solar PV panels)
Other actors involved: Citizens

Context

Almada is one of four European pilot cities participating in the Sun4All project, which aims to facilitate access to renewable energy for vulnerable households suffering from energy poverty. The project was developed between 2021 and 2024, by the Almada City Council (CMA) in collaboration with the Almada Municipal Energy Agency (Ageneal).

Description

The Sun4All project in Almada represents an innovative approach to address energy poverty while promoting renewable energy. The project focused on implementing collective self-consumption photovoltaic systems on municipal buildings to benefit vulnerable families. Some key aspects include:

- Creating a self-consumption model to support public housing beneficiaries.
- Distributing photovoltaic energy at no cost to residents located on Rua dos 3 Vales and Rua de São Lourenço Poente.
- Providing free training workshops on energy savings, such as improving efficient behaviour, and choosing energy supplier.

- Offering personalized advice for beneficiaries on energy efficiency measures.
- Organizing PV visits for beneficiaries to get familiar sites with similar energy production equipment.

Despite facing implementation challenges, the project shows potential in empowering vulnerable households and contributing to a more inclusive energy transition.

Outcomes

While the full impacts of the project can only be determined after the implementation phase is concluded, some initial outcomes include increased awareness and knowledge among participants about energy efficiency and renewable energy, and changes in energy practices reported by many beneficiaries since joining the project. However, the direct economic impact on reducing electricity bills has been limited so far due to implementation delays.

Challenges faced

The Almada pilot has encountered several significant challenges:

- Extended delays in obtaining approval and activation of the self-consumption collective, which has limited the project's economic impact thus far.
- Bureaucratic issues related to licensing and an unclear legal framework for social housing energy communities.
- Difficulties in involving the local elderly and vulnerable population and raising awareness about renewable energy communities.
- Lack of human resources with expertise in these innovative procedures of self-consumption.
- Financial resource constraints for installation of PV panels.

Lessons learned

So far, still in the implementation phase:

- The importance of clear regulatory processes and support mechanisms for creating municipal renewable energy hubs.
- The need for better access to and estimation of beneficiary energy consumption data.
- The value of empowering beneficiaries and transforming them into active participants in local energy production.
- The effectiveness of combining financial support with education and community engagement to address energy poverty.
- The potential to promote renewable energy, improve living conditions, and empower citizens.

Additional information

Almada was part of a larger Community of Practice involving 10 other cities and regions receiving technical and financial support from the Sun4All consortium. Future plans include organizing various meetings on topics such as energy efficiency and energy literacy. The project knowledge exchange was co-financed by the European Union through the Horizon 2020 program, although

the PV panel installation was made with municipal funds. More information on lessons learned and resources on replication are available in the project website: https://sunforall.eu/resources

NEIGHBOURHOOD URBAN REGENERATION

Country: Spain
Name: Donostia / San Sebastián
Inhabitants: 189,093
Local government: Municipality
Type of measure: Urban renovation
Origin of the measure: Economic (investment plan)
Since when it has been implemented: Between 2 and 5 years
How was it financed: Regional public funds have been used
Other actors involved: Regional regulation levels collaboration, no citizen involvement

Context

The city of Donostia/ San Sebastián, one of the three capitals of the Spanish Basque country, joined the European Covenant of Mayors for Climate and Energy in 2008, committing to reducing at least a 20% of the greenhouse gas emissions (GHG) by 2020, and developed its Sustainable Energy Action Plan (SEAP) in 2011. The main areas of action are public administration, transport and waste, which represent 70% of the Plan. The largest CO2 reductions are expected to be obtained in the energy field, through the implementation of a whole set of actions leading to energy efficiency, energy saving and production of renewable energy. However, the biggest challenges of the local authority lie in extending the GHG reduction target to the transport and services sectors where the impact of the measures applied is difficult to be forecasted. The city has also developed in 2017 its Adaptation Plan to Climate Change. The city has later committed to the goal of 40% reduction in emissions by 2030 but has not yet developed its SECAP.

Description

Since 2012, Donostia/ San Sebastián has put in place several mitigation and adaptation measures, such as: replacement of inefficient components of lighting systems of buildings, new low-power components and innovative control systems; renovation of existing homes incorporating energy-efficient criteria; encouraging re-naturalization of central courtyards and neighbourhoods; establishing a permanent municipal structure responsible for adaptation to climate change and resilience in the municipality; rating the possibility of re-naturalization of river basins in exposed zones vulnerable to river flooding. The best practice selected for this analysis consists of the urban regeneration of the Altza neighbourhood with energy efficiency measures, photovoltaic energy generation and greening. The plan's measures include energy efficiency aid for the neighbourhood.

Outcomes

The main results of the measure in terms of climate action and/or energy transition are:

- Improvement of the energy efficiency of buildings, industries, homes.
- Reduction of greenhouse gas emissions.
- Reduction of energy consumption/Savings on the electricity bill.
- Increase of public investment in renewable energies/energy efficiency.
- Re-naturalization of regattas and squares and recovery of soil contaminated by asbestos.

An additional result obtained with the measure is the approval of the Landscape plan of the Lauhaizeta rural park. The main environmental, economic and social impacts produced as a result of the implementation of this measure in the municipality are:

- Reduction of energy poverty
- Improvement of quality of life
- Proximity services

In addition, there is a monitoring plan to evaluate and monitor the long-term results of these measures. An autonomous entity of the city council is responsible for collecting all the data and documents from the different city council addresses involved. The project presented to the Basque Government presented specific indicators in terms of social cohesion, environmental impact, economic impact, reduction of primary energy consumption and reduction of CO_2 emissions. At the end of the project, the results obtained will have to be reported to the Basque Government.

Challenges faced

The problems or obstacles that the municipality has faced in the implementation of this measure are mainly bureaucratic/administrative barriers. Among the planned actions was the creation of a self-consumption photovoltaic installation in a public school in the neighbourhood. The idea was to supply the school itself and create an energy community with the surplus. However, the idea was finally discarded due to its complexity.

Lessons learned

The main lesson that the municipality has learned from the experience in the implementation of this measure is that the planning of a comprehensive project with financial support from the Basque Government speeds up the implementation of measures in the field of energy and greening. Among the elements that are considered essential for a better implementation of the measure from now on, a good initial planning and the leadership of a group that coordinates the actions to be implemented stand out.

Additional information

The measure implemented could be easily replicated in other municipalities. One specific aspect of the implementation that could facilitate its replicability is to separate the implementation of photovoltaic installations for self-consumption from the city council itself and those intended for the creation of energy communities.

SUSTAINABLE TRANSPORT AND ACTIVE MOBILITY

SUFFICIENT PUBLIC CHARGING INFRASTRUCTURE

Country: Belgium
Name: Brugge
Inhabitants: 119,541 (in 2023)
Local government: Municipality
Type of measure: Electric mobility
Origin of the measure: SECAP
Since when it has been implemented: 2022
How was it financed: 1% own resources, in cooperation with grid operator and private stakeholders
Other actors involved: -

Context

Electric vehicles are becoming the new normal. It is therefore necessary to provide sufficient charging infrastructure for the entire and expanding electric vehicle fleet, with a particular focus on electric cars and cargo vehicles. Greater use of grouped parking can also create opportunities for the growing charging needs. For every electric vehicle owner, a charging point at his or her front door is spatially impossible to achieve. Optimisation at district or city level and communal solutions will be easier, more efficient and cheaper in this respect. The existing peripheral car parks are very suitable for charging plazas, possibly coupled with a canopy with PV installation. A strategic plan 'charging infrastructure electric driving' will be drawn up to make public charging

infrastructure accessible. This action plan is aligned to the Flemish ambitions and plans in this respect. The use of green electricity at the charging points will be encouraged as much as possible, e.g. in concessions to companies that install and/or operate. This action can be linked to the further roll-out of the mobi-points in the framework of the transport region. This action can be linked to the further roll-out of the mobi-points in the framework of the transport region.

Description

For the City of Bruges, electric driving is an important action point in its ambition. To facilitate this electric mobility, it will be necessary to provide Bruges residents with sufficient public charging infrastructure. Electrification is an opportunity to push the parking and mobility policy in the right direction. Traffic engineering and spatial issues are included. Bruges wrote a vision text on the impact and opportunities of electrification of the car fleet. An action plan was immediately linked to the vision. In addition, some decisions of principle were taken: For example: Charging is maximally grouped. This is technically and spatially desirable and will reduce search traffic.

Outcomes

Location proposals from charging station operators are always tested against the vision and knock-off principles.

Challenges faced

Lots of questions from citizens who want to charge with their own power but do not have their own parking facilities. The use of a charging cable is currently tolerated as long as there are not enough public charging points. Share mobility: For the time being, both car-sharing and electric driving appear to be too high a threshold to make the switch. Technical: Locations with a lot of potential are often not equipped with 400V.

Lessons learned

Pay attention to social groups: People without their own garage, driveway... will finally have to pay the most for their car's power.

REGIONAL CAR-SHARING NETWORK

Country: Belgium
Name: Zemst
Inhabitants: 23,357 (in 2023)
Local government: Municipality
Type of measure: Shared mobility
Origin of the measure: SECAP
Since when it has been implemented: 2022
How was it financed: 25% own resources, 75% Flemish Region's resources
Other actors involved: -

Context

Emissions from private and commercial transport in Zemst - highways not included - amount to 19% of total CO2 emissions for the reference year 2011. The transport sector is thus the second largest source of CO2 emissions in the municipality, after domestic consumption. Moreover, CO2 emissions from this sector still increased sharply since 2011. A reduction in the total vehicle fleet remains the priority target. Deploying vehicle sharing and offering 'Mobility As a Service' (travellers use mobility services from a provider instead of their own transport) are therefore important strategies to reduce CO2 emissions from transport in Zemst.

Description

A number of municipalities want to play a pioneering role for an accelerated transition to sustainable mobility. They want to accelerate the switch to fewer fossil kilometres by focusing on:

- Group purchase of e-bikes (with Klimaatpunt vzw)
- Development of a regional car-sharing network (in collaboration with a cooperative partner)
- Promoting the use of a mobility application

The municipality of Pepingen started sharing an electric service vehicle in November 2020, through Cambio. Machelen followed in September 2021, also with Cambio. In October 2021, Zemst municipality followed with two electric sharing vans and in January 2022, Sint-Genesius-Rode with Cambio. Pepingen, Machelen and Zemst bought one electric car each with the Flemish climate subsidies. Sint-Genesius-Rode chose to deploy two vehicles in the form of a lease formula. A total of 255 e-bikes were purchased through the group purchase of electric bicycles. Klimaatpunt vzw charged labour costs (200 hours at €75 gross/hour) for the organisation of this group purchase.

Outcomes

- Car-sharing has taken root in the four participating municipalities.
- Finishing the projects with bicycle lockers or other flanking measures could not happen yet.
- The group purchase of electric bicycles was slightly less successful than expected.
- A regional car-sharing network has been built, in cooperation with a cooperative partner.

Challenges faced

Currently, sub-facets around the theme of shared cars are spread across charging infrastructure, shared mobility, LEKP (Local Energy and Climate Pact) and basic accessibility.

Lessons learned

- For smaller municipalities, it is appropriate to join forces when consulting with car share providers.
- Never put one sharing car alone in your municipality.
- As a local authority, also use the car-sharing vehicles yourself.

- Choose a visible location.
- As a local authority, do not stand in for the management of the car yourself.

A THREE-MONTH FREE URBAN TRANSPORTATION PILOT PROJECT

Country: Croatia
Name: Slavonski Brod
Inhabitants: 49,891 (in 2021)
Local government: Municipality
Type of measure: Public transport
Origin of the measure: SECAP in 2022
Since when it has been implemented: 2024
How was it financed: Municipal funds
Other actors involved: -

Context

Sustainable Energy and Climate Action Plan (SECAP) for the town of Slavonski Brod was developed in 2022 within which they committed to reduce GHG emissions by 55% until 2030, and by 80% until 2050. They also developed the Sustainable Urban Mobility Plan (SUMP) which has been adopted by the City Council in 2020.

Description

As part of efforts to achieve net-zero emissions by 2050, there are various projects and initiatives in the city of Slavonski Brod aimed at implementing sustainable practices to transform the city into a model of energy efficiency and sustainability. One of its key initiatives, launched on April 1, 2024, is the improvement of public transportation through a three-month pilot project offering free urban transportation. This initiative is driven by the local government, transportation companies, and community organisations, aiming to promote the use of public transport and increase citizen interest in this service for a more sustainable lifestyle.

Outcomes

- During this period, all citizens have the opportunity to use public transportation free of charge on various routes covering the entire city. This demonstrates the city's commitment to sustainability and enhancing the quality of life for its residents.
- The initiative has been positively received by the community, with a significant increase in public transportation usage observed since its implementation. Additionally, a reduction in traffic congestion has been observed, leading to decreased carbon emissions and a positive impact on the city's air quality and environment.

Challenges faced

The citizens of the town of Slavonski Brod had to be persuaded to start to use public transportation. Since public transportation was deteriorating through the years, citizens learned to rely more on their own cars, so the mindset change was the biggest challenge to be faced.

Lessons learned

It has been observed that although citizens have their own cars, if they are offered reliable and affordable public transport, they will often choose to use the public transport option. The important thing is to develop routes that cover most relevant spots for citizens such as hospitals, public administrations, schools, markets, etc.

MUNICIPAL CARGO BIKE RENTAL SERVICE

Country: Estonia
Name: Tartu
Inhabitants: 98,273 (in 2024)
Local government: Municipality
Type of measure: Active mobility
Origin of the measure: -
Since when it has been implemented: 2021
How was it financed: The initiative was initially kickstarted with funding from the Cyclurban+ project funded by the European Climate Initiative (EUKI) programme but is now funded by the city
Other actors involved: -

Context

Tartu has invested into transforming the urban environment to make it more biking-friendly for about 10 years. It developed a municipal bike-sharing initiative in 2019 with two thirds of the fleet equipped with electric-assist motors. This has been a success. To widen the use of bikes among people for whom regular bikes are not a good fit, the city decided to introduce a cargo bike rental service.

Description

The town provides a municipal cargo bike rental service. The goal of the project is to popularise cargo bikes as a sustainable transport option for citizens and businesses. In addition to providing opportunities for occasional use of cargo bikes, the scheme lowers the accessibility bar for wider use of cargo bikes by providing a low-cost rent option people and companies can test using a cargo bike before purchasing one for themselves. The cargo bikes can be booked in advance via a web page and can be retrieved or returned to a central location in the town centre.

Outcomes

- The pilot project was initiated in January 2021 with 3 cargo bikes but was extended to 17 cargo bikes because of the high demand.

- Additional benefits to lowering emissions from reduced car use, the scheme supports better health by reducing air pollution and providing active travel opportunities.

Challenges faced

There are only about 500 registered users of the bike rental scheme

CASH GRANT TO SUPPORT YOUTH BUYING BIKES

Country: Estonia
Name: Tallinn
Inhabitants: 461,371 (in 2024)
Local government: Municipality
Type of measure: Active mobility
Origin of the measure: -
Since when it has been implemented: 2022
How was it financed: From the municipal budget
Other actors involved: -

Description

In 2022 Tallinn introduced a measure "Biking to school" to support biking and applying for a biker's permit among young people between the ages of 10-15 years. The goal is to popularise applying for a biker's permit to increase safe traffic participation habits and biking as an active travel option.

Outcomes

The grant consists of a refund of 100 euros to the parent upon presenting an invoice for the bike purchase during 1 year after the youth has received a biker's permit. From 2023 a grant of 25 euros to support buying a helmet was added to the scheme.

CYCLING PLAN TO REDUCE CAR DEPENDENCY

Country: France
Name: Bures-sur-Yvette
Inhabitants: 9,254
Local government: Municipality
Type of measure: Active mobility
Origin of the measure: -
Since when it has been implemented: 2020
How was it financed: -
Other actors involved: -

Context

Bures-sur-Yvette is a city in the Paris region, with 9,254 inhabitants. The local cycling association has advocated for several years for better and safer cycling in the city and proposes several activities to the public such as family bike rides or cycling lessons for children and adults. The city voted on a cycling plan; the first measure being lowering the speed limit everywhere.

Description

Since 2020, the city lowered the speed limit from 50 km/h to 30 km/h, as part of its cycling plan to reduce car dependency and enhance active mobility. As a complimentary policy, the city developed a network of one-way streets for cars that cyclists can use both ways.

Outcomes

Reducing the speed limit of motorized vehicles has a lot of various benefits for inhabitants:

- First of all, road hazards are less frequent and serious.
- Cycling has become more enjoyable and easier, with cycling shortcuts through the city.
- More people are switching cars for bicycles for their daily commute.
- Fewer cars also have an impact on global health: a better air quality in Bures-sur-Yvette, and a more physically active population.

The local cycling association, which pushed the city to implement this policy, also proposes cycling sessions for primary schoolers. This local activity participates in the national goal to teach every child how to cycle by 2027. Children are now more autonomous and can move around more safely and freely on their bikes.

Lessons learned

This policy is financially interesting: the city simply changed some road signs, put up double bends and speed bumps. But in the long-term, it means more savings for the community: less investment in roads damaged by cars, less fuel spendings, etc.

SOCIAL PROGRAM TO MAKE PUBLIC TRANSPORTATION ATTRACTIVE

Country: France
Name: Occitanie
Inhabitants: 6,000,000
Local government: Region
Type of measure: Public transport
Origin of the measure: -
Since when it has been implemented: 2023
How was it financed: -
Other actors involved: -

Context

The Occitanie Region is an administrative region in the South of France, with more than 6 million inhabitants and two major cities. Its actions for reaching climate and energy targets are planned in a regional scheme for sustainable development and territories equality (SRADDET). French regions have the competence on inter-city mobility, such as trains and buses. Occitanie manages a network of 21 train lines and 370 bus lines.

Description

The Region proposes an ambitious social program to make public transportation attractive to young people. Initially designed for people aged from 18 to 26 years old, the initiative covers people from age 12 to 26 (approximately 1 million people in the area) since December 2023. The offer works as follows:

- For the first 10 trips of the month, train tickets are half priced and buses offer price from 1€ up to 2€,
- The '11th to 20th' trips are free,
- The '21th to 30th' trips are free and fill an online wallet (1/10th of the cost of the first 10 trips) that contributes to paying for the first trips of the following month.

Outcomes

Its vision for affordable public transportation made Occitanie the French region with the highest progression in frequentation: the Region claims +30% of trips were made with buses or regional trains in 2023 compared to 2019. 80 000 daily trips use public transportation, and the Region aims at 100 000.

Challenges faced

The social, economic, environmental regional committee of the Occitanie region pointed out several subjects to be cautious about, such as the absence of refund when the service does not work, or the accessibility for people with reduced mobility.

Lessons learned

This initiative is important both from a climate and a social perspective. As inflation grew in 2023, young people that are not all financially independent felt on "house arrest" as they could not afford fuel or growing costs in various sectors. It targets a public that has partial access to independent mobility and gives them an alternative to car dependency. It also gives the young good habits in terms of sober mobility. In 2024, the Occitanie Region voted for a budget with 9 million euros for public transportation, which represents 26% of the global 3.63 billion budget.

NETWORK LINK OF REGIONAL RAIL TRANSPORT WITH LOCAL URBAN TRANSPORT

Country: Poland
Name: Wągrowiec
Inhabitants: 25,457
Local government: Municipality
Type of measure: Public transport
Origin of the measure: Marshall office of Greater Poland Woivoodship
Since when it has been implemented: 2011
How was it financed: Mainly European Funds, but also own funds of marshal office and municipality
Other actors involved: Koleje Wielkopolskie - regional railway operator

Context

Years 1990-2010 were lost for Polish regional railways development. More railway lines were closed than opened. Deep reforms were introduced that resulted in many regions in creation of regional railway operators and more sincere organisation of railway by the regional authorities. Action on the Poznań-Wągrowiec railway lines are the landmark of what can be done to restore good railway services.

Description

A less obvious public transportation measure is to link the network of regional rail transport with local urban transport. A good example in this regard from recent years is the municipality of Wągrowiec from the province of Greater Poland. Between 2011 and 2013, the province modernised the railroad line leading to Wągrowiec from Poznań and the station platforms. After the modernisation, the city coordinated local transportation with train schedules at the local train station. In 2018 local government funds were used to modernize the train station, which won the award of train station of the year.

Outcomes

- Train travel time was reduced by 40%.
- Both activities reinforced each other, causing the number of rail passengers to increase by 50% in the following years and an increase in the number of trains.
- Now the rail line, previously marginalised, has become the second most used rail line in Greater Poland, with more than 10,500 trips a year.

Challenges faced

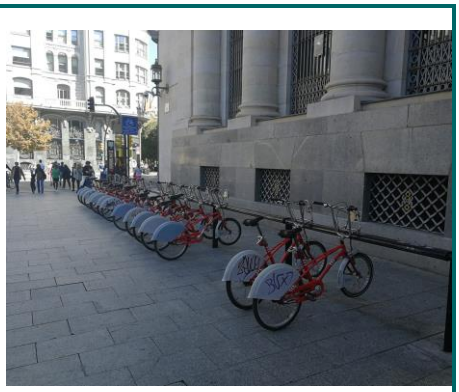
Railway operation in Poland is a fragmented sector. Some actions need to be done by regional authorities, some by national companies, some by municipalities. In the case of Wągrowiec the coordination between them was successful.

Lessons learned

In order to create a successful railway service there is a need to realise many investments, not only in infrastructure, but also in the railway cars as well as timetable and promotion. All of those investments create a single package that can persuade people to go out of their cars and use the railway instead.

NETWORK OF CYCLABLE AND HEALTHY PATHWAYS

Country: Spain
Name: Zaragoza
Inhabitants: 802,920
Local government: Municipality
Type of measure: Active mobility
Origin of the measure: Social (citizen initiative)
Since when it has been implemented: 2 - 5 years
How was it financed: Public funds (provincial, regional, national) and European funds
Other actors involved: Provincial, regional, national and European regulation levels collaboration, and citizen involvement through workshops dynamization and public exhibition



Context

The city of Zaragoza, one of the five largest cities in Spain, joined the European Covenant of Mayors for Climate and Energy in 2011, committing to reducing at least a 20% of the greenhouse gas emissions (GHG) by 2020, and developed its Sustainable Energy Action Plan. In 2021, the city has gone further and approved its Sustainable Energy and Climate Action Plan (SECAP) aligned with a GHG reduction target of 55% by 2030.

Description

Since 2018, Zaragoza has put in place several mitigation and adaptation measures, such as: promoting green infrastructure in the urban system, forest and steppe; promotion of intermodality between transport modes; ensuring accessibility to all mobility spaces and services; electric and low-emission mobility plan; energy savings, reduction of consumption and improvement of energy efficiency of electrical energy consuming equipment; optimisation of contracts and improvement of energy supply conditions; promotion of electricity generation systems from renewable sources in housing; promotion of the purchase of energy which comes from renewable sources; promotion of thermal energy generation systems using renewable sources in housing. The best practice selected for this analysis consists of the promotion of the network of cyclable and healthy pathways -CICLOREZ- through the expansion of cycling lanes, the location of safe parking for metropolitan bicycles, and the establishment of smart transport stops.

Outcomes

The main results of the measure in terms of climate action and/or energy transition are:

- Reduction of greenhouse gas emissions.
- Reduction of private vehicles.

An additional result obtained with the measure is both health and safety improvement. The main environmental, economic and social impacts produced as a result of the implementation of this measure in the municipality are:

- Improvement of social inclusion.
- Improvement of quality of life.

Challenges faced

The problems or obstacles that the municipality has faced in the implementation of this measure are mainly bureaucratic/administrative barriers and the lack of human and material resources.

Lessons learned

The main lesson that the municipality has learned from the experience in the implementation of this measure is administrative barriers and the lack of time. Among the elements that are considered essential for a better implementation of the measure from now on, more human resources stand out.

Additional information

The measure implemented could be easily replicated in other municipalities. One specific aspect of the implementation that could hinder its replicability is the administrative impediments.

GREEN LINK BETWEEN A RESIDENTIAL AREA AND A BUSINESS PARK

Country: Belgium
Name: Lendelede
Inhabitants: 5,878 (in 2024)
Local government: Municipality
Type of measure: Green spaces
Origin of the measure: Gemeente voor de Toekomst
Since when it has been implemented: 2021
How was it financed: 86% own resources, 14% provincial resources
Other actors involved: Participation with primary school and local residents, collaboration with various services, enthusiasm to make this happen.

Context

In the summer of 2020, the municipality asked its residents: 'How should we lay out a 3,500 m^2 piece of land located on the side street of Stationsstraat?' It received many suggestions and the pupils of the school De Talententuin were also allowed to have their say. A year and a half later, the time had finally come: the planting of the Wonderwoudje, where the children are and stay the boss. On Friday 11 February 2021, some 100 super enthusiastic pupils planted part of the Wonder Forest.

Description

The municipality had the opportunity to acquire a plot located in a cul-de-sac adjacent to a residential area. The municipality submitted a project via "Gemeente voor de Toekomst" of the Bond Beter Leefmilieu with support from the Province of West Flanders. The project was approved and together with BOS+ the Wonderwoudje was elaborated: participation trajectories, planning and realisation.

Outcomes

The 'Wonderwoudje Kinderen baas' is a green link between the residential area and the Nelca business park, both of which are laid out with green zones. Via slow roads, the Wonderwoudje is easily accessible. It is a pleasant place to be, for young and old alike. The realisation of a barefoot path, at the request of the children, is an added value and provides an extra experience. It became a nice green stepping stone, showing that you can also make an important contribution to the LEKP with such projects. On a relatively limited area, the following LEKP contributions were realised:

- 7 trees (an area of forest was also planted, but this is outside the scope of the LEKP - the other trees shown on the plan were already there)
- 87 metres of hedges and wood edges
- > 3000 m^2 of natural green space (target 2030 achieved)
- 8 m^2 of rainwater buffering and infiltration

Challenges faced

- Road works causing delays.
- Willingness of contractors to carry out works.

Lessons learned

- Participation with primary school and local residents, cooperation with various departments, turned out to be a success factor and contributed to the enthusiasm to make it happen.
- Site preparation before planting: do not underestimate (both in terms of work and cost). Think about drainage, stones in the ground, ...
- Tree maintenance costs a lot of money!

RAIN GARDENS IN THE URBAN AREA

Country: Croatia
Name: Pula-Pola
Inhabitants: 52,220 (2021)
Local government: Municipality
Type of measure: Green spaces
Origin of the measure: SEAP in 2019
Since when it has been implemented: 2010 - now
How was it financed: EU funds, national funds, municipal funds
Other actors involved: -

Context

Following the developed Sustainable Energy Action Plan from 2019, Town of Pula-Pola also developed Climate change adaptation Strategy (2030) and Action Plan as a part of Life SEC Adapt project in 2018.

Description

One of the measures defined within these documents was the development of rain gardens in their urban area. Pula-Pola had significant challenges with urban flooding due to the heavy precipitation. They have implemented many green areas across cities either as parks, parklets or green areas within roundabouts. These rain gardens keep the water within them and slowly release it towards the main channels.

Outcomes

Rain gardens in urban areas like Pula-Pola offer significant environmental, aesthetic, and economic benefits. They manage stormwater by absorbing run-off, reducing the risk of flooding, and improving water quality before it reaches the Adriatic Sea. By facilitating groundwater recharge, they help maintain local water supplies. Rain gardens also enhance urban biodiversity, providing habitats for native plants and wildlife, and contribute to urban greening, making public areas more visually appealing and enjoyable for residents and visitors alike.

Challenges faced

There were no significant challenges around this initiative. It was perceived as a positive one that would benefit citizens, community and tourism.

Lessons learned

Once the rain gardens were implemented, it became clear how useful this kind of areas are in the urban area, especially in the town situated on karst where drainage is insufficient, and flash floods are common during bigger rains. This was the most important lesson learned – more of this kind of “spongy” areas need to be implemented around the town to facilitate drainage of rainwater and decrease the occurrence of flash floods.

Additional information

Economically, rain gardens save costs on stormwater infrastructure and reduce flood damage expenses. They also support tourism by enhancing the town's attractiveness with eco-friendly, beautiful landscapes. Additionally, rain gardens mitigate the urban heat island effect, making the town more comfortable during hot months, and help Pula-Pola adapt to climate change by managing increased rainfall and improving drought resilience. They serve as educational tools, raising environmental awareness and fostering community engagement through collaborative design and maintenance efforts. By incorporating rain gardens into the urban planning and development strategy of Pula-Pola, the town can enjoy these multifaceted benefits, leading to a healthier, more sustainable, and vibrant urban environment.

PILOT PROJECT FOR BIODIVERSITY INCREASING IN PARKS

Country: Estonia
Name: Tartu
Inhabitants: 98,273 (2024)
Local government: Municipality
Type of measure: Biodiversity increase
Origin of the measure: -
Since when it has been implemented: 2020
How was it financed: -
Other actors involved: -

Description

In 2020 a pilot project to increase the biodiversity in three parks in central Tartu was started. Over the years many measures have been introduced and piloted: less frequent mowing combined with mowing walking paths into the grass to enable people to see the plants better, changing the light regime in the parks through cutting down some trees, leaving logs and cut down branches in the parks to increase habitats for various species, introducing more plant species traditional in Estonia to create permanent flower beds and meadows instead of changing various annual plants and flowers multiple times during the season. Much of the work has been carried out through organised voluntary collective actions involving local inhabitants to increase ownership and understanding about the project's goals.

Challenges faced

The main impediment of the initiative was the initial resistance of municipal workers, who are used to currently widespread practices of municipal landscaping and have little knowledge of the biodiversity crisis. Also, the reception by city inhabitants has been mixed.

MOWING REDUCTION IN AREAS MANAGED BY THE MUNICIPALITY

Country: Estonia
Name: Tartu, Tallinn
Inhabitants: -
Local government: Municipality
Type of measure: Mowing reduction
Origin of the measure: -
Since when it has been implemented: -
How was it financed: -
Other actors involved: -

Description

For the last couple of years, Tartu and Tallinn have reduced mowing in areas managed by the municipality to increase biodiversity and green the cities. Mowing has been reduced on the sides of the roads and streets but also in parks and recreational areas. Grass used to be kept at a maximum height of about 10 cm. Now, many areas are mowed only 1-3 times between spring and autumn.

Outcomes

- The areas are populated by many kinds of flowering plants and grasses that provide habitats and nutrition to many species like insects.
- This measure has the additional benefits of saving money for the municipality, reducing the use of fossil fuels for both using and transporting the mowing equipment, lower heat island effect during heatwaves and less dust and particles from the dried-out grass during the summer.

Challenges faced

The reception has been mixed: many inhabitants support the initiative, but many inhabitants see this as unsightly, neglect of duties and cutting corners by the municipality. Also, there is a fear of more tick infections. One of the problems of implementation of the measure has been uneven take up by the contractors who mow the areas, and there has been a number of cases when mowing has been too frequent and carried out in dried out areas.

FIRST SPECIALISED LOCAL GOVERNMENT ENTITY FOR ADAPTATION

Country: Poland
Name: Krakow
Inhabitants: >500,000
Local government: Municipality
Type of measure: Green spaces
Origin of the measure: MPA in 2019, KEGW in 2020
Since when it has been implemented: 2020
How was it financed: Various sources, including city budget and European funds
Other actors involved: -

Context

Since 2013 Poland has introduced measures to encourage cities to active adaptation to climate change. By 2019 most of the biggest cities in Poland have prepared their municipal adaptation plans. Most of the cities have no little to no commitment to actively implement the measures from the plans. Cracow successfully created a structure to work sincerely on adaptation.

Description

In 2017 Krakow was among a group of 44 Polish cities that, in cooperation with the Ministry of Environment, proceeded to develop municipal adaptation plans (MPAs), i.e. documents aimed

at assessing the vulnerability and susceptibility of cities to climate change and planning adaptation measures to the identified risks. As a result, in 2019 the "Adaptation Plan of the City of Krakow to Climate Change until 2030" was created, which for the next few years set the directions of actions adapting Krakow to changing climatic conditions. The analysis carried out as part of the MPA shows that, in the case of Krakow, the most vulnerable sectors include public health/sensitive groups, water management, transportation, and areas of high-intensity residential development including green areas. The cost of the measures planned in the MPA was estimated at about PLN 8 billion. In order to coordinate adaptation measures, a new municipal unit "Climate-Energy-Water Management" (KEGW) was established in Krakow at the beginning of 2020 to deal with, among other things, the construction and maintenance of the city's drainage system, flood protection and investments in renewable energy sources. KEGW is the first specialized local government entity established to adapt the city to climate change.

Outcomes

Among the measures taken by the city in recent years in line with the adaptation strategy developed are the equipping of a flood storage facility and investments in the development of blue-green infrastructure (such as retention basins, pumping stations, rain gardens, pocket parks, "green" tracks and bus stops). The city undertakes numerous investments in preserving and enhancing green areas, allocating about 2% of its annual budget for this purpose. Krakow is also one of the few cities in Poland that has developed a coherent and long-term strategy for managing urban greenery (the document adopted in 2019, titled "Directions for the Development and Management of Urban Green Areas. "Directions of development and management of green areas in Krakow for 2017-2030"). Climate change adaptation measures are consistent with the city's development vision set out in the "Development Strategy of Krakow. This is where I want to live. Kraków 2030."

Among the investments made by the city, the revitalisation of part of the Polish Aviators' Park stands out, involving the transformation of an undeveloped area of the park into a retention pond (a pond with viewing platforms, a causeway and a café building). The water in the pond is purified thanks to filter plants, and the revitalized area, in addition to its recreational and aesthetic functions, allows rainwater to be collected and used to water the vegetation. There is also a so-called polder in the Lotników Park, which, in the event of periodic heavy rain, has the capacity to receive rainwater from about ¼ of the roof area of the TAURON Arena Krakow Hall. The park's revitalisation project has been recognized, among others, in a competition organised by the Society of Polish Urban Planners and the "City with Climate" competition organized by the Ministry of Climate and Environment.

Challenges faced

There are no challenges reported.

Lessons learned

A separate institution responsible for coordination of the climate policy issue on the municipal level can be a fruitful action.

Additional information

Noteworthy in this regard is the Krakow rainwater and snowmelt micro-retention program, which has been in operation since 2014, under which the city provides grants for the implementation of investments allowing rainwater collection and use (such as underground tanks for rainwater and snowmelt, aboveground tanks for water collected from the roof with installation for connection to the gutter, bioretention systems, green roofs or irrigation systems). Between 2014 and 2020, nearly PLN 5.9 million was allocated for the program, allowing 841 installations for rainwater collection and used to be made in the city.

COMBATING THE SPREAD OF PINE PROCESSIONARY

Country: Portugal
Name: Seixal
Inhabitants: 166,525
Local government: Municipality
Type of measure: Pest control and biodiversity
Origin of the measure: -
Since when it has been implemented: 2006
How was it financed: Own resources
Other actors involved: -

Context

Seixal, a municipality in the district of Setúbal within the Lisbon metropolitan area, joined the EU Covenant of Mayors in 2011 and submitted its Sustainable Energy Action Plan (SEAP). In 2022, Seixal reinforced its commitment by adopting a Sustainable Energy and Climate Action Plan (SECAP), aiming for a 40% reduction in emissions by 2030.

Description

The pine processionary caterpillar is a native pest in Central Asia, North Africa, and Southern European countries. As climate change intensifies, these caterpillars are increasingly attacking pine forests in these regions. Further, the caterpillars are covered in fine, highly irritant hairs, which trigger harmful reactions in humans and other mammals. To counter these negative effects, the municipality of Seixal started installing nest boxes for great tits, which are natural predators of the pine processionary. The spread of this bird species has been limited due to the lack of natural shelter, so this project also contributes to its conservation. Initially, the initiative was implemented in schools and complemented by awareness-raising campaigns to educate about the dangers of the caterpillar. Due to its success, the bird nest boxes were then installed in other green spaces and offered to interested citizens living close to pine forests.

Outcomes

- Reduction in pine processionary caterpillar populations

- Increase in the population of great tits
- Greater awareness for the risks associated with the contact with the pine processionary

Challenges faced

The biggest challenge was the lack of support from educational establishments for awareness-raising activities about pine processionary caterpillars.

Lessons learned

There is a need to improve the coordination of the various actions, namely the placement of new nest boxes and their repair/replacement, in order to continue monitoring the project over time, as well as to improve the dissemination of awareness campaigns.

RETENTION BASINS IN URBAN PARKS

Country: Portugal
Name: Guimarães
Inhabitants: 156,849 (2021)
Local government: Municipality
Type of measure: Flood management
Origin of the measure: -
Since when it has been implemented: 2015
How was it financed: 85% EU Funds(ERDF)
Other actors involved: Laboratório da Paisagem, Universidade do Minho

Context

Guimarães is leading municipal climate action in Portugal by example. The municipality put environmental sustainability on its political agenda in 2013, by signing the Covenant of Mayors. Since then, the municipality has developed a Sustainable Energy Action Plan (SEAP), a Sustainable Energy and Climate Action Plan (SECAP) and, also, integrated in the network of municipalities ClimAdaPT.Local, a Municipal Climate Change Adaptation Strategy (EMAAC). More recently, Guimarães developed a Municipal Climate Action Plan, as required by the National Climate Law. In 2021, a Climate Action Team was set up, comprising a multidisciplinary team of municipal technicians, and associated institutions such as Laboratório da Paisagem, and in 2022, Guimarães was one of the 100 cities chosen by the European Commission to achieve climate neutrality by 2030 in its 100 Cities Mission. In 2023, the municipality reinforced its commitment with the creation of the Municipal Directorate for Territorial Intervention, Environment and Climate Action (DMITAAC). Also in 2023, as part of the development of the Climate Contract of the 100 Cities Mission, and in order to involve the largest number of organisations aligned with Guimarães' vision, the Guimarães Climate Pact was created, already signed by more than 100 private sector organisations and institutions.

Description

Three retention basins were built - Bacia do Parque da Cidade (10.000m^3), Bacia Norte do Parque das Hortas (10.000m^3), Bacia Sul do Parque das Hortas (5.500m^3) – to improve the hydraulic system of the Ribeira da Costa/Couros by reducing the flow and speed of water, thus reducing the probability of flooding in the lower part of the city. This area has been classified as a UNESCO World Heritage Site in 2023. The intervention favoured the preservation and enhancement of green spaces, which are part of the city, promoting the sustainability and biodiversity of the natural system, creating river ecological corridors, as well as increasing the degree of public use of these natural areas, creating places of interface between social life and riverside spaces.

Outcomes

Due to their capacity to retain and regulate river flow, the retention basins have solved the flooding problem that systematically affected more than 2000 people. In the first five years alone, 52 floods in the city centre were avoided.

Challenges faced

- The need to implement natural engineering techniques to stabilise the banks and redefine the riverbed, with the purpose of reducing erosion and improving water flow.
- The necessary changes to the rainwater drainage system.

Lessons learned

The implementation of the three retention basins proved to be effective in preventing flooding in the lower part of the city and is considered an example of success in adapting to climate change. In addition to the inevitable social, economic and environmental gains, it will also have helped Guimarães achieve the extension of its UNESCO classified area. In 2023 alone, the retention basins retained 225m^3 of water, preventing 52 episodes of flooding.

Additional information

For more information on Guimarães Climate Pact and municipal climate action: https://guimaraes2030.pt/

PUBLIC PARK AS A LIVING LAB FOR DECARBONIZATION

Country: Spain
Name: Córdoba City
Inhabitants: 350,000
Local government: Municipality
Type of measure: Green spaces
Origin of the measure: Project of the municipal institute of environmental management
Since when it has been implemented: Between 1 and 2 years
How was it financed: Own resources
Other actors involved: Provincial regulation level collaboration, citizen involvement through the maintenance of urban fountains

Context

The city of Córdoba, one of the eight capitals of the Spanish Andalusia Region, joined the European Covenant of Mayors for Climate and Energy in 2009, committing to reducing at least a 20% of the greenhouse gas emissions (GHG) by 2020, and developed its Sustainable Energy Action Plan (SEAP) in 2010. According to previous diagnosis, the main sectors to focus on to reduce GHG emissions are transport and residential. However, renewable energies have become essential to achieve this reduction goal, mainly through PV energy due to the city characteristics, and also a way of becoming a municipality based on renewable energies. Another key sector in the city is waste management through generation, collection and elimination. All these are the main areas where the local administration has a direct competency to implement actions envisaged at reducing GHG emissions. The city has not yet committed to the goal of 40% reduction in emissions by 2030, nor has it developed the Sustainable Energy and Climate Action Plan.

Description

Since 2008, Córdoba has put in place several mitigation and adaptation measures, such as: implementation of a bike program; improving the efficiency of public lighting systems (lamps replacement, astronomical watches, flux reduction systems, ...); increasing the efficiency of the organic waste composting plant. The best practice selected for this analysis consists of the naturalisation of urban fountains, avoiding chlorination.

Outcomes

The main results of the measure in terms of climate action and/or energy transition are:

- Reduction of greenhouse gas emissions.
- Increase of green spaces in the city.
- Saving water and improving climate resilience.

An additional result obtained with the measure is the improvement of citizens well-being by preventing the reproduction of mosquitoes. The main environmental, economic and social impacts produced because of the implementation of this measure in the municipality are:

- Reduction of city's 'heat island' effect
- Improvement of quality of life

In addition, there is a monitoring plan to evaluate and monitor the long-term results of these measures.

Challenges faced

The problems or obstacles that the municipality has faced in the implementation of this measure is mainly the lack of human and material resources. This issue has been partially addressed thanks to the active participation of citizens in the maintenance of the fountains.

Lessons learned

The main lesson that the municipality has learned from the experience in the implementation of this measure is the importance of using natural means in the maintenance of urban fountains. Among the elements that are considered essential for a better implementation of the measure from now on, citizen collaboration stands out.

Additional information

The measure implemented could be easily replicated in other municipalities. One specific aspect of the implementation that could hinder its replicability is the lack of citizen involvement.

FOOD WASTE REDUCTION IN HOUSEHOLDS

Country: Belgium
Name: Brugge
Inhabitants: 119,541 (in 2023)
Local government: Municipality
Type of measure: Food waste
Origin of the measure: SECAP
Since when it has been implemented: 2022
How was it financed: 75% resources of Flanders
Other actors involved: -

Context

On average, a Flemish household wastes 1.7 kg of solid food and drinks per week or 88 kg per year. Per person, this amounts to an average of 37 kg per year. For Bruges, this adds up to 4366 tonnes of food waste/year, or the equivalent of 7 to 14 kt of CO2/year. Avoiding food waste is therefore a theme in Bruges' climate plan BruggeNaarMorgen. In 2018, a pilot project successfully reduced food loss in Bruges care institutions. Now Stad Brugge also addressed all Bruges families and wants to share the lessons learned with other cities and municipalities.

Description

The main aim of the project was to reduce food waste in Bruges households by min. 30% by encouraging behavioural change and thus also achieving CO_2 reduction. The aim was first to train 50 ambassadors who would help 500 people the following year and then 5000 people to join Foodwinners Brugge. Specifications were issued for training and mentoring ambassadors and developing a measurement tool. On 3/4/2020, Foodwin and its partners were appointed for this purpose.

- In phase 1, we went through an intensive process with 50 households (ambassadors who, based on 9 challenges on buying, storing and cooking, went through training to become experts against food waste)
- In phase 2 (2021), we challenged a wider audience of 500 citizens to reduce food waste based on communication materials developed in phase 1
- In phase 3 (2022), we scaled up even further, to reach a total of 5,000 citizens.

Outcomes

- There were 150 candidates for the ambassador training, 50 were selected.
- Across the 3 phases, participants reduced their food waste by 55%, saving 45,032 kg of food annually, equivalent to 144,102 kg of CO2 and €188,684! In phase 3, we fell just short of 5,000 participants.
- In total, we reached 280,000 people via our social media channels.
- We also achieved much more than 30% waste reduction each time.

Challenges faced

- Due to corona, the city had to make some adjustments for ambassador training.
- The added value of being able to participate as a group outweighed the number of extra registrations.

Lessons learned

- Online publicity with well-known figures has great impact
- Flyers with concrete tips have lasting impact. Posters, group engagement, presence/speaking at events had less effect
- CO2 calculation was not easy (uncertainty about figures and applicability in Flanders). There are now agreements with OVAM/Vlaco regarding the Plan-eet app, which was drawn up afterwards.
- Repeatable if participants can choose between measuring or receiving tips

A MUNICIPAL COMPANY FOR WASTE MANAGEMENT

Country: Croatia
Name: Prelog
Inhabitants: 7,027 (2021)
Local government: Municipality
Type of measure: Municipal waste
Origin of the measure: SEAP in 2014; SECAP in 2020
Since when it has been implemented: 2019
How was it financed: National funds, municipal funds
Other actors involved: -

Context

Town of Prelog, situated in a rural north-west part of Croatia, Medjimurje, has joined the Covenant of Mayors in 2013. They then developed the Sustainable Energy Action Plan (SEAP) a year later and Sustainable Energy and Climate Action Plan (SECAP) in 2020. Also, they have developed a Waste Management Plan whose implementation has shown them to be a leader in waste management in Croatia. In a 5 years period they tripled the percentage of separately collected waste and are now at over 66% (data from 2022).

Description

PRE-KOM is a municipal company for waste management in the city of Prelog and 11 other municipalities (covering a total of 40,210 inhabitants). Success factors are persistence in the implementation of established measures, clearly set goals and great engagement of the local population.

Outcomes

PRE-KOM, on average, in 12 local self-government units (LGUs) in 2019 managed to separately collect 57.25% of municipal waste (Prelog 66.69%), in which only 70 kg of mixed municipal waste (waste that is not suitable for recycling or composting) is produced per inhabitant per year. PRE-KOM is committed to the goal of reducing that amount below 50 kg and increasing separately collected waste to >70% in all local self-government units in the next few years.

Challenges faced

When implementing separate waste gathering from citizens, some resistance occurred by a minority of the house owners. However, this was resolved through clear communication of the benefits for them and the whole community. There was also some legislation changes linked to waste management that occurred later which might even have consequences for Prelog that they should pay a fine, but this was resolved through multilevel governmental communication between the town, the region and the national government.

Lessons learned

It is important to be open and have a clear communication towards citizens when implementing changes that affect their usual living conditions. If this is not done, resistance can grow within certain groups which can then jeopardy the success of the initiative.

Additional information

As part of the unique waste management system in 12 JLS, PRE-KOM built a recycling yard in Prelog on an area of approx. 2000 m2 with boxes and containers that can accommodate approx. 750 m3 of useful waste. A mobile recycling yard is also equipped. In addition, an area for storing processed waste in bales with an area of approximately 800 m2 has been arranged. As part of the recycling yard, there was previously a production plant for the processing of useful waste with a sorting belt and two balers, and in view of greater needs, a more modern sorting plant was built in 2015. Following that, in September 2020, PRE-KOM started the construction project of a recycling yard for construction waste.

PERMANENT PLACES FOR CITIZENS POSSESSIONS REPAIRING

Country: Estonia
Name: Tartu, Tallinn
Inhabitants: -
Local government: Municipality
Type of measure: Repair centre
Origin of the measure: -
Since when it has been implemented: 2019
How was it financed: Now it is partially funded by the municipality
Other actors involved: -

Description

Permanent places where tools and expertise are available to enable inhabitants to repair their possessions have been created in Tartu and Tallinn. The Repair basement (https://paranda.ee/) was set up in Tartu in 2019 by a group of volunteers who had organised repair cafés before with the funding they received by achieving second place in the Negavatt competition. It offers help and tools to inhabitants who want to repair textiles, electronics, bikes and other items.

Outcomes

Kopli 93 repair workshop was set up in Tallinn with funding from the city and a grant from the government. It is mainly focused on woodwork. Both centres offer the opportunity to use the tools but also offer knowledge and guidance if people need it.

A MODERN POINT FOR SELECTIVE COLLECTION OF MUNICIPAL WASTE

Country: Poland
Name: Wejherowo City
Inhabitants: Close to 50,000
Local government: Municipality
Type of measure: Municipal waste
Origin of the measure: Wejherowo waste management company
Since when it has been implemented: 2022
How was it financed: European Funds and funds of the Wejherowo city
Other actors involved: -

Context

Polish municipalities have been introducing waste collections systems for many years. Still the level of waste segregation is not high enough to secure high enough recycling levels. Circular economy is something new to society and needs new solutions to persuade the people it is worth going for.

Description

In Wejherowo, Pomeranian Voivodeship, it has been decided to actively prevent waste with the help of a so-called: eco-factory. In 2022, on the site of a former furniture factory, thanks to European funds, a modern point for selective collection of municipal waste combined with an environmental education centre was created. It is important that it is an aesthetically pleasing building, which encourages people to come to it.

Outcomes

The innovation of the solution lies in the fact that the point carries out active activities for not only recycling, but also upcycling and recovery of waste delivered by the city's residents. The main new activity of such a point is the integration of the local community around the problem of waste. Integration involves residents, NGOs and the local government. The joint participation of these three groups is the basis of the Kashubian Klamot Gallery's (Kaszubskie Klamoty) operation. First, the items donated by residents are treated as works of art. Through renovation, a gallery of reusable items is created from them. Volunteers from local NGOs take part in the renovation. The organisations have a vested interest in this, as the gallery is used to sell the refurbished items, and the income is distributed among the NGOs. Revenue from the galleries is growing. The first gallery brought in more than 3 thousand PLN, and the fourth in February 2023, up to 21 thousand PLN in revenue. In total: more than 45 thousand PLN have been collected. The place has been awarded an eco-modernisation award for 2021.

Challenges faced

It was a challenge to create a place where people would come in order to give away, work or buy a thing that previously was a waste. Eco-factory managed to break this barrier of a waste collecting and processing place as a dirty one.

Lessons learned

Invitation of non-governmental organisations in the process of waste treatment can be beneficial to all the process stakeholders. Waste processing can create multiple benefits for multiple stakeholders.

DOOR-TO-DOOR AND PAY-AS-YOU-THROW WASTE COLLECTION

Country: Portugal
Name: Maia
Inhabitants: 134,977
Local government: Municipality
Type of measure: Municipal waste
Origin of the measure: Initiative from Maiambiente, the municipal public company working on solid urban waste
Since when it has been implemented: 2021 (with a pilot project)
How was it financed: Own resources
Other actors involved: Maiambiente, Lipor

Context

Maia is a municipality in the Metropolitan Area of Porto. It joined the European Covenant of Mayors for Climate and Energy in 2017 and developed its Sustainable Energy Action Plan (SEAP) in 2020. In this document, Maia committed to a 40% emissions reduction by 2030. Yet, the measures outlined in the plan could achieve a 60% reduction within the same timeframe, bringing the city closer to its goal of becoming the first in Portugal to reach climate neutrality.

Description

To incentivize waste separation and make streets cleaner, the municipality of Maia has implemented a door-to-door (D2D) waste collection system. This implies that households place waste near the street in private waste containers provided by the municipality. Different types of waste are collected on different days according to a predefined weekly calendar, including organic waste for composting. In addition, there is a door-to-door collection service for electronic waste, bulky items, and garden waste, which requires prior booking. Maia is also a pioneer in integrating the polluter-pay principle into its waste management system. In Portugal, waste fees for households are typically tied to water consumption. However, by 2030, all Portuguese municipalities are required to adopt a Pay-as-you-throw (PAYT) system, where households are charged based on the volume of mixed waste they dispose of, thus rewarding those who recycle. The municipality of Maia began transitioning to this model in 2021 with a pilot project reaching 16,200 inhabitants and has since expanded it to cover the whole municipality

by this year. To facilitate the PAYT system, the private waste containers are registered with a code and equipped with an electronic system, and collection vehicles are equipped with an antenna to monitor the volume of collected waste.

Outcomes

The PAYT model incentivizes waste reduction and higher recycling rates. In turn, this decreases the volume of waste sent to landfills and the resulting greenhouse gas emissions.

Challenges faced

- The heterogeneity of customer types and the variety of urban sites require additional care in planning.
- The lack of robustness, detail and reliability of the customer database to plan logistics operations (equipment distribution and waste collection) jeopardises the level of service.
- The balance between efficiency and effectiveness has been and continues to be a delicate compromise.

Lessons learned

- Customer segmentation, service flexibility and complementarity with regular, multi-channel communication campaigns are essential.
- The door-to-door collection model has proved to be essential for high recycling rates and for the implementation of a PAYT tariff.
- The availability of an operation management tool is absolutely essential.

SELECTIVE COLLECTION OF THE ORGANIC FRACTION

Country: Spain
Name: Novelda
Inhabitants: 25,600
Local government: Municipality
Type of measure: Municipal waste
Origin of the measure: Legislative (local action plan)
Since when it has been implemented: < 1 year
How was it financed: Own resources and European funds
Other actors involved: Provincial regulation level collaboration, citizen involvement through talks, citizen surveys

Context

The City of Novelda, which belongs to the Eastern province of Alicante, joined the European Covenant of Mayors for Climate and Energy in 2010, committing to reducing CO2 emissions by over 20% by 2020. In 2014, the city committed to the goal of 40% reduction in emissions by 2030, and accordingly developed in 2021 its Sustainable Energy and Climate Action Plan (SECAP).

The Plan contains a total of 43 measures aimed at reducing the municipality's emissions by at least 40%, adapt the municipality to the risks of impact derived from climate change and to fight against energy poverty. Estimations show that the municipal sector and public lighting are those that experience a greater reduction in emissions compared to 2007 (99.53%). Regarding the reduction of energy consumption, the residential sector and, again, the sector of municipal and public lighting present a reduction of 57.10% and 51.10%, respectively. For each measure, their impact on reducing emissions and energy savings has been evaluated, as well as what impact risks it faces.

Description

Since 2021, Novelda has put in place several mitigation and adaptation measures, such as: awareness talks about energy saving for all citizens; creation of a large green belt in the municipality; improved conservation of parks and gardens; safe pathways to schools in the municipality; rehabilitation plan for municipal buildings; upgrade to LED technology for street lighting. The best practice selected for this analysis consists of the implementation of Selective Organic Fraction Collection (SOFC) with proximity containers.

Outcomes

The main results of the measure in terms of climate action and/or energy transition are:

- Reduction of greenhouse gas emissions.
- Improvement of waste management

The main environmental, economic and social impacts produced as a result of the implementation of this measure in the municipality are:

- Creation of new employment niches.
- Proximity services.

In addition, there is a monitoring plan to evaluate and monitor the long-term results of these measures. Evaluation is carried out to extract the amount of SOFC collected and extent on the use of the containers.

Challenges faced:

The main problem/obstacle that the municipality has faced in the implementation of this measure is social opposition. Some of the solutions that have been applied to address this issue have been placement of proximity containers, closeness to citizens, as well as support with distribution of baskets and compostable bags to support the initiative.

Lessons learned:

The main lesson that the municipality has learned from the experience in the implementation of this measure is that more work needs to be done to raise social awareness regarding climate change. Among the elements that are considered essential for a better implementation of the measure from now on, a greater effort in communication to citizens stands out.

Additional information:

The measure implemented could be easily replicated in other municipalities. One specific aspect of the implementation that could hinder its replicability is its economic cost.

ECOTOURISM AND SUSTAINABLE AGRIFOOD SYSTEMS

NEW ECOTOURISM EXPERIENCE IN A PROTECTED MARITIME AREA

Country: Croatia
Name: Cres
Inhabitants: 2,185 (2021)
Local government: Municipality
Type of measure: Local commerce
Origin of the measure: SECAP in 2021
Since when it has been implemented: 2021
How was it financed: EU, national and municipal funds
Other actors involved: -

Context

Town of Cres got their Sustainable Energy and Climate Action Plan (SECAP) developed within project RESPONSe at the end of 2021. SECAP is very much interlinked with Clean Energy Transition Programme of Cres-Lošinj islands, which is a strategic plan designed by local communities for local communities.

Description

Since September 2021, the city of Cres has led a sustainable tourism project as part of the DestiMED PLUS program, focused on offering a new ecotourism experience in the protected maritime area of Cres-Lošinj (NATURA 2000). This project has promoted the development of

sustainable tourism in the Mediterranean, emphasising collaboration among local actors such as the ASL agency of Veli Lošinj. Innovative practices included developing ecotourism experiences, conserving natural and cultural heritage, and supporting ecotourism as a model for sustainable development.

Outcomes

- The sustainable tourism project in Cres has been successful to date. It has involved local communities through workshops and has promoted job creation in the tourism sector, improved air quality by encouraging green transportation, and supported local economic activities.
- Despite challenges in coordination and integration, the project has strengthened the island's reputation as an ecotourism destination, generating economic and social benefits for the region and serving as a model for other cities on the path to sustainability.
- Cres leads associations with other actors to ensure the long-term success of its approach. These include collaborations with international and local programs that promote responsible and sustainable tourism practices, highlighting the importance of adopting practices that benefit both local communities and the natural environment.
- Currently, the city continues to work on sustainable tourism policies and community well-being.

Challenges faced

As the initiative was very interesting to the targeted group, there were no challenges while implementing it.

Lessons learned

Sustainable tourism is the future of tourism, especially on islands who often face limited resources due to their dislocation from the mainland. This is mostly visible during the summer season when many tourists come from abroad. Nourishing sustainability in the tourism sector will enable sustainable development of the island communities.

GLOBAL SUSTAINABLE FOOD PROGRAM

Country: France
Name: Mouans-Sartoux
Inhabitants: 10,531
Local government: Municipality /
Type of measure: Sustainable food program
Origin of the measure: PAT (projet alimentaire territorial)
Since when it has been implemented: 2021
How was it financed: -
Other actors involved: -

Context

Since 2011, the city of Mouans-Sartoux leads a global sustainable alimentation program to change the production and consumption of local products on the long term. For this purpose, the municipality created a Territorial food program to plan the needs and the necessary transformation of the agricultural landscape.

Description

The territorial food program changed both the ways food is produced and consumed in the area. Through the program, the city installed the first municipal farm in France, protected agricultural land, helped organic farmers settle on the territory, and opened a house for education on sustainable alimentation. The house is in charge of monitoring the territorial food program and raising awareness of the population on their consumption practices. The city also animates a program on citizens' self-production, working groups with the private sector.

Outcomes

- According to the city of Mouans-Sartoux, in 2019 87% of inhabitants declared in a survey that they changed their alimentation thanks to municipal action.
- Public canteens offer 100% organic and mostly local meals to all schoolchildren.
- The self-production program allows the excess production of fresh fruit and vegetables to the solidarity grocery store for underprivileged inhabitants.
- The city is currently working on monitoring the impacts of sustainable alimentation policies on global health.

Challenges faced

To develop a sustainable food program, it was necessary to develop an offer of local quality food, in a region with low agricultural production. The city had to create the first municipal farm of the country, work on preserving agricultural land and help organic farmers settle on the land.

Lessons learned

A sustainable food policy can become a comprehensive social, educational, health program. The city leads several partnerships with other actors to ensure the long-term success of its approach:

- To inspire others, the city co-leads a master's degree in the Côtes-d'Azur university which trains students on the Mouans-Sartoux method.
- Mouans-Sartoux joined the BioCanteens EU program as lead partner to work with 6 other European cities on sustainable food programs.

RAINWATER MANAGEMENT WITH LOCAL FARMERS

Country: France
Name: several regions, departments and cities
Inhabitants: 10,531
Local government: Region
Type of measure: Water management
Origin of the measure: Breizh-Bocage program
Since when it has been implemented: 2007
How was it financed: Co-financed by EU, Bretagne Region, Agence de l'eau Loire-Bretagne, Département 35 and EPTB Vilaine
Other actors involved: -

Context

Eaux et Vilaine is a public structure working across several French regions, departments and cities. It has authority on the landscape management around the Vilaine river. For over 15 years, Eaux et Vilaine has worked with local farmers on rainwater management.

Description

The Breizh-Bocage program aims at replanting hedges on agricultural lands to restore their environmental properties. Intensive agriculture practices created land erosion and water pollution in the Vilaine. With the support of Eaux & Vilaine, farmers now replant hedges on their parcels.

Outcomes

Hedges are great for both the environment and the food production. As western France often faces storms and heavy rains, mudslides wash off the soils. Replanting hedges limits erosion. But it also reduces the effects of climate change, protects against wind, stores carbon, releases oxygen, returns water through evapotranspiration, facilitates infiltration into the soil through roots, hosts and protects considerable wildlife. Hedge wood provides sustainable energy.

Since 2007, over 5 000 km of hedges have been planted or restored on 4 000 farms. It represents 18% of farms in the region. For farmers, the counselling and planting of hedges is provided for free. And the benefits for their crops are showing fewer mudslides, fewer uncultivable areas, protection from strong winds, etc.

Challenges faced

Today, in Brittany, hedges are still disappearing some are being cut, others are not maintained, and it is estimated that only 20% of hedges are correctly managed. As the size of farms grows, and there are less farmers, hedges are perceived as an obstacle to production. The plantings with Breizh-Bocage work counter currents to maintain hedges in the Breton landscape.

Lessons learned

The planting program relied on public authorities, but the appropriation of hedges by farmers is essential for the success of the program. A younger hedge does not have the same ecological properties as an older one that has been cut and must be properly maintained to regain these properties. To ensure the appropriation of the program by farmers, the “hedge” label certifies good management of their hedges. An experiment of payment for environmental services is currently under study.

MAIN CONCLUSIONS AND FINAL THOUGHTS

Local entities (cities and municipalities) play a central role in the implementation of the climate and energy policies at national level, paving the way towards NECPs implementation at local level through ambitious climate and energy plans covering key sectors to reduce GHG emissions, such as transport, buildings, industry and agriculture. They are also primary platforms for citizen engagement and, therefore, best positioned to develop effective and adapted solutions such as: sustainable and active mobility, renewable energy generation and energy communities, energy efficiency in buildings renovation, green spaces, sustainable food systems and much more.

Reaching the established goals will require a great effort from all government levels, where supra-municipal advice and support will be a decisive piece, and the contribution of the most populated municipalities (few, but with more climate footprint) will be essential to push for and advance local action on climate and energy. A bold and ambitious climate action at local level should be built upon a comprehensive and well-designed planning document that includes, in addition to targets, all the necessary measures to materialise them on the ground. For this, it is essential that local entities have adequate financing and sufficient human and technical resources for both the preparation and execution of their plans. The availability of additional EU funds offers a great opportunity to support and accelerate climate action at local level, while aligning planned measures with the updated national policies and targets of the revised NECPs - and go even beyond them.

Given that not all European municipalities are in the same situation, and there are many who do not have enough technical or economic capacity to embark on the development of an action climate and energy plan, it is essential to consider all the characteristics and casuistries to leave no one behind. For a greater scope and impact, all different municipal profiles should engage, with their own characteristics depending on population size and geographic location.

It is also important to carry out continuous follow-up of all the implemented measures to monitor the effectiveness of the actions carried out, through appropriate indicators (representative statistics, unified inventories...). The participation of social actors throughout the process is key to guarantee a good reception and acceptance of local actions, as well as the cooperation between inter-departmental and government levels and political agreement, to improve the understanding and recognition of these strategic planning instruments.

One of the main obstacle for citizens involvement has been that climate action was long perceived more as an obligation or burden than as the necessary solution to deal with the inevitable climate crisis, in the sense that it means more work to do, more taxes/ fees to pay, more regulations to comply, reaching the point of be perceived in many environments as a political excuse to justify hasty decisions and imposed measures. The involvement of citizens and local communities should be accompanied with knowledge-sharing, capacity-building and awareness campaigns.

Here, local authorities play a fundamental role in changing this passive perception of local climate action as a problem or burden to an active perception of local climate action as set of opportunities (of employment, investment, improvement of life quality, etc.). Local entities (cities and municipalities) are the ones that can convert, with greater sensitivity and guarantee of success, the mandatory nature of climate action into an opportunity for their territories and, therefore, considerably improve the possibilities of achieving an effective global solution. And in this sense, the figure of the 'climate action office' -or 'neighbourhood climate action office' in large cities- can be a magnificent advisory instrument and a powerful lever for action, bringing aid and plans at street level and directly involving citizens, even more if they function as a 'one-stop shop' for issues of climate and citizenship.

Joint briefing

Good practices on climate action and energy transition at local level

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