

Project: ENLARGE – Energies for Local Administrations to Renovate Governance in Europe

WP3: Case study analysis

Report: Synthesis of case studies

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ENLARGE is a two-year project funded by the European Union's Horizon 2020 research and innovation programme. It aims to generate and disseminate knowledge on participatory governance with focus on sustainable energy, through a process of dialogue and exchange involving policymakers, civil society actors and practitioners.

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Presentation of the report

ENLARGE aims to generate and disseminate knowledge on participatory governance with focus on sustainable energy, through a process of dialogue and exchange involving policymakers, civil society actors and practitioners.

WP1 'Methodological approach. Construction of the co-design and co-production matrix' aimed to develop a conceptual and methodological framework of participatory processes, especially in the field of sustainable energy. The conceptual report contains the ENLARGE main methodological assumptions, setting the path for the realisation of the activities of engagement, collection and analysis of relevant participatory practices in the sustainable energy field and is available at this link.

WP 2 'Engagement and identification of practices' has been aimed at engaging local actors, through the identification of around 50 supporting partners and the launch of a call for practices, with the goal of collecting real experiences of participatory approaches within policies and projects in the sustainable energy field. A total of 34 cases have been selected among the practices received, in order to achieve an in-depth analysis.

WP 3 'Case studies' dealt with the in-depth analysis of 31 case studies according to a common template (3 practices out of the 34 identified have not been analysed further due to the lack of availability of project promoters to provide further information on the projects). The overall report with all the case studies is available on the ENLARGE website at this link.

This report D.3.2 'Synthesis of case studies' is a part of WP3 and contains a brief synthesis of the 31 practices analysed during the project. The full version of the cases is contained in D.3.1 'Case studies'.

The synthesis aims to share knowledge on the different goals and tools of participatory processes in the sustainable energy field.

1 Wind farm project in Korca region (Albania)

Title	Wind farm project in Korca region
Place	Korca region, Albania
Type of initiative (programme, policy, project)	Project
Period	2007–2009
Sector(s) addressed	Sustainable energy from wind turbines
Type of participatory process	Co-design
Contact person	Zana Vokopola, Executive Director, zvokopola@uri.org.al
Short description	The Kappet wind farm is situated in Southeast Albania (close to the Macedonian and Greek borders) in the district of Korca. Although the licensed number of wind turbines was 87 (in total), the project's Topographical Surveying Study provided optional locations for 105 generators (to give to the developer the possibility of choosing between alternative sites).
	The agency preparing the environmental impact assessment report, the Urban Research Institute in Tirana, was also legally in charge of producing information material about the project for the general public and to organise hearings for citizens of the communities affected by the project.
	The Urban Research Institute, in collaboration with the municipality of Korca, has identified different sectors of the community as the target group for the participatory process. After this, meetings were held in each zone of the project to provide the inhabitants with information on the impact of the project in their area.
	In order to reach out the wider public, leaflets were distributed for information sharing and for inviting the inhabitants to the information sessions. The sessions were also a key moment to collect citizens' opinions and concerns and better align the project with them.
	Attendance at the hearings continually increased over time as more and more inhabitants became aware of the project and the information/debating sessions. Local media also played a significant role by providing wide coverage of the project and the participatory action.
	The participatory process increased both the transparency of the project and the accountability of the project team towards the public.
	One of the main challenges faced in this project, in particular in its initial phase, was to raise the general public's awareness of the participatory process. A general lack of information among citizens about the advantages of renewable energy sources also represented a critical element.
	Despite the negative elements above, we registered relevant changes in citizens' behaviours and attitudes towards the project and the participatory process. In particular, quite a number of inhabitants who were initially critical joined the information sessions, expressed their views and contributed to the debate in a positive manner.
	The cooperation with the municipality and the communes has also been key to promote a wide dissemination of the project and the participatory process, and therefore kept the attendance at the meetings high.

Living Streets
Ghent, Belgium
Project
2012–2017 (ongoing)
City mobility, urban street management and living together
Co-design, co-production and co-assessment
info@livingstreet.org
The city of Ghent is one of Belgium's largest municipalities with som 250,000 inhabitants. Living Streets is coordinated by Lab van Troje, temporary non-for-profit organisation that was set up by volunteers. The air was to experiment and apply for financial support for the Living Street initiative, and also to receive grants from the EU and the Flemis government. The idea behind Living Streets was to close off streets to car traffic for about two months at a time and transform them into social spaces. Here neighbours can interact, eat together, play music, do sports and let the children play outdoors. In spring of 2013, the first two streets in Ghent wer ready to be transformed into Living Streets – Pussemierstraat and Kare Antheunisstraat. Residents started to organise activities on a daily basis of socialise outside spontaneously. At the same time, the project als encouraged the use of environmentally friendly transport methods amonthe residents of Living Streets, such as electric bicycles or car sharing. B banning cars from moving through or being parked in the project streets residents could experience alternative forms of mobility, experience the us of new neighbourhood parking and attempt to generally reduce their usag of cars to move around in the city.

Thanks to the help of some Ghent companies, the Lab of Troy could buy materials. In later phases of the project, more streets of various types followed: city-centre streets, suburban streets, residential streets and commercial streets. Crowdfunding was introduced as an addition to sponsorship to provide more financial freedom in purchasing items and equipment for the Living Streets, such as artificial grass or barbecues. After the municipality's initial call which created the framework for the implementation, the project was entirely managed by the citizens, specifically the volunteers of the Bike of Troy network and the inhabitants of the Living Streets. Therefore, the participatory process encompassed all planning, execution and evaluation phases.

The project brought together not only volunteers from civil society but also businesses and community organisations, as well as local authorities.

The Living Streets project was received very positively by the citizens, and created increased community engagement of people of all ages, backgrounds and levels of education. Since 2013 Living Streets has been repeated 51 times in around 30 streets in Ghent.

The starting point for a new Living Street was always an enthusiastic group of citizens who started to cooperate with the volunteers of Lab van Troje. Dialogue with all residents is necessary – individuals and business owners alike. In order for the project to be a success, everybody's needs and concerns should be addressed. The volunteers were always present throughout the entire planning process of a new project, guiding the participative phase.

Even though Living Streets was a bottom-up initiative, cooperation with the municipality was crucial and functioned well overall. The initiative launched by Lab van Troje provided an opportunity to develop a unique, co-building relationship that places the municipality and citizens on an equal footing. This is a strength but also involves new challenges, such as making the various municipal departments work together. The partnership also facilitated the necessary arrangements to be made with the police and waste collection services, for instance. The two administrative departments of the city particularly involved in the process were those of mobility and environment. The presence of one volunteer who was working in the municipality's Department of Environment significantly improved the cooperation between the volunteers and the municipality.

3 My Contribution to Climate Change (Belarus)

Title	My Contribution to Climate Change
Place	Belozersk, Brest region, Berezovsky district, Belarus
Type of initiative (programme, policy, project)	Project
Period	2017–2018
Sector(s) addressed	Energy efficiency; Renewable energy
Type of participatory process	Co-design and co-production
Contact person	Lyudmila Beletskaya, Director, The Partnership in Action Fund
Short description	The Brest region of Belarus is located at its southwestern area, bordering the Podlasie and Lublin voivodeships of Poland in the west. The Berezovsky area is located in the central part of the Brest region.
II.	The project is being implemented by the Partnership in Action Foundation, in partnership with (1) the Beloozersk College of Electrical Engineering, (2) the information centre for sustainable development of the city of Beloozersk and (3) the Promotory Information and Education Control of the Polescopies



The project is being implemented by the Partnership in Action Foundation, in partnership with (1) the Beloozersk College of Electrical Engineering, (2) the information centre for sustainable development of the city of Beloozersk and (3) the Prometey Information and Education Centre of the Beloozersk College of Electrical Engineering. The purpose is to collect information and organise educational work among the local population on climate conservation. In this project, the principle of partnership equality is used. Sharing your knowledge with others – participants of events in the Brest region (college students are young people from the Brest region) will share the information they received with their parents, friends and acquaintances in the course of the project, and those in turn with others. There will be a kind of relay on the subject "My contribution to climate change".

The practical effect of processing branches of trees and shrubs into chips will serve as a pilot scheme for the introduction of this method in other parts of the Republic of Belarus. As an option, there will be the creation of a production cooperative in the village from among the local unemployed. The result is the creation of new jobs in the countryside, raising financial resources for rural residents and processing waste.

This project facilitates the establishment of partnership business contacts at the level of government, public organisations, institutions and the population, to develop the local community.

The students of Beloozersk College of Electrical Engineering together with the teachers developed (theoretically presented and economically proved) a number of projects aimed at saving energy and resources, reducing CO_2 emissions into the atmosphere, by

- upgrading of electrical plate equipment;
- developing and manufacturing a solar collector;
- developing and manufacturing a mini-spreader;
- developing and manufacturing a solar furnace with a reflector.

Due to the work by the college, the average consumption of heat and electrical energy and 10 % of water consumption were reduced by an average of 20 %.

At the level of a single consumer, the efficient use of energy brings not only a direct benefit in the form of cost reduction (saving energy is 4–5 times more profitable than generating the same amount of energy), but also reduces the amount of harmful emissions into the atmosphere.

There is an established training centre on the use of energy-saving technologies based on the Beloozersk GPTKe. This is the core for the popularisation of energy and resource-saving ideas in the Berezovsky district. In the future it will become a base for educational institutions of vocational education of the Brest region, as well as schools in the Berezovsky district. Hundreds of students will become agents of lean thinking about fuel, energy and material resources. The prospects and usefulness of this work can not be overestimated, because this project is practical in nature (introduction of best practices in resource and energy conservation). As part of the initiative, there was a large-scale exchange of experience and training of people on the ground with the creation of a training centre for consulting, training and educating the environmental consciousness of the target group of this initiative.

Upon completion of the project, the funds saved by the Beloozero College of Electrical Engineering – envisaged for water consumption, disposal and energy costs – will be directed to further modernisation of the water supply and energy savings. This will introduce further modern energy and resource-saving technologies in the college buildings and the functioning of the training centre.

Successful experience in implementing the project is presented at the regional level by heads of educational institutions. Students volunteers of the college and the project participants successfully shared information about the project on the scale of the Brest region. The local population was involved in the process of developing their own plans for homeownership and reducing the consumption of electricity and other resources. There has been a reduction in CO_2 emissions, improving the environmental situation and the health of the local population. Wider awareness of other communities in the Brest region has been fostered through:

- Placing information about the project on the website of the college and the project;
- Newspaper articles in the local newspaper 'Mayak';
- Presentation to the local community in the multimedia lounge in the training centre.

4 Sustainable Energy Action Plan for Municipality of Polotsk 2011–2020 (SEAP) (Belarus)

Title	Sustainable Energy Action Plan for Municipality of Polotsk 2011–2020 (SEAP)
Place	Polotsk municipality, Belarus
Type of initiative (programme, policy, project)	Policy
Period	2011 – ongoing
Sector(s) addressed	Energy consumption; green energy
Type of participatory process	Co-design and co-production
Contact person	Katsiaryna Maslakova, Local Foundation for Promotion of International Dialogue and Cooperation 'Interakcia', maslakova@eu-belarus.net
Short description	Polotsk was the first signatory of the Covenant of Mayors in Belarus and the first Belarusian city to develop and introduce a sustainable energy action plan – SEAP. The Polotsk SEAP 2011–2020 addresses both sustainable energy production and energy efficiency, and establishes the following measures: development of the sustainable urban mobility plan (SUMP) and construction of the city's first bike lane (the first mobility plan of Belarus); preparation of the lighting development strategy (which – among other actions – will allow all street lighting to be substituted with more efficient devices in 2018); organisation of the festival of eco-friendly means of transportation – European mobility week (EMW), the first of its kind in Belarus; organisation of 'energy days' during the European Sustainable Energy Week. Overall, the participatory process involved local community members (such as cycling communities and associations of student architects), public bodies (such as schools), bicycle shops and shopping centres, experts (Belarusian Research Institute of Urban Development, Belarusian Association of experts and transport surveyors) and mass media. Until now, different forms of participation have been implemented such as public surveys, open voting,
	workshops, seminars and lectures, festivals and public events, and ar architectural forum. The participatory approach was completely new to Polotsk. Accordingly, there was slight distrust on the part of both local citizens (it was difficult to
	find participants for the Citizens Working Group) and state authorities (who showed a certain passivity in participating). However, the participatory actions gradually gained trust, thanks to widespread communication of the initiatives through local media and progressive knowledge of the participatory approach. Such learning of participatory mechanisms is one relevant outcome of the process.
	Greater transparency and accountability by public authorities and improved quality of projects are reported as relevant outcomes by public bodies, who appreciated their increased ability to collect information and increase the legitimacy of their actions. On the part of citizens, the increased ability to influence decision-making was certainly important and was a major driver in winning over initial district. Interaction, between public authorities, and

with respect to different interests.

winning over initial distrust. Interaction between public authorities and stakeholders created some conflicts, since different actors (e.g. the cycling community and car drivers) had contrasting interests. However, conflicts were successfully dealt with and all actors learned to balance their position

5 Programme for Energy efficiency in Multifamily buildings (Bulgaria)

Title	National Programme for Energy Efficiency in Multifamily Buildings
Place	Gabrovo Municipality, Bulgaria
Type of initiative (programme, policy, project)	Programme
Period	2015 – ongoing
Sector(s) addressed	Energy efficiency in private buildings
Type of participatory process	Co-production
Contact person	Tanya Hristova, civil servant, rso-csp@rso-csp.org
Short description	Gabrovo is a city in central northern Bulgaria with around 60,000 inhabitants and it is the the administrative centre of the Province. Its population rapidly increased after the Second World War: in the ten years after the conclusion of the war the population almost doubled. A large number of buildings have therefore been built in that period and are characterised by a low level of energy efficiency and an high energy consumption.
	The municipal network for energy efficiency EcoEnergy was established in Gabrovo in February 1997, based on the initiative of 23 mayors.
Exercises for an assessment	An Energy Management Bureau was established to maintain and update a municipal energy database including all municipal objectives for energy consumption tracking from 1999 until now.
	In 2007 the Gabrovo Municipality became one of the pilot municipalities which took part in the 'Demonstration project for rehabilitation of multifamily residential buildings', initiated by the Ministry of Regional Development and Public Works and United Nations development programme. The project was realised in three phases (in 2007, 2008 and 2009). During each phase one building in Gabrovo, as well as its adjacent land, was reconstructed.
	Regular information activities and campaigns for energy efficiency started in 2009 by organisation of "Days of the Intelligent Energy". At a later time an Energy Efficiency Information Centre was established in the administration (www.ee-infocenters.net) which provides up-to-date information about materials, products, equipment and technologies, relevant legislation, good practices and opportunities for energy efficiency projects funding.
	Moreover Gabrovo joined the Covenant of Mayors in 2013 and elaborated an Action Plan for Sustainable Energy Development 2015–2020: the rational use of energy resources, energy planning and energy independence are the key components of sustainable development policy of Gabrovo Municipality. Gabrovo Municipality is a partner of the National Programme for Energy Efficiency in Multifamily Buildings that is an evolution of the 'Demonstration project for rehabilitation of multifamily residential buildings'.
	The programme started in 2015. Its main objective was to improve conditions in residential buildings by implementing energy-saving measures that will result in energy savings of over 40 %; the programme covers the full costs of the rehabilitation works.
	The participatory phase aimed to involve the owners of the eligible buildings in the project. Ten information meetings have been organised with an average participation of 50 citizens at each one. A total of 37 buildings were approved for rehabilitation in 2015 and Gabrovo Municipality managed to conduct public procurement procedures for all of the 37 buildings for the elaboration of investment projects, execution of construction works,

supervision and investors control. After that the community interest in the programme increased significantly.

The citizens who adhered to the programme were given constant support by the technical team. The team provided full administrative and legal assistance in preparation of the documents at each stage of the application until the procedure was finalised and the construction started.

The participation in the public meeting and the following of the programme were stimulated by a communicative campaign. The time, date and venues of the meetings were announced a week earlier through information leaflets delivered direct to the owners of the eligible buildings and through local media. A series of interviews in the local media delivered regular information about the progress of the programme, including the number of meetings held, the number of contracts signed and the stage of the construction. The participation in the programme was also encouraged through outdoor advertising: through LED screens in the city and advertising and information materials at bus stops where there was a high concentration of eligible buildings. The progress of the programme implementation was regularly presented on the internet site of the municipality, where the investment projects for the buildings, their new outlook and pictures from the construction sites were also available. Aiming at providing publicity of the programme execution, Gabrovo Municipality developed a GIS application, which allows users to check the status of all buildings in the area of Gabrovo. With this GIS app, citizens can track any changes in the status of the buildings included in the programme - from the creation of the owners associations until the execution of construction activities and commissioning of the buildings.

Gabrovo Municipality had the opportunity to establish new linkages and to share its experience with other organisations and municipalities following the programmes.

One of the main challenges was to overcome the prejudice about the programme and to promote active listening and constructive communication with the owners. During the implementation of the programme, the technical team gained experience in this field and progressively improved interaction strategies and information tools.

Energy Wise, cross-country campaign Energy Saving and Renewable Energy Sources (Estonia)

Title	Energy Wise: the campaign 'Energy Saving and Renewable Energy Sources'
Place	Estonia, countrywide
Type of initiative (programme, policy, project)	Policy
Period	2009–2014
Sector(s) addressed	Energy efficiency; energy saving; renewable energy
Type of participatory process	Co-design and co-production
Contact person	Mr. Neeme Kärbo. Neeme.karbo@trea.ee
Short description	Estonia is producing major share, close to 85 % of electricity from heavily polluting local fossil fuel – oil shale.

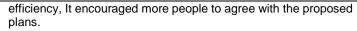


Beside of the improvement of energy generation efficiency and transformation from fossils to renewables, the consumption patterns are of extreme importance. Most of the energy is consumed for heating the buildings. This is key issue in central and northern European countries. The majority of buildings in Estonia are still energy inefficient.

To merge the activities and efforts under the framework of Energy Saving and Renewable Energy Sources (Energy Wise) an enthusiastic campaign was initially developed by the governmental Credit and Export Guarantee Foundation KredEx in the autumn of 2008. The main campaign work under Energy Wise was for the introduction of grant guarantee conditions to housing associations for energy refurbishment of multistorey apartment houses. It hasn't been an easy task to convince the dwellers of multistorey houses to accept the novel approach related to comprehensive energy refurbishment. Meetings of dwellers reflected many different attitudes of the people living in the same building. However, to start the renovation, a common position for making the decisions had to be achieved. This gave KredEx a challenge to bring good specialists on board to convince people of the necessity for renovation of the inefficient buildings.

The Energy Wise campaign week traditionally takes place in the second week of November and from year to year the targeted sessions - seminars, competitions video shots, electrical cars and biomethane fuelled vehicles, solar panels, building energetic refurbishment demonstrations, etc. started to be permanent items on the agendas of campaign sessions. The success of the campaign relies much on the following aspects:

- Very active guidance seminars, consultations and discussion sessions by technicians, economists and environmentalists have been involved since the very beginning of the Energy Wise practices. This formed a wide range of tasks related to the energy efficiency topics.
- Close cooperation with universities, technical experts, research institutions as well as businesses guaranteed the wide variety of important aspects related to energy efficiency.
- Involvement of politicians helped to spread the major ideas of the renewable energy and energy efficiency policy. The message was sent to a wide circle of people all round the country as the politicians wanted to demonstrate the ideas to help their success.
- Various information activities to introduce the comprehensive energy refurbishment of buildings to housing associations dwellers helped raised the level of understanding of energy



Stepwise, people started to understand the whole long-term process of renovating the buildings and the positive results from this.

Information and dissemination on energy efficiency and renewable energy policies involved all age groups of the population. This ranged from kindergarten and elementary schools up to universities, those who rent and private house owners, and elderly people. This could be considered one of the most relevant results of the Energy Wise programme.

Rakvere Rohuaia Kindergarten
Rakvere city, Lääne-Viru county, Estonia
Project
2014–2015
Energy efficiency of public buildings
Co-design
Ene Nool, ene.nool@rla.edu.ee
Rakvere is a town in northern Estonia and the administrative centre of the Lääne-Viru County. Rakvere Rohuaia Kindergarten (for children from 3 to 7 years of age) was renovated to a nearly zero-energy building in 2013–2015. The kindergarten employees and parents committee were engaged in the
preparation phase of the renovation project. In this way, they were able to have their voice heard in the design phase of the building. Guidance from colleagues at other nurseries was sought about what to take into consideration and pay attention to: Staff meetings were organised to specify the project (location/placing and functionality of the rooms).



the process.

Children went on 'study tours' to see the renovation process of the kindergarten.

Colleagues from other educational institutions in Rakvere came to set the cornerstone during the opening event and were informed about this project as a low energy-efficient building.

The building has a number of modern water saving options (photocell taps, aerators) but at the same time the water is used on the flower beds. The building does not have cooling equipment (energy saving) and therefore the roof eaves are very wide. These obscure the direct sunlight in the rooms on the second floor. According to the garden design, the flowerbeds were planned by the wall of the building, but due to the wide eaves, the rainwater does not reach the flowerbeds. In order to solve this, a rainwater collection and watering system needs to be developed.

For the future, a large database will collect such data as the solar energy generation and consumption, the monitoring of water and heating (separate radiators, ventilation, floors) and costs. The different ways on how to use this data will be evaluated (for instance for the students to study, comparison with the Rakvere Smart House Competence Centre etc.).

Tours are held in the building where visitors can hear about the energysaving solutions. The next step could be a web application on a kindergarten website that provides information on the everyday saving solutions in the kindergarten building, and references to energy-saving computer games.

The building sets an example as a 'green' educational institution that through its activities can bring joy and benefit to both children and parents, and sets an example to other educational institutions, but also reduces the public costs of heating and water consumption.

8 Rõuge Parish Energy Development Plan 2020 (Estonia)

Title	Rõuge Parish Energy Development Plan 2020
Place	Võru county, Rõuge Parish, Estonia
Type of initiative (programme, policy, project)	Policy
Period	2011–2012
Sector(s) addressed	Wind energy/renewable energy
Type of participatory process	Co-design and co-production
Contact person	Viivika Nagel, viivika@rauge.ee
Short description	Rõuge Parish is a rural municipality, located in Võru county in the south-east of Estonia.
	The development of the Rõuge Energy development plan 2020 was initiated in 2010 within the INTERREG IV project PEA – Public Energy Alternatives, where the Rõuge municipality participated with 21 different partners from the Baltic Sea region.
	The Rõuge Energy Development Plan 2020 was compiled with the cooperation of the municipal government, the foundation Rõuge Energy Centre (the local communal utilities company), the village leaders, housing associations, the foundation Tartu Regional Energy Agency and the Energy Department of the University of Life Sciences.
Foto: Jiri Kuyık	The participatory activities included a number of meetings, which according to their scope, involved either experts and the municipal government, or the whole working group. The most effective method for collecting the data was on-site visits and interviewing the stakeholders. Collecting the data by asking for forms to be completed or answers to e-mails was not effective.
	The participation process was promoted during the working group meetings, when preparing the document, and collecting and transferring data.
	The involved parties were the people and institutions that predictably had an interest in the topic: participation was also announced in the local newspaper.
	One point that arose was the fact that a large part of the working team did not eventually accept the need for such a special one-sector oriented document; they found that the topics were already covered within Rõuge municipality's general development plan. Thus, the lesson to learn is to launch a preparation of any municipal plan only if this fits with the general administrative proceedings of the local government. Since the development of the Energy Development Plan was created externally to these proceedings, the plan remained unlinked to other plans. The ownership of the plan plays an important role as well. Although the municipality leaders participated in the development of the plan, the plan was formally created by an INTERREG project.
	The Energy Development Plan has been revised and is updated every two years by a smaller working group, and the revisions have been submitted to the municipality administration to be considered in the updating of the general plan.

9 REFURB 2.0: REgional process innovations FoR Building renovation packages, opening markets to zero-energy renovations (Estonia)

Title	REFURB 2.0: REgional process innovations FoR Building renovation
	packages, opening markets to zero-energy renovations
Place	Tartu city, Estonia
Type of initiative (programme, policy, project)	Project
Period	2016–2021
Sector(s) addressed	Energy efficiency of private homes
Type of participatory process	Co-design
Contact person	Mr Martin Kikas, Member of the Board, martin.kikas@trea.ee
	Mr Kalle Virkus, Energy Expert, kalle.virkus@trea.ee
Short description	REFURB was launched by the city council of Tartu and implemented by the Tartu Regional Energy Agency. The project addressed private multiapartment buildings constructed in the Soviet era up to the beginning of the 1990s. The renovation of these buildings, now owned by apartment associations, is still in its early stages and it needs stronger support in order to maintain the constructional integrity of the houses and to increase their energy efficiency. The project contributes to the achievement of energy efficiency targets at the national as well as at the local level. The latter was set by Tartu when the city joined the Covenant of Mayors in 2014 – to reduce energy consumption in the housing sector by 20 %, by 2020.
	 developing a holistic approach to the renovation process (socalled one-stop-shop for customers) in which technology combinations trigger step-by-step deep energy renovations towards near zero-energy building standards; accommodating the technology solutions to the decision-making psychology and 'language' of residential homeowners, which will provide the drivers for empowerment and mobilisation of homeowners for deep renovation; developing a quality and performance protocol to build trust on the demand side. The project is financed by the Horizon 2020 programme and managed by VITO, a Belgian research and technology organisation in the areas of cleantech and sustainable development. Participatory activities are aimed at including the demand side needs and expectations in the renovation service design. For that purpose discussions with apartment associations were organised. The focus of the project is on communication with the owners of apartment houses and advising them in the full renovation of the houses. Other projects and initiatives are ongoing in Tartu to transform the city centre into a smart, energy-efficient district, e.g. SmartEnCity project. Thus, it has been possible to create synergies between the activities with similar aim – for example, the REFURB project could use the same housing energy data which was gathered in the SmartEnCity project. The target group of the two projects are the same apartment buildings of Tartu.

10 PANEL 2050: Partnership for New Energy Leadership 2050 (Estonia)

Title	PANEL 2050: Partnership for New Energy Leadership 2050
Place	Tartu city, Estonia
Type of initiative (programme, policy, project)	Project under EU Horizon2020
Period	2016–2019
Sector(s) addressed	Energy efficiency of public and private buildings
Type of participatory process	Co-design and co-production
Contact person	Mr Marek Muiste, Project coordinator, marek.muiste@trea.ee
Short description Stokeholder Map Energy Pholie Profession Plan Action Plan Readmap Action Plan Readmap Readmap Readmap Readmap Receipt Plan Action Plan Readmap Read	The main goal of the PANEL 2050 project is to support communities of the countries of Eastern Europe (CEE) into low-carbon economies with the help of local frontrunners. The project helps partners to create durable and replicable sustainable energy networks at local (municipality/community) level, where relevant local stakeholders collaborate for the creation of local energy visions, strategies and action plans for the transition towards low-carbon communities in 2050. The project foresees the following main actions: creating Central and Eastern Europe Sustainable Energy Network (CEESEN) to unite different energy actors in the region; developing a methodology for engaging community into energy planning and providing training for the project partners; preparation of local energy road maps. The project management consists of two levels of activities. The engagement process is structured so that local organisations select a person who is responsible for the stakeholder engagement in a project partner country. The stakeholder engagement persons/officers are given training and a tutorial by the university experts on how to identify and reach out to
	Similarly, the stakeholders are supported in the process with training and guidance. For that purpose, several events will be organised: training courses and an international conference in Prague in autumn 2017, as well as a training camp in Hungary in 2018 (Errore. L'origine riferimento non è stata trovata.). As the stakeholder engagement persons are in communication with the university experts on a regular basis, they form a communication channel between the two-layer engagement process agents. The main motivation for stakeholders to participate is the provision of knowhow and new skills via the training programme, and opportunities for international networking in Central and Eastern Europe. Capacity building and empowerment of forerunners will help them to act more effectively on a local level and bring further possibilities for energy transition in their local communities.

11 Project SmartEnCity (Estonia)

Title	Project SmartEnCity
Place	Tartu city, Estonia
Type of initiative (programme, policy, project)	Project
Period	2016–2021
Sector(s) addressed	Energy efficiency of housing sector buildings
Type of participatory process	Co-design
Contact person	Mr. Raimond Tamm. Raimond.Tamm@raad.tartu.ee
Short description	SmartEnCity is a project partly funded from the EU Horizon 2020 research and innovation programme. The project aims to develop a systemic approach for transforming European cities into sustainable, smart and resource-efficient urban environments in Europe. The project develops highly adaptable strategies that can be replicated throughout Europe in order to reduce energy demand and maximise renewable energy supply from various sources/energy carriers available.
	Several information and dissemination activities have been performed to introduce the project activities to a wider public and in particular to the people living in multistorey houses. The approach has been presented to dwellers, who had different opportunities to ask all kinds of questions concerning the project activities, starting from solar panels and ending with isolation of the building envelope or smart sensors for environmental and technical indicators.
3,0	The Tartu administration has been an active partner of the project and contributed in every possible way to give a good start to the project. Several town administration department employees are involved in planning, advising and the implementation of different project activities.
	Participatory actions and networking with various stakeholders' groups have been performed to promote the innovative vision of a smart, energy-efficient and modern urban environment for citizens' better living. The vision also serves to foster behavioural change and attitudes to more sustainable ways of energy consumption and generation.
OFLIR 59,0	The project topic is rather similar to another Horizon 2020, project REFURB. Continuous information exchange has been established between these two energy efficiency oriented international projects.

12 Tooma II Windpark (Estonia)

Title	Tooma II Windpark
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Place	Lääne county, Hanila township, Esivere village, Estonia
Type of initiative (programme, policy, project)	Project
Period	2012–2016
Sector(s) addressed	Renewable energy
Type of participatory process	Co-design
Contact person	Arno Peksar, Arno.Peksar@hanila.ee
Short description	Tooma Windpark is located in Lääne county, Hanila parish, in West Estonia. Tooma I Windpark was established in 2009. The Windpark achieved its full power in February 2010. The planning of Tooma II Windpark started in 2010, and was finalised in 2012. The Estonian Government fixed a target to have 20 % of the energy produced out of renewables by 2020. The Hanila parish was the first parish where the developers started to install modern wind generators.
	The Tooma II Windpark consists of four wind generators with an electrical capacity of 7.05 MW. The owner of the wind farm is a private enterprise whose aim is to sell electricity generated by wind energy. The electricity is sold to the main grid owner Elering AS who pays agreed price per MWh. Together with the financial support from the state (feed-in tariff), the wind park is considered a profitable business. A detailed spatial planning and environmental impact assessments (EIA) are undertaken by experts with relevant skills. Their task is to evaluate possible impacts and to find solutions, which would be needed in order to ensure the required final results. The EIA procedure requires stakeholder engagement via informing and direct communication during public hearings. The participation process took place during two and half years when the planning process was carried out. By the time of the implementation, agreement between all the parties was achieved. The requirement of the county council was that written agreements needed to be signed by all the house owners who are located within 0.5–1 km distance from the planned wind generators. Planning wind generators closer than 0.5 km from the houses was forbidden. When the planning process was initiated, relevant organisations, residents and authorities had to be individually dealt with, i.e. in terms of specific people who must be informed and involved during the planning process. The authorities had to submit their approvals before the publication of the development plan. Suggestions from third persons were allowed to be made during the entire planning process. The public administration is responsible for the organisation of the public participation process and must ensure that all the relevant residents and stakeholders are well informed about the planning process and that they have their opportunity to submit their objections and suggestions at the right time. The participation process encountered no relevant challenges since it followed very concrete guidel

13 Construction of Väätsa retirement home (Estonia)

Title	Construction of Väätsa retirement home
Place	Väätsa parish, Järva county, Estonia
Type of initiative (programme, policy, project)	Project
Period	2014–2016
Sector(s) addressed	Energy efficiency of public buildings
Type of participatory process	Co-design and co-production
Contact person	Mr Lauri Läänemets, Mayor of the Municipality of Väätsa, lauri.laanemets@vaatsa.ee
Short description	The home for elderly people is located in Väätsa municipality, Central Estonia. The retirement home has space for 38 people. It is designed according to the energy efficiency principles and classified as a low-energy house. The building is equipped with solar PV panels (output 10.5 kW) and thermal collectors (output 17.5 kW) as well as a local heating system based on a pellet boiler. The promoter of the participatory process in the construction of the elderly home has been Väätsa parish government who prepared the project and coordinated its implementation. Active efforts were made to involve stakeholders and public in the local development planning as well as to raise awareness on energy efficiency and renewable energy. Involving the users of the buildings has been an important part of both projects in Väätsa since achieving the energy reduction targets largely depends on the consumer habits (such as the time of using domestic appliances, e.g. washing machines, which can operate on solar energy in the daytime).

14 Reconstruction of Alu Educational Centre (Estonia)

Title	Reconstruction of Alu Educational Centre
Place	Rapla county, Rapla Parish, Alu township, Estonia
Type of initiative (programme, policy, project)	Project
Period	2015–2017
Sector(s) addressed	Energy efficiency of public buildings
Type of participatory process	Co-design and co-production
Contact person	Ms Cerly-Marko Järvela, municipality architect
Short description	Alu is a village located in Rapla Parish, Rapla County, Central Estonia. Alu Educational Centre (kindergarten-elementary school) is an educational institution where beside regular classes, special attention is paid to the aesthetic education of children and students through drama, music, dance and art. In 2014, The Alu Education Centre qualified for funding under the Estonian-Swiss Cooperation Programme. The cooperation programme funds the construction measures meant for the improvement of energy efficiency.
	The participation has been promoted throughout the implementation of the entire project. The delivery phase included a ceremony and a miniconference with invited guests.
	The participatory process foresaw both mandatory and voluntary elements. The regulatory framework established the terms of public engagement in the planning process. Yet voluntary meetings and discussions were also held with participating bodies.
	Participation in the programme was promoted by the Ministry of Economic Affairs. Local participation was promoted by the local parish government. Local actors involved the school and kindergarten board, as well as the members of the wider community and the public.
	The school and the kindergarten board as well as the library administration provided input to the building design phase. A couple of public meetings were held to discuss project-related matters. Updates on the project were published in the parish monthly and the county weekly papers, as well as on the local web pages.
	The main outcomes of the project were the following: the building can now produce about half of the electricity needed with roof mounted solar cells; and Alu Educational Centre is the first nearly zero-energy public building in Rapla Parish.
	The educational centre, consisting of a kindergarten for 88 children, a primary school for 54 pupils and a public library is functional again, providing services for the local community. However, the opening ceremony of the building was partially a failure due to overlapping with the day of the American Presidential elections which resulted in no coverage by the national media.
	The participation process in general contributed to positive outcomes, yet as far as all wishes can never be met, some participating bodies may consider the outcome was lacking their input.

15 ELMO Estonian Electromobility Programme (Estonia)

Title	ELMO Estonian Electromobility Programme
Place	Estonia, countrywide
Type of initiative (programme, policy, project)	Policy
Period	2011–2014
Sector(s) addressed	Energy efficiency in transport sector; electric cars and charging network
Type of participatory process	Co-design and co-production
Contact person	Juku Paulus, Transport Development and Investment Department of the Estonian Ministry of Communication and Economic Affairs, Juku.Paulus@mkm.ee
Short description	Estonia is the first country in the world constructing a countrywide charging network of electric cars.
	E-mobility programme ELMO was developed within the context of the regulation of the Ambient Air Protection Act. The policy was started once the government decided to invest the funds obtained from selling the CO ₂ quota (AAUs under Kyoto protocol) to energy efficiency and CO ₂ emission reduction projects. Various programmes were proposed to possible CO ₂ quota buyers and one of them (Mitsubishi Corp.) was interested in the proposed electromobility project. In March 2011, the Government of the Republic of Estonia signed a contract with Mitsubishi Corporation for the sale of AAUs in the amount of 10 million AAUs to start the Estonian electrical mobility programme. The governmental grant enabled private persons to purchase electric cars from July 2011 until August 2014. The quick charging network of electric cars was constructed in Estonia by ABB.
	The participation process in terms of gathering the working group started at a very early stage of the project. The ELMO programme was initiated by the Ministry of Economic Affairs and Communication and all the rest of the actors (Ministry of Social Affairs, Ministry of Environment, Government agency KredEx, Government office – state chancellery, ABB, Elektrilevi, G4S, NOW! Innovations) were involved on the basis of need throughout the project implementation. The involvement of the public started later when the programme was more or less established. The novelty of the project made the stakeholder involvement somewhat easier. A network of 167 quick chargers has been placed all around Estonia. ELMO Rental has 12 rental centres, 10 of which are in Tallinn and 2 in Tartu. The ELMO programme has about 700 users by now.
	Perhaps the main challenge was the fact that the programme was new for Estonia and everything had to be developed in a 'learning by doing' method.

16 Eco-Quartier – participatory housing in Strasbourg (France)

Title	Eco-Quartier – participatory housing in Strasbourg
Place	Strasbourg, France
Type of initiative (programme, policy, project)	Project
Period	2009–2015
Sector(s) addressed	Participatory housing and sustainability
Type of participatory process	Co-design
Contact person	Anne Debarre, Association d'histoire de l'architecture and Hélène Steinmetz, Université du Havr
Short description	The city of Strasbourg, one of the major metropolitan areas of France.



The city of Strasbourg, one of the major metropolitan areas of France, decided in 2009 to make participatory housing a central component of its public policy in the 4th Eurometropole Local Housing Programme (2009).

Participatory housing refers to a number of alternative and collective methods for designing, building and managing one's own residence: housing cooperatives, self-development, cohousing, grouped housing, to name but a few. In France, the term embraces all existing initiatives that involve inhabitants in the production or co-production and the everyday management of their living environment under the same banner, regardless of the method used.

In Strasbourg, the original incentive came from the Écoquartier association, which took up work in 2009 to realise a first eco-neighbourhood project. Dissatisfied with the political response to date, the association had purchased a plot of land from the municipality to form the foundation of an environmentally friendly, participatory housing project. After this successful reference project, the city of Strasbourg launched the first call for participatory housing projects in the country, and consequently selected the projects to be realised starting in April 2010. The city planned five consultation sessions to take place during which the projects would be chosen. The sessions were open to the public and attended by regular citizens, notaries, banks, urban planners, property developers and architects. The projects were selected based on three components: group composition, group motivation, and environmental and social commitment. So far, 20 projects have been implemented, of which approximately one third are completed, one third is under construction and the remaining is in the planning process. The realised projects have lived up to their expectations of being built including energy-saving and efficient material and meeting high standards of green energy.

The main difficulties the project faced were due to a lack of adequate knowledge and even a certain mistrust towards participatory housing by most of the stakeholders involved. Since participatory housing is an experimental objective and unknown to most stakeholders, difficulties can arise during discussions. The city of Strasbourg has put a lot of effort into communication, not only internally with its technical departments, but also with notaries, banks, urban planners, property developers, architects and groups of citizens. The idea was first and foremost to reassure and obtain the involvement of citizens by proposing and explaining the operational frameworks designed to facilitate project realisation.

Most conventional property developers, for instance, perceived the participatory housing approach to be challenging their own function. Bankers thought the projects too risky. Architects felt threatened by the project's requirement to hire a project consultant next to the official architect who should counsel community groups on the financial feasibility of their project

idea. The city countered this situation by intensive and frequent dialogue with all stakeholders such as notaries, banks, urban planners, property developers, architects and regular citizens.

Assistance and time are two key factors when it comes to increasing the chances of seeing the approach result in actual construction projects. Significant support was also provided to applicant groups and then to consultation winners: assistance in making sure that the financial reality has been taken into account, obligation to seek professional project management assistance, etc. During the consultation process, the city of Strasbourg makes sure that the various groups involved do communicate (applicant groups, interested citizens, Ecodistrict association, architects, project consultants, consultancy firms, general contractors, etc.). It also provides advice on the financial arrangements of the project.

17 Step by Step (France)

Title	Step by Step
Place	France (leader) Italy, Cefalù; Belgium, Ghent; Spain, Alcudia; Poland, Warsaw
Type of initiative	Project under EU Horizon 2020 programme
Period	2015 – ongoing
Sector(s) addressed	Household energy saving
Type of participatory process	Co-production
Contact person	Letizia Portera, project manager, letizia.portera@cesie.org
Short description STEP BY STEP COMMITMENTS FOR ENERGY SAVING	The Step by Step project was developed to fund innovative approaches to maximising individual energy-saving opportunities. The project was launched targeting 18,000 households in four European cities. The project has five main objectives: to educate households about energy saving, to motivate households to engage in energy-saving techniques, to increase interaction between households in a community willing to invest in renewable energy products, to develop an understanding of the behavioural patterns underlying energy saving, and to promote the concept of Step by Step among European local authorities. In a first step, a database with all the households invited to participate was established and information about the project sent out. Advisers then moved from door to door to administer questionnaires about the households' energy behaviour and their motivation to participate in the project. Around 50 % of the targeted households, those most in need, then received an energy-saving kit including, for instance, LED light bulbs and draught excluders for windows. About six weeks after registration, households started to receive monthly follow-ups on their actions and new proposals for gradually more difficult commitments to make. Several collective challenges have also been organised to increase the community's sense of pursuing a common goal. So far, over 6,600 households have benefitted from the personal energy coaching which will continue until summer of 2017. The project was well received, the average households committed to 3.9 energy-saving missions and thereby reduced their own energy consumption. Targeted households were overall very motivated to participate in the project for the long term and to engage in the regular coaching option. Evaluation of the project progress so far showed the effectiveness of door-to-door interviews in educating and encouraging more energy saving. On average, 80 % agreed to implement some energy-saving method during the interview, and 60 % succeeded in keeping the commitments the

18 GE.COO.FOR project. Gestione Coordinata delle Foreste (Como, Lombardy, Italy)

Title	GE.COO.FOR Gestione Coordinata delle Foreste (coordinated management of forests)
Place	Comunità Montana Lario Intelvese, Come, Lombardy, Italy
Type of initiative (programme, policy, project)	Project
Period	Two years (2015–16)
Sector(s) addressed	Forestry sector – sustainable biomass production
Type of participatory process	Co-production
Contact person	Daniele Piazza: piazzadaniele.dp@gmail.com
Website	Consorzio Forestale Lario Intelvese, http://www.cflint.it/
Short description	The GE.COO.FOR project (GEstione COOrdinata delle FOReste – Coordinated management of FORestry) is a two-year initiative with the goal of a better management of forestry resources. The project has been promoted by the Forestry Consortium, a public-private association tasked with forest management and composed of 24 municipalities in the mountain areas near the Lake Como (Italy).
	The area is characterised by a high hydrogeological risk connected to the abandonment of the forest in the mountain (a severe flood hit the area in 2011), with relevant consequences also for the municipalities around the lake and characterised by valuable properties and strong tourism.
	One of the problems is related to the fact that up to 80 % of the forests of the territory are private woods, largely abandoned and lacking an effective and comprehensive management. This situation led to a loss of potential in terms of economic development, provision of ecosystem services and sustainable energy production. It was therefore necessary to engage local forest owners in a coordinated strategy.
	The project GE.COO.FOR aimed at involving small private forest owners in a local forest management strategy (PEFC – Programme for the Endorsement of Forest Certification), focusing on sustainable biomass production together with mitigation of environmental risks (mainly of a hydrogeological type). The strategy for the achievement of the goal has been mainly bottom-up, and has foreseen an intense involvement of stakeholders through participatory activities.
	Some effects were visible with respect to the capacity to achieve the policy goals. At the end of the project, a further 200 hectares of private forests entered into the PEFC planning scheme of sustainable management of forestry. Moreover, the intervention of CFLI definitely helped private owners to solve some critical situations, in particular related to the lack of capacity of management of the portion of forestry owned. Finally, a larger amount of local wood resources have been made available to power the public biomass boilers within the public buildings, substituting this local energy resource to other forms of energy supply; the idea is, in future, to extend the strategy to private users with high levels of energy consumed (e.g. hotels, rest homes).

19 Developing the renewable energies sources and capacities of the Madonie Green Community' (Italy)

Title	Developing the renewable energies sources and capacities of the Madonie Green Community
Place	Sicily Madonie area, Italy
Type of initiative (programme, policy, project)	Policy
Period	2007 – ongoing
Sector(s) addressed	Renewable energy, energy efficiency in public and private buildings and public lights, green communities
Type of participatory process	Co-design and co-production
Contact person	Alessandro Ficile, SOSVIMA president, sosvima@gmail.com http://madonieareainterna.it/

Short description



The Madonie is a mountainous area located in the inner part of Sicily.

The policy 'Developing the renewable energies sources and the capacities of the Madonie Green Community' is a section of a broader programme recently issued (January 2017) and called **Resilient Madonie: a laboratory of future**, which aims at reversing depopulation by the improvement of fundamental services, such as education, health and mobility for the inhabitants of the area. The Resilient Madonie programme has been co-funded by the National Programme for the Inner Areas which envisages place-based policies for peripheral areas, i.e. areas characterised by population decrease and distance from basic public services.

The policy 'Developing the renewable energies sources and the capacities of the Madonie Green Community' envisages a holistic approach to reach the target of '100 % of renewable energies in the next 10 years'. Today, the percentage of electricity needs provided by renewable energies amounts at around 52 %.

The policy foresees a participatory approach among the 21 local communities of the Madonie. The core idea is that the diffusion of green technologies needs to be accompanied by social innovation processes largely participated by local communities and citizens: 'everybody can contribute to the challenge of cultural change of the Madonie horizon'. All the local actors are involved as 'prosumers': both producers and consumers of energy services, interested to reduce the consumption and the costs as well as to improve the quality of the environment and life.

Participatory activities have been promoted both for the design of the overall strategy and for the implementation of more specific actions. As an example, a call directed to the 21 municipalities has been published in order to identify areas interested to locate small recycling/biomass processing plants; eight candidacies have been collected and six areas have been selected.

By the major participatory process these energy policies obtained a wide consensus both from municipalities and local communities; this result was very different from what had been experienced in the past, when eight wind farms were built in the area, raising conflicts due to the centralised decision-making and the environmental impacts on the natural landscape.

20 NordEstSudOvest – EU Sustainable Energy Week and Sustainable Action Plan in Venice area (Italy)

Title	NordEstSudOvest – EU Sustainable Energy Week and Sustainable Action Plan in Venice area
Place	Venice, Italy
Type of initiative (programme, policy, project)	Policy
Period	2011 – ongoing
Sector(s) addressed	Sustainable energy and energy efficiency
Type of participatory process	Co-design and co-evaluation
Contact person	Pierantonio Belcaro info@nordestsudovest.org
	Associazione Nord Est Sud Ovest
Short description	The sustainable energy action plan of the Metropolitan City of Venice foresaw a periodic activity to monitor the degree of achievement of the goals achieved by the SEAP of the municipalities' adherence to it.
	The Sustainable Energy Week organised by the Association Nord Est Sud Ovest aimed at creating a permanent occasion to monitor the results achieved towards the energy goals.
	In this context, the participants in the Sustainable Energy Week – municipalities, politicians, stakeholders, citizens' associations, professionals, universities and schools – have also had the opportunity of exchanging good practices in the participatory field.
	The participatory processes have been fostered within the different SEAPs of the municipalities involved, with different goals and features. Most of the time, the participatory processes have been promoted before the adoption of the policy decision, sometimes also during the implementation phase and for the evaluation of the results achieved.
	Participatory processes in this context have been largely voluntary, even though they have been strongly recommended by the guidelines adopted by the coordination bodies (both at the EU level, and at local level).
	Different types of stakeholders have been involved: local administrations, citizens associations, enterprises, universities and schools
	The participatory processes conducted within the SEAPs of the various municipalities have achieved different results and, in some cases, they have been able to influence the energy policy of the promoter.
	As an example, the SEAP (sustainable energy action plan) of Venice has promoted a consultation concerning the localisation of a biomass plant in Mestre-Venezia. After the end of the consultation process, the plant has been deleted from the Venice SEAP.
	Even though no particular techniques of participation have been used in this context, the experience appears relevant because it has represented a voluntary process of 'participatory monitoring' of the energy policies and projects carried on.

21 Sustainable Santorso. Towards an integrated and sustainable local community (Italy)

Title	Sustainable Santorso. Towards an integrated and sustainable local community
Place	Santorso municipality, Italy
Type of initiative (programme, policy, project)	Project
Period	2014–2015
Sector(s) addressed	Renewable energy, energy efficiency in private buildings
Type of participatory process	Co-design and co-production
Contact person	Marco Palma, civil servant, marco.palma@comune.santorso.vi.it
Short description	The project 'Sustainable Santorso' concerns the implementation of the SEAP, which was adopted in 2014 and aims at reducing CO ₂ emissions in the municipal territory, in particular those emissions produced by heating, renewable energy systems and energy-saving technologies. Two main decisions that emerged from the participatory process were: The opening of an Energy Help Desk, a consultancy office for citizens directly managed by the ordinary citizens. It was open once a week and everyone interested could come and ask questions about energy (such as 'I have this energy invoice: is it expensive or not?'; or 'I would like to buy a photovoltaic system: what do I have to do?' etc.). The organisation of a purchasing group, namely a group of families which gather to buy energy technologies together, in order to lower the costs. During the participatory phase, about 20–25 citizens took part in the workshops and The Future Search conference. During the first year, the Energy Help Desk met more than 100 families. Of these, 57 families decided to be involved in the 'buying group' and 31 decided to buy new energy-related technologies: in particular, more than 92 photovoltaic systems were installed. The estimated amount of CO ₂ that would be avoided, is about 56 tonnes per year. The total amount of the private investment was €140,000, + VAT. The Energy Help Desk also organised nine public initiatives which promote energy saving. It was open 42 times, for a total of 84 hours. Some outcomes of the project are worth mentioning. The average savings for families buying energy-saving equipment (challenging the market prices) was about 15 %. No evaluation has been conducted yet on the impact of the process on citizen behaviours to reduce energy consumption. The project helped many local authorities of the Altovicentino area to recognise the value of an energy help desk and to work on a common project. The same municipalities are discussing the promotion of new common projects. It was necessary to generate trust among citize

22 'ènostra l'energia buona' società cooperativa (Italy)

Title	ènostra l'energia buona" società cooperativa
Place	Milan, Italy
Type of initiative (programme, policy, project)	Project under EU Horizon 2020
Period	2012 – ongoing
Sector(s) addressed	Energy supply and involvement of citizens in the transition to a low-carbon economy and society
Type of participatory process	Co-production
Contact person	Sara Capuzzo, vice president of enostra, info@enostra.it
Short description L'ENERGIA DI ENOSTRA È VOSTRA. QUANDO SI DICE: SHARING ECONOMY.	The EU RESCOOP Horizon 2020 project started in 2012 and ended in 2015. It involved 12 EU countries and among them, Italy. The Italian partner of the project, Avanzi s.r.l. (a consulting entity on innovation, sustainable economy and inclusive society), is located in Milan. Main goals of the project were: to foster the consumption of sustainable energy; to enhance the awareness of consumers and citizens towards the topic of energy and its impacts on the environment;
	One of the main challenges is to attract new associates. The context is not particularly favourable: enostra is the first energy cooperative focused on supplying renewable energy in Italy where currently there is not a mass demand of such energy by consumers. It is therefore needed to stimulate the loyalty by niche consumers that are sensitive and interested in environmental issues.

23 Project on the decarbonisation of Puglia (Italy)

Title	Project on the decarbonisation of Puglia
Place	Puglia Region, Italy
Type of initiative (programme, policy, project)	Project
Period	2016
Sector(s) addressed	Transformation of energy and steel production from coal-based to gas-based production; gas transmission infrastructure
Type of participatory process	Communication
Contact person	Barbara Valenzano, Environmental Department Director b.valenzano@regione.puglia.it Francesco Corvace, Executive, f.corvace@regione.puglia.it, supportoprogetti.ambiente@regione.puglia.it
Short description Adriatic Sea ALBANIA TTALY GREECE ATTACH ALBANIA TTALY GREECE	Puglia is a region in the South-east of Italy that has more than four million inhabitants. Its economy is characterised by a mixture of small and medium-sized firms in agriculture and services, and highly capital-intensive large-scale plants in industry. Two of them are of particular relevance: the ILVA plant in Taranto, one of the largest steel producers in Europe, and the Enel power plant in Brindisi, the second largest power plant in Italy. Both of them are coal plants; their polluting emissions are impressive and they have been the object of consistent confrontations from environmentalists and citizens committees in the last years. Another relevant and ongoing territorial conflict in Puglia regards the Trans-Adriatic Pipeline (TAP), a pipeline project to transport natural gas starting from Greece, via Albania and the Adriatic Sea to Puglia and further to Western Europe. In order to reduce the pollution and to solve the territorial conflicts the Regional Administration has elaborated a road map on the decarbonisation. The main points of the road maps are the following: The reformulation of the current layout of the Trans-Adriatic Pipeline, in order to reach Brindisi and Taranto; the transformation of the production process of steel at the ILVA plant in Taranto, converting the existing coal plant into a natural gas plant; the transformation of the energy production of the Enel power plant in Brindisi, converting the existing coal plant into a natural gas plant. The action of communication and advocacy promoted by the Regional Administration has involved the National Council of Engineers and ALDA. Three main challenges have to be faced: the national government is currently in favour of the current layout of the Trans-Adriatic Pipeline; the initial and revised layout of the Trans-Adriatic Pipeline advanced by Regional Administration could be the object of local challenges; the owners of the plants in Taranto and Brindisi have not adhered to the decarbonisation road map.
	At the moment, there are no outcomes from this process since decisions have not been made.

24 Developing the renewable energies sources and the capacities of the Green Community (Italy)

(Italy)	
Title	Developing the renewable energies sources and the capacities of the Green Community
Place	Union of the municipalities of the Montiferru-Sinis, Sardinia, Italy
Type of initiative (programme, policy, project)	Programme
Period	2013 – ongoing
Sector(s) addressed	Waste reduction, recycling
Type of participatory process	Co-production
Contact person	Stefania Carletti, Union of the Municipalities of Montiferru-Sinis, Project Manager, info@unionemontiferrusinis.it
Short description La storia	The Union of Municipalities of Montiferru-Sinis is an interinstitutional governing body in the province of Oristano, in the region of Sardinia in Italy. Presently, the Union is composed of the following nine municipalities: Bauladu, Bonarcado, Cuglieri, Milis, Nurachi, Santu Lussurgiu, Seneghe, Tramatza and Zeddiani.
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The Union is in charge of managing some public services on behalf of the nine municipalities.

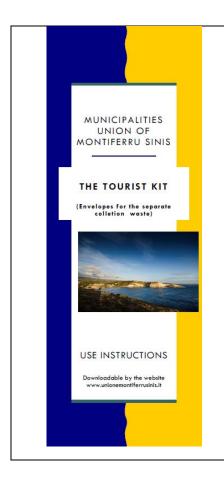
In order to reduce the amount of waste and ensure good quality waste (both recyclable and non-recyclable), the active participation of citizens is the key. The activities for citizens' involvement put in place in Montiferru-Sinis aimed at communicating the new system, sharing the goals of the programme, collecting knowledge on users' habits and needs, and raise awareness on the problems and opportunities related to waste production and collection.

In preparing for policy implementation, several meetings have been organised in the individual municipalities. These meetings began in 2013 and continue until today, as part of an explicit strategy for continuous (and not one-shot) communication on waste reduction (also to deal with a rapidly changing legal context and subsequent changes in waste collection). The typical meeting is open to all citizens and includes participation by the mayor of the municipality, the representative of the Union and the representative of the managing company. The focus is on good practices for waste collection.

In the course of the different activities for setting up the new system, learning and development of trust were reported as relevant outcomes. Concerning the first, the service provider had the possibility to fine-tune the system significantly and collected several insights on how to redesign waste collection for both the non-recyclable and recyclable fractions (for instance, changes in the way clothes and oils were collected followed the interaction with citizens). As for the development of trust, citizens were highly sceptical of the coding, which was perceived as a form of control by public bodies. However, the open meetings and distribution events were effective in convincing them that the innovation was worth doing, that the system would have been fair ('the polluter pays') and that the new variable tariff could deliver monetary rewards.

Expected outcomes for the full implementation of the coding system are the reduction of the total amount of waste (in particular the non-recyclable fraction) and energy savings for waste collection and disposal.

The coding system is waiting to be implemented in 2018, so that lessons can only be provisional. However, in order to fine-tune the system and get



citizens used to it, the Union is running the coding experimentally (i.e. without connecting the quantity of dry waste to the variable tariff). The experimental application revealed a progressive learning by citizens, who start adjusting their behaviour responding to the greater identification made available by the coding system.

At the moment, however, they still do not use bins at maximum capacity (they still deliver semi-empty bins, using the collection service twice a week when they could ration their use further). It is expected that – when coding will be connected to the tariff – citizens' behaviour will respond to the incentive and users will start rationing the service and reducing quantities further (so that a once-a-week frequency will be finally implemented). Hence, in the hypothesis, the mix of tools for an effective implementation would certainly include facilitators and normative appeals (such as leaflets, campaigns and public meetings, the distribution of bins, and so forth), but would need sanctions and rewards to push co-production further.

Concerning shortcomings, the Union is still struggling with managing tourists, whose short presence is not suitable for the lengthy socialisation process that was used for stable residents and where sanctions or rewards would be harder to implement. A 'tourist kit' (with bags for differentiating waste) and its widespread diffusion (i.e. a further effort on simplifying and facilitating coproduction) was experimented this year and will be probably institutionalised in the near future.

25 Renovating district heating and thermoinsulation in Liepaja (Latvia)

Title	Renovating district heating and thermoinsulation in Liepaja (Latvia)
Place	Liepaja, Latvia
Type of initiative (programme, policy, project)	Project
Period	2004 – ongoing
Sector(s) addressed	Energy consumption, production and supply
Type of participatory process	Co-design and co-production
Contact person	Andris Akermanis, Latvian association of Local and Regional Governments, andris.akermanis@lps.lv
Short description	With about 80,000 inhabitants, Liepaja is the third largest city in Latvia. The first step towards increasing energy efficiency was the transformation in 2004 of the former municipal energy company into a limited company. In 2009, the municipality implemented a major renovation of public buildings, and introduced an intelligent system for energy audit based on data loggers able to monitor temperature, humidity and CO ₂ . In 2012, the city committed to the Covenant of Mayors targeting a 35 % reduction in CO ₂ emissions by 2020. Included actions regarded street lighting, energy supply and — most importantly — the renovation of multiflat residential buildings. Concerning energy supply, in 2013, the main action was the switch from gas to biomass. The new system permitted the use of a local fuel — i.e. woodchips — instead of imported gas, so reducing the bills significantly. As for residential buildings, the city targeted multiflat buildings from the Soviet era — the least efficient in the municipality — with planned thermal insulation measures and the renovation of the heating and hot water systems. The policy was certainly a success in terms of increasing efficiency, thanks to a significant decrease of heat losses after the pipeline renovation, the use of cheaper local fuels and the improvement of the physical structure — and hence decrease of heat dispersion — in both public and residential buildings. The plan for renovating the district heating system was promoted publicly and discussed in public meetings by experts and municipal representatives. Concerning the switch to biomass, for the pipeline reconstruction and all renovation works, however, citizens' involvement only entailed an information campaign. In contrast, the renovation of the residential buildings engaged greater citizen involvement. The municipality contacted owners individually, building per building, organised meetings in each building, and facilitated discussion among owners. The beginning of the process was hard. There was much distrust tow

Title	Sustainable home-school trips: Oscar, traffic snake game
Place	Ramnicu Valcea municipality, Valcea County, Romania
Type of initiative (programme, policy, project)	Project under EU IEE programme
Period	2014 – ongoing
Sector(s) addressed	Sustainable mobility
Type of participatory process	Co-production
Contact person	Name/Surname: Simona/ILIESCU Role in the organisation: Inspector, the Communication and PR Bureau Email: simona.iliescu@primariavl.ro, primaria@primariavl.ro
Short description	Valcea county, located in the southern part of Romania and also part of the wider Wallachia region, has a population of 355,000 people. The capital city of the county Ramnicu Valcea, with a population of about 92,000 people participates in the EU project 'Traffic Snake Game' (TSG). This is a
TRAFFIC SHAXE GAME	sustainable mobility campaign that promotes walking and cycling to school for children aged between 4 and 12 years old, for their teachers and parents. The TSG is played two weeks a year. Generally, it takes place during the EU sustainable mobility week. During the two weeks, children receive a sustainable mobility sticker that they have to place on a banner each time they walk, cycle, use public transport or share a car journey to school. By 2017, the project has involved 19 EU countries, 507 cities, 1,192 schools and 8,209 classes.
	Municipality of Ramnicu Valcea started the TSG project in 2014 with a primary aim to reduce traffic jams and air pollution in the city, and educate citizens on sustainable transport.
	The first step of the TSG implementation consisted of meetings with both children and teachers to explain the project purposes. This included the effects on the local environment of the private use of cars for city travel, the benefits of sustainable transport at individual and city level, and the steps of the game. Teachers trained previously held these meetings. They also held meetings with students to discuss their options to use the bus or a bike where travelling long distances into the city and to walk when moving shorted distances. Together with the local police, they also showed the children how to walk safely in town (how to cross the road, what the different colours of the traffic lights, mean etc), how to go by bike and how to take the bus.
	Between 2014 and 2016, the schools played the TSG for two weeks in September, of which one corresponded to the EU sustainable mobility week During this period, children received a sticker that they had to place on a

banner each time they walked, cycled, used public transport or shared a car journey to school and they were encourages to travel to school in a sustainable way. Each week the teachers had to register how children had travelled to school. After the end of the two weeks, children received bonuses (i.e. free entrance to the city zoo, etc.) to continue sustainable mobility.

Even though the EU funding ended in 2016, the municipal representative states that the municipality of Ramnicu Valce will continue the project implementation in 2017. The project will be funded by the local budget and will be implemented during the EU sustainable mobility week. Furthermore, the municipality intends to support schools that wish to implement the project also in other periods of the year.

27 Towards a more sustainable heating system in the city of Niš (Serbia)

Title	Towards a more sustainable heating system in the city of Niš, Serbia
Place	Niš city, Serbia
Type of initiative (programme, policy, project)	Project
Period	2014–2030
Sector(s) addressed	Sustainable heating
Type of participatory process	Co-design
Contact person	Bojan Gajić, Adviser, gbojan@gu.ni.rs
Short description	Niš is one of the oldest cities in the Balkans, and an important industrial



Niš is one of the oldest cities in the Balkans, and an important industrial centre in Serbia. The city has committed to reducing their CO₂ emissions, setting a target of 21 % by 2020 (compared to 2010). Moreover, an energy transition plan until the year 2050 has been put into place, and sustainable energy is placed high on the city's agenda. Therefore the municipality initiated a study on sustainable heating solutions for the city covering the years until 2030.

The project aimed to study possible solutions for a more sustainable heating system in the city. In an initial phase, a heating system model was developed using a participatory backcasting framework. The goal of this approach was to develop a long-term strategy regulating the city's heating system up until the year 2030. The plan was developed with a energy planning tool, named Long-range Energy Alternatives Planning (LEAP). It was provided to stakeholders for feedback during a creativity workshop, in which further elements not yet covered by the plan were also discussed. The final model adapted was therefore a combination of the previously developed plan and the input from the stakeholders.

The participatory backcasting process involved a variety of stakeholders and was split into two phases: first, direct interviews were conducted with almost 40 participants, and second, two consecutive creativity workshops were held. The stakeholders involved in the process included representatives of two consumer organisations (Centre for Consumer Protection, and the organisation of consumers of the district heating system), local production companies, NGOs, the district heating company, the city administration, the municipality, the city council, the energy efficiency council of Niš, the university and civil society, including consumers of district heating and more traditional energy sources such as coal.

During the workshops, guest researchers from KTH & TU Delft presented existing experiences and ideas for an approach. Researchers from the Universities of Belgrade and Kragujevac presented the problem. Stakeholders then had the opportunity to discuss system boundaries, an elaborated joint vision and the criteria for it, analyse trends and uncertainties and co-create a draft solution for achieving the desired vision.

The project showed that participation of stakeholders in policy development processes can be successful and improve decision-making. The participatory backcasting process was positively evaluated by both the city council and the stakeholders involved during interviews and questionnaires administered following the process. The elaborated future vision and an action plan was supposed to be considered by the city for approval but, in the end, unfortunately, never was.

28 Energy policy of the city of Šabac (Serbia)

Title	Francisco of the site of Calan
Title	Energy policy of the city of Šabac
Place	City of Šabac, Serbia
Type of initiative (programme, policy, project)	Policy
Period	2010 – ongoing
Sector(s) addressed	District heating, thermoinsulation, energy production
Type of participatory process	Co-design and co-production
Contact person	Slobodan Jerotić, Municipal Energy Manager, slobodan.jerotic@sabac.org
Short description	Situated in Western Serbia on the Sava River, Šabac is a mid-sized city of more than 110,000 inhabitants, of which about 50,000 are located in its urban area. Heat production in the city is mainly based on natural gas (93 % of capacity), whereas only a small part is produced through fuel oil (7 %). The average age of the heating network and substations is 20–25 years. In the
Energy Efficiency THERMOGRAPHY Non-insulated building and same building after tremal insulation work Appartment building, "Kralja Petra I" Str. Energy Efficiency Appartment building after tremal insulation work Appartment building after tremal insulation work Appartment building after tremal insulation work After reconstruction	early 2000s, public concerns emerged on the high costs of gas, the scant development of renewables and the inefficiency in production, transmission and use of energy. Hence, first among Serbian cities, Šabac started its journey into improving energy performance, and is now a reference for Serbia. It was only in 2017 that the city approved the official energy strategy 'Energy policy of the City of Šabac'. However, before 2017, several projects for reforming the energy system had been successfully implemented, including changes in tariff, building renovations, a greater use of greener (and local) sources and a more reliable audit system. Beyond decreasing costs, energy reforms aim at rising environmental standards (such as decreasing CO ₂), and boost local development through the creation of a market for biomass and renewables.
	When the energy management system was set up and a new integrated approach to energy efficiency started, the municipality established a group for communication with citizens. The group is made up of members of the city council, the municipal energy manager, representatives of the DH company, maintenance company, real estate and NGOs. The group is responsible for communicating publicly on energy efficiency and the planned and ongoing energy projects. The establishment of the group set the beginning of explicit promotion and campaigns over energy issues. Accordingly, all projects eventually contributing to the 2017 strategy were communicated and discussed publicly before adoption. Citizens' consent and participation was the key to implementation of the policy. The municipal budget allows for a financial incentive given by a 50 % co-financing, and several credit options were made available depending on individual situations.
	However, economic incentives were not considered enough for convincing owners. In each building, a variable number of representatives of the municipality or of municipal companies presented the project and facilitated discussion among owners. The meetings became progressively easier after the first buildings accepted renovation and the project (and benefits) became apparent. However, it is reported that renovations were well received from the start, and – even for buildings where no agreement was reached – people were generally positive towards the project. Comparative thermographs showing heat dispersion before after renovation were considered an effective tool for communicating the future results of renovation. Effective communication was complemented by the financial argument of reducing costs and by the financial incentive provided by co-financing.

Title	Beenergi. Bundling sustainable energy investments for Girona's municipalities
Place	Province of Girona, Catalonia, Spain
Type of initiative (programme, policy, project)	Project
Period	2015 – ongoing
Sector(s) addressed	Energy efficiency in public lighting and in municipal buildings (which includes creating sustainable local biomass district heating networks) of Girona's municipalities
Type of participatory process	Co-design and co-production
Contact person	Anna Camp Casanovas, Beenergi project coordinator, acamp@ddgi.cat
Short description	The Province of Girona is a Spanish province that gathers 221 municipalities in a territory of about 6,000 km² and a population of 700,000 inhabitants.
	The project 'Beenergi. Bundling sustainable energy investments for Girona's municipalities' is being developed under the EU Framework Programme for Research and Innovation, Horizon 2020 (Grant Agreement No. 649789). The objectives of the programme are to work on some specific actions envisaged in the SEAPs (sustainable energy action plans) approved by 206 out of 221 local authorities under the Covenant of Mayors framework.
	The Beenergi project sets its goal in providing support from the technical, legal and financial points of view to the 75 municipalities that included in their SEAPs street lighting efficiency investments, energy efficiency and investment in public buildings, heat networks and joint purchasing.
	Some of the main problems to be addressed were: the complexity of legal and technical administrative procedures; the absence of technical or financial capacities of some small municipalities to carry out sustainable energy investments; the dispersion of related public tenders thus losing scale economies opportunities; the lack of knowledge and understanding about Energy Service

publication and availability.

municipality technicians and no professional facilitation.

Companies (ESCO), Energy Performance Contracts (EPC) and Energy Supply Contracts (ESC) models; the insufficient transparency in regard of energy consumption data

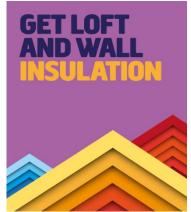
The promoter of the process is the Province of Girona, but all municipalities promoted their own SEAP plans autonomously. The process was more a multilevel governance case than a proper example of public participation. There was no stakeholders committee, no ordinary citizens, no task force of

30 Plymouth Energy Community – PEC (UK)

Title	Plymouth Energy Community – PEC
Place	Plymouth Municipality, UK
Type of initiative (programme, policy, project)	Policy
Period	2013 – ongoing
Sector(s) addressed	Renewable energy, energy efficiency in private buildings
Type of participatory process	Co-production
Contact person	Alistair Macpherson, civil servant alistair.Macpherson@plymouth.gov.uk
Short description	Plymouth is a medium-sized municipality in Devon county, southwest England, one of the few shipbuilding industry cities in UK.







The city council started tackling the issue of fuel poverty in the city, with special focus on the housing sector. The short-term goal was to help households reduce their bills. In a long-term perspective, the city council aimed at giving more decision-making power to the community by establishing a community benefit society dedicated to energy, thus transforming the way Plymouth citizens buy, use and generate power. The establishment of a community organisation that provides services thus had also the aims of empowering local citizens and stimulating the economy.

The policy was also favoured by the framework of the national programme Energy Company Obligations (ECO). The ECO programme launched by the government created a legal obligation of large gas and electricity companies to finance energy efficiency measures for the most vulnerable households by improving insulation, establishing connection to a district heating system, introduce boiler repair schemes, etc.

The main goal of the project was to tackle fuel poverty in the urban area and to reduce energy consumption. During the formulation of the policy, the main actors involved were municipality staff members working together within a low-carbon city team, set up by the municipality itself.

The Plymouth Energy Community (PEC) was established in June 2013 for addressing fuel poverty and was rapidly followed by Plymouth Energy Community Renewables (PEC-R), another community benefit society for renewable energy production. In both societies, five full-time employees and five employees shared with the council were involved.

PEC and PEC-R were established by the city council, thus the process of policy formulation was not participatory, but citizens can join PEC and PEC-R by buying their stakes. Membership is very broad: in general, they are people interested in environmental issues, but the social background is mixed, since the minimum investment required to become member is £50. The range of investments is from £50 to £100,000.

Besides stakeholding and participation in the annual general meeting, a few members also act voluntarily to provide some services, such as communicating information to the community.

Specific working groups help the organisation work on the ground, recruit members, favour exchanges of information between membership and the board, and discuss particular projects.

The local cabinet that supported the policy and had a clear vision of the environmental policy they wanted to pursue, was the fundamental body to guaranteeing the necessary political support to the policy.

The co-production process did not use any particular tool or strategy to involve citizens except public campaigns through the website.

Following the implementation of the policy, other municipalities in the UK have launched similar initiatives as well.

The participatory process has encountered several difficulties, occurring mainly during dialogue with commercial partners. For example, as part of its switching service, PEC first partnered a small tariff comparing company whose business model was focused on ensuring rapid switching. This model was suitable for internet-savvy customers or those with experience in switching suppliers but was not suited to the needs of more disadvantaged citizens who really needed help. PEC then simply changed partner.

Likewise, the collaboration with British Gas was not always easy. British Gas is a large corporation. Finding the right person to work with was therefore difficult and building relations with the contact person took time. Moreover, British Gas tends to propose standardised offers, whereas PEC is more attentive to the individual needs of its customers. It is therefore a constant challenge that PEC has learned to adapt to.

31 Sharing Cities (UK, Portugal, Italy, France, Poland, Bulgaria)

Title	Sharing Cities
Place	The project involves 'lighthouse cities' (United Kingdom – London, Greenwich; Portugal – Lisbon, Downtown; Italy – Milan, Porta Romana) and the 'follower' cities (France – Bordeaux, Poland – Warsaw, Bulgaria – Burgas).
Type of initiative (programme, policy, project)	Project under EU Horizon 2020
Period	2016–2018
Sector(s) addressed	Energy (energy efficiency, energy production, sustainable energy systems), transport (electric shared mobility, smart parking), public lighting (smart lamppost)
Type of participatory process	Co-design and co-production
Contact person	Roberto Nocerino, roberto.nocerino@polimi.it Poliedra, Milano (partner of the H2020 project)
Short description SHARINGCITES	The Sharing Cities project is dedicated to promoting the sharing of good practices among cities Europe wide. It aims to offer municipal leaders, urban developers and other stakeholders a platform for learning as they go by exchanging views and comparing notes on methodological papers and expert reports, and by attending webinars and peer-learning sessions. Participation activities include citizens' engagement in the co-design of services and in the identification of rewards for fostering virtuous energy behaviours. The co-design process includes:
	 envisioning new urban services: public workshops with citizens plus technical workshops with local stakeholders and partners for envisioning new urban services; building refurbishment: co-design process for the retrofitting strategy of buildings, involving representatives of each building involved in the retrofit (20 buildings, three meetings for each building and eventually an event for informing the inhabitants of the whole building); condominium car sharing service: survey for understanding needs of five to six buildings interested in the service and co-designing activities foreseen for reshaping the service; envisioning the future city: contest for envisioning the shape of the future city. Various participatory tools have been used: involvement of citizens on the basis of a preliminary selection; facilitation and conduct of participatory processes by external experts; creation of a task force dedicated to the development of

- creation of a task force dedicated to the development of participatory actions;
- an intense and dedicated communication campaign;
- use of incentives to favour the engagement.

The programme is at its beginning phases and no outcomes have been achieved so far. However, the participatory activities promoted has been well accepted by citizens. The level of involvement of citizen is often greater than expected or in line with expectations. The feedback received so far is generally positive.