THE ENERGY TRANSITION: NEW DIALOGUES BETWEEN CITIES & LOCAL STAKEHOLDERS

EXPLORATORY STUDY

Graphic design: Diane Morel

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Document prepared by Energy Cities with the support of ADEME
Olivia Saxer, Sylvie Lacassagne, Laura Guérin, Stéphane Dupas

Translation: Nathalie Fauchadour

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INTRODUCTION

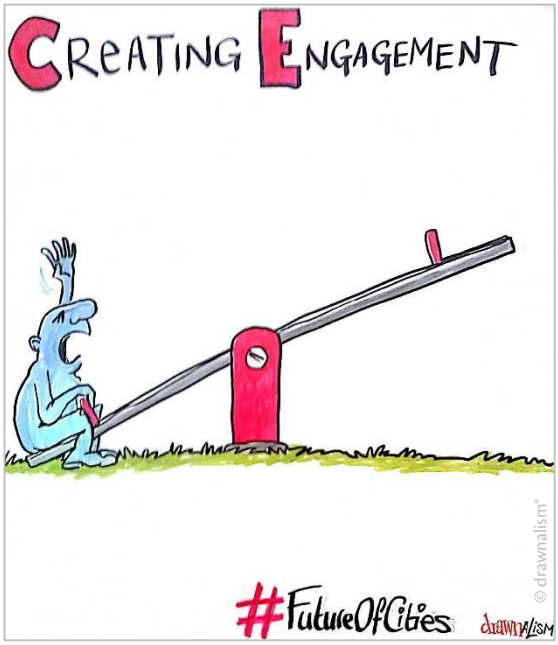
Local authorities have a key role to play in energy and climate policies and in the energy transition towards a low carbon, energy efficient and sustainable model. They cannot, however, act alone for they often control only a small fraction of local greenhouse gas emissions, a fraction which rarely exceeds 25%. **Relying on the involvement of local stakeholders is therefore essential.** It is also a **guarantee of innovation and ambitious initiatives**.

How to stimulate stakeholders' involvement? In recent years, a number of initiatives led by citizens, economic players and other local stakeholders have contributed to the energy transition of territories. These initiatives are based on **empowerment** as well as on innovative tools and approaches such as a social and inclusive economy, stakeholders' engagement, crowdfunding, community energy cooperatives and fab labs.

This exploratory study aims to answer a number of questions:

> As coordinators and pilots of local energy transition strategies, how can local authorities identify such initiatives, support them and encourage their emergence and replication on their local level?

> What dialogue should local authorities and leaders of local initiatives engage in? How can they drive new modes of governance, where stakeholders share responsibility to co-develop public policies, manage their city, and encourage the energy transition at the local level?



Objectives & method

We have selected over ten European local energy transition initiatives, as diverse as they are innovative, anticipating new modes of governance. This exploratory study does not just describe the process used to implement them. With a view to facilitating their replication, it also analyses the synergies between the different stakeholders, examines the role of the municipality and identifies the key factors behind their emergence, success and dissemination.

This study is based on a number of interviews and on detailed bibliographic research.

The case studies are presented in two parts:

- The first part analyses **the partnerships, networks and alliances** involving all or part of the local players.
- The second part is a study of the initiatives developed to satisfy the **imperative need for citizen participation** in the energy transition process.

Other examples identified are given at the end of each case study, as well as contacts, useful websites and a bibliography.

Each case study includes an analysis of the **role of the municipality** and of **the levers it can use** to make such initiatives a success.

The **three categories of relationships between the local authority and group of inhabitants** with a cohousing project identified by Krämer and Kuhn (2007)[1] have been used to establish the type of **roles that a municipality may play**, these roles not being mutually exclusive:

- **a facilitation role**: the municipality is or decides to remain in the background and facilitates emerging initiatives (administrative procedures, visibility or financing);
- **a central role**: the municipality is at the origin of the project, provides political support and may delegate some roles to its citizens, and
- **a partnership or supporting role**: the municipality works with local stakeholders towards achieving a common goal.

The roles of the municipality

[1] Sabrina Bresson and Lidewij Tummers, "L'habitat participatif en Europe", *Métropoles* [on line], 15/2014, posted on 15th December 2014, consulted on 4th September 2015. URL: http://metropoles.revues.org/4960

SUBJECTS EXPLORED BY THIS STUDY

PART 1: DRIVING CHANGE THROUGH AMBITIOUS PARTNERSHIPS, NETWORKS AND ALLIANCES

Local authorities striving to achieve the energy transition in their territories almost always come up against the same problem: their limited scope of action. Indeed they control only a small fraction of local GHG emissions.

When implementing its Energy and Climate Plan and "3x20" objective, the Greater Lyon authority realised that it was able to act on only 25% of the GHG emissions of its territory, the "carbon footprint of the Greater Lyon building stock and departments" representing about 5% of GHG emissions and the "emissions influenced by on-going local public policies" accounting for 20%. The other GHG emissions are little affected by the activities of the Greater Lyon authority and are generated by industrial plants, the carriage of goods for businesses, municipalities, private homes, residents' transport and consumption..."[2]

Delft faces the same situation. After setting an energy neutral objective for 2050, the municipality realised that it controlled only 2% of the GHG emissions in its territory, i.e. the emissions generated by municipal buildings and facilities. Although the emphasis is made here on GHG emissions, the same also applies to energy use and energy efficiency.

Moreover, whether for internal or external reasons (oppositions, jurisdiction, etc.), it is extremely difficult for local authorities to lay down ambitious energy transition regulations. And it is a known fact that traditional economic stakeholders rarely go beyond the ambitions of the legal requirements.

Energy transition initiatives, however, exist in all areas, led by individual stakeholders from the public or private sector, whether or not for profit. This raises a number of questions: **What can be done to multiply existing local stakeholders' innovative initiatives on a large scale? How can an emulation and snowball effect be created to spread the energy transition to all the stakeholders?**

Although municipalities often tend to focus on citizen participation and prefer "top-down" information and measures over co-building initiatives, public-private partnerships, networks and alliances are increasingly used by municipalities.

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[2] *Plan d'actions partenarial du Grand Lyon*, 2012. http://blogs.grandlyon.com/plan-climat/le-plan-climat-du-grand-lyon/le-plan-dactions-partenarial/

Two main ideas result from these initiatives:

- Although some players are remarkably advanced in their energy transition process, it is only by disseminating their experience, best practice and know-how that energy transition will truly take off and spread, hence the growing importance given by an increasing number of municipalities to networks, partnerships and other forums.
- Moreover, an increasing number of municipalities adopt a stance of facilitator so as to increase local stakeholders' accountability. In effect, a sustainable energy transition requires it being integrated into the activity of all local stakeholders.

But even after successfully involving a number of local stakeholders, the process remains fraught with difficulties. Many businesses do not feel that the energy transition concerns them, or only take an interest in it if they can see a financial opportunity or one where they can improve their corporate image. How can a dialogue be established with this target group? Is it possible to reverse the trend and place them at the heart of the process?

There is no blanket solution. Each city, each local context and each stakeholder is unique and adapting to them requires patience and perseverance before being able to share ideas and develop a common vision. Discussion and communication methods also have to be adapted to the intended audience.

Key conditions for successful engagement

- Understand the expectations and priorities of the various stakeholders,
- Redefine the role of the municipality: a facilitation role will support emerging initiatives and therefore create a sustainable momentum in the territory,
- Adapt communication strategies: deliver the right message to the right person at the right time,
- Remain flexible and be attentive to details that may frustrate a project (e.g. the time at which a symposium is organised).

Delft (the Netherlands): e-deals to achieve a carbon-neutral target by 2050

Delft has been a member of Energy Cities since 2004.

The context: "*Delft energy neutral 2050" vision*

The city of Delft (100,000 inhabitants) has had an **active energy policy since the 1990s**, resulting in a 15% greenhouse gas emission reduction between 1990 and 2012. In 2011, the municipality took a big step by adopting **the ambition to become energy neutral by 2050** and decided to reduce GHG emissions by 35% between 2012 and 2020 to achieve this aim.

This decision resulted in the need for **a radically different approach**. The municipality had a direct influence on only 2% of the emissions generated in its territory, i.e. the emissions generated by municipal buildings and facilities. The city of Delft opted for an innovative approach, moving from **a role of initiative instigator to one of facilitator** after noticing that an increasing number of initiatives in favour of sustainable development had been launched by local businesses and citizens. While increasing numbers of citizens felt the need to reduce their dependency on large utility companies by generating their own energy, businesses were seeking to reduce fossil energy costs and an increasing number were paying growing attention to their environmental footprint. **A genuine trend in favour of a "green economy" based on innovative solutions and the responsible use of available resources was therefore emerging**[3].

The municipality thus decided to **encourage these committed local players to take on more responsibilities**, by giving them enhanced powers over the interpretation of the targets and over the means to achieve them.

E-deals: a choice of agreements

In this context, the municipality implemented ***e-deals*** (e- standing for energy), a **local version of the national *green deals***[4]. They are agreements signed between stakeholders and the municipality, either for specific projects or to express their commitment in favour of Delft's ambition to become carbon neutral by 2050. Two municipal employees, Maaike Kaiser and Pauline van Gijn, of the team in charge of relations with local stakeholders and responsible for implementing the local energy plan, work on *e-deals* in Delft.

Since 2013, **17 local stakeholders have signed a general scope *e-deal***, thus expressing their support for Delft's ambition to become carbon neutral by 2050, including the municipality of Delft, several universities, Orange Gas, Ikea Delft, the Datacenter Group and Eneco.

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[3] "Delft energy neutral 2050 - Delft 2013-2016 Implementation Programme", Delft municipality. URL: http://www.energy-cities.eu/db/delft_1308_en.pdf

[4] *E-deals* are a local version of the national *green deals*, but these programmes are not linked. The *green deal* approach focuses on various wide-ranging projects from businesses, organisations and local authorities to encourage the engagement of the private sector in sustainable development. Since their launch in 2011, around 160 *green deals* have been signed and implemented.

The municipality has also supported **ten specific *e-deal* projects**: two energy retrofitting projects, one project with the Technical University on hydrogen-powered vehicles, *"Delft Solar City"* for the development of solar panels in the city, and other projects with hotels and schools.

For these specific *e-deals*, the municipality provides small **subsidies** and gives projects more **visibility** through articles in newspapers, a Facebook page and a website. The municipality has chosen to adopt a **market approach**, which means that it will not refuse to support two potentially competing projects. A few conditions, however, have to be met: the project must be in line with the city's energy plan and must have a business model to ensure that the municipality does not finance the totality of the project. Projects must also be sufficiently significant to justify the signature of an *e-deal*, a relatively long process requiring the involvement of several municipal employees. Smaller and less costly projects may benefit from other types of financing, notably through the energy plan.

The "*Widar in the sun*" *example*

This *e-deal* was initiated by the parents of pupils from the Widar school, who wanted to install **solar panels on the school rooftop**. Faced with financial difficulties and lacking expertise, they contacted the municipality. The subsidies granted under the *e-deal* made it possible to hire a financial consultant and to launch an efficient communication campaign about the project.

In **collaboration with the organic supermarket Ekoplaza**, the necessary funds were raised within a few months. Parents and other interested individuals were able to support the project by buying Ekoplaza vouchers (buying €250 entitling them to a €300 discount voucher at the supermarket). It was then the supermarket that invested in the solar panels and will receive the profits of its investment for ten years while paying an annual rent to the school. After the ten-year period, ownership of the solar panels will be transferred to the school, which will also benefit from the renewable energy they produce. Thanks to this project, **not only is the school supplied with renewable energy, but the initiative means that energy-related issues have become a meaningful part of its curricula**.

Results and lessons learnt

Generally, the fact that the municipality has remained in the background has proved to be somewhat positive. Starting a **dialogue with the various stakeholders about their expectations, needs** and the *e-deal* scheme was sufficient to encourage them to come up with their own ideas. There remains, however, a source of disappointment: the international companies located in the territory have not felt concerned by the city's ambitions. True to its market approach, the municipality has not insisted and is biding its time until these companies could become interested in the communication and visibility it can offer them.

The difficulties encountered:

- **Evaluation** relies on the stakeholders and checking everything would be too costly.
- **Communication** is a key success factor of the *e-deal* scheme. A website, social media, articles in the press: no communication channel must be overlooked! Meetings must also be organised to connect the scheme to a solid network and encourage the emergence of new projects.
- In Delft, only two community initiatives have been launched so far under the *e-deal* approach, whereas in the neighbouring city 80 have been launched, even though the same approach has been adopted. In December 2015, a final session should conclude three months of reflexion with local residents on the best **way to involve them in *e-deals***.

Success factors:

- **Taking advantage of existing structures**: the municipality of Delft has for example been able to rely on the "*Technological Innovation Campus*" and "*Delft Amazing Technology*" networks, two initiatives launched by the municipality to stimulate collaboration between local players. The municipality used these networks to start a discussion on energy transition with individual partners. This was not difficult as most of the stakeholders were already involved in energy issues.
- The market approach adopted by the municipality places it in the **position of a facilitator**: through subsidies, communication and networking, the municipality hopes to promote cooperation between citizens, businesses and universities and to encourage them to take action by getting them identify with the city's objectives. This position of facilitator is a genuine success factor in the sense that it makes it possible to **harness the pre-existing local dynamics**. However, as the municipality does not require anything from anyone, it has to **insist hugely on the opportunities provided by the *e-deals* and adopt a real marketing strategy** to attract motivated stakeholders.

***E-deals* are not an end in itself, but a wonderful tool to support emerging projects and communicate about them. They encourage all stakeholders to get involved and create an emulation of them, since the municipality plays a facilitator role. It is still too soon to recommend this approach to other municipalities. It is however possible to establish a dialogue with local stakeholders to understand each player's needs and expectations.**

For further information

Contacts

Maaike Kaiser
City of Delft
Senior advisor Energy and Sustainable Building

Pauline van Gijn
City of Delft
Advisor Energy and Sustainable Building

Useful links and information

Delft *e-deal* website (in Dutch). URL: http://www.delftwordtgroen.nl/
"A l'action !" workshop organised by Energy Cities on 1st October 2014 as part of the PCET symposium. URL: http://www.energy-cities.eu/-Pays-Bas-mobilisation-des-acteurs
"Atelier 10 / Échange d'expérience sur la mise en mouvement des acteurs du territoire : l'exemple des Pays-Bas Synthèse – Plans climat énergie territoriaux", ADEME, 30th September – 1st October 2014. URL: http://restitution-colloque-pcet2014.ademe.fr/pdf/syntheses/atelier-10.pdf
"Delft energy neutral 2050 - Delft 2013-2016 Implementation Programme", Delft municipality. URL: http://www.energy-cities.eu/db/delft_1308_en.pdf

AND ALSO: The Bristol Green Capital Partnership

Bristol has been a member of Energy Cities since 2014.

Generally, **partnerships are a wonderful opportunity to drive change**: the pooling of skills, know-how, human and financial resources as well as the multi-sectoral dimension of the different approaches are examples of their many benefits.

The ***Bristol Green Capital Partnership*** (BGCP) is a real success story. Launched in 2007 by the city council, its ambition is to gather motivated local stakeholders eager to work together to transform and develop Bristol into a green city. The partnership now has over 700 members from the public, private, associative and academic sectors, who share experience, resolve problems and support projects. In eight years, a vast network has been created and many projects have received support via the £150,000 "*Community Challenge*" fund and by sharing best practice and expertise. The partnership also supported the application of the city of Bristol to the "European Green Capital" award and has taken part in educational activities with the organisation of the "*Big Green Week*", the publication of videos on *YouTube*, the organisation of lectures and the creation of a "Green zone" at the "*Bristol Harbour Festival*".

This success in creating a sustainable and attractive momentum for change is due to a number of main factors.

Governance has been a strong point of the partnership, which has adapted it to its members. At the beginning, the small number of members made it possible to develop an efficient, non-representative or democratic decision-making process, giving the opportunity to the most motivated to move the partnership forward. As the members became more numerous, the partnership adapted to the need for more democratic and representative structures. It, however, kept its original efficiency thanks to its theme-based working groups.

Without the **city council**, its instigator, the partnership would have never come into being. The city council not only mobilised a group of motivated people, it also instilled its vision in the partnership. For eight years, its financial and administrative support proved essential: funding of the coordinator position, administrative support for the "sustainable city" team, subsidies for logistics, funding for a small grants programme, the "*Community Challenge*" fund, etc. As of the end of 2015, the partnership has become a "*Community Interest Company*" and will have to explore new business models in order to become fully independent. It can still however count on the expertise of its members and on partners who are ready to share their resources as a quid pro quo for BGCP visibility and legitimacy.

The BGCP has learned a number of lessons from its experience on how to create change-driving partnerships. Here are a few of them:

- Facilitate the work of the members, the municipality not being responsible for the results.
- Take account of activities already present in the local area, so as to avoid duplicating already existing initiatives.
- Create transparent governance: a partnership must be "independent and inclusive"[5], and encourage collaboration.

[5] *The Bristol method: how to use partnerships to drive change*. Bristol 2015 European Green Capital, 2015. URL: https://www.bristol2015.co.uk/method/

Odense (Denmark) and the *Green Business Growth* partnership: training craftsmen to accelerate the energy transition

Odense has been a member of Energy Cities since 1995.

The context: Odense, a specific approach to the energy transition

Odense, the third largest Danish city with 190,000 inhabitants, is pursuing an **ambitious environmental and energy policy**. As of 2008, the municipality decided to become the most sustainable Danish city. In 2012, its environmental policy set out an overall vision, "Sustainable together" (*Bæredygtige sammen*) and a strategic energy plan (*Strategisk energiplan*, SEAP) aimed at supplying the city with 100% renewable electricity and heating by 2030. In line with Danish national policy, the environmental policy of the city of Odense focuses on the opportunities provided by a green economy.

The city of Odense stands out by its innovative approach to the energy transition, which is seen as a common task and an economic opportunity, centred on **collaboration and the development of partnerships with local stakeholders** and aimed at developing a **local green economy**. Aware of the importance of networking, cooperation and communication, the city of Odense has joined a number of Danish and international partnerships and networks, including *MiljøForum Fyn*, *Klimaværket*, *Energy Cities* and the *Green Business Growth* (*Grøn Erhvervsvækst*) partnership.

Participation in the *Green Business Growth* partnership

It all started with the observation that encouraging owners to renovate their houses was quite a challenge. What is the best way to provide incentives? How can the message be conveyed in a timely manner? Local craftsmen appeared to be the solution: they are in contact with consumers and have the attention of those seeking advice on how to save energy and improve the comfort of their homes.

The city of Odense therefore decided to join the *Green Business Growth* partnership, a partnership uniting municipalities, businesses and training centres, which has been in operation since 2009 (90% of the municipalities on Funen Island, of which Odense is the main city, are part of it). The partnership aims to **improve local craftsmen's training in energy consultancy (energy efficiency), marketing and business development**. For municipalities, the important point is to improve craftsmen's skills so that they can play a role as energy transition relays, whereas the private partners see the partnership as a way to win new contracts and benefit from cooperation opportunities.

Three employees from the Culture and Urban Development department of the city of Odense, Martin Thomsen, Christoffer Kirk Strandgaard and Jane Immerkær, collaborated with the *Green Business Growth* partnership and worked on organising training sessions and an energy fair.

The craftsmen's training programme

The fact that the partnership already existed was certainly an advantage, in the sense that the municipality of Odense could benefit from previous experience. The municipality brought together all the relevant partners: the heat network operator[6], financial institutes, private businesses, educational centres, etc. Together, they set up the **training programme** composed of the following modules: customer relations, renovation costs, business models, financing sources, etc.

Three training sessions were organised (in 2011, 2012 and 2013). After each session, participants' feedback was collected in order to improve the following sessions. The sessions consisted of evening classes and culminated in an **energy fair**, which gave participating craftsmen the opportunity to present their energy retrofitting services to the general public. Now, in 2015, the project has been temporarily stopped. Indeed, the market is saturated and training more professionals in the same skills straightaway would serve no useful purpose. Providing more advanced training, however, is under consideration.

Results and lessons learnt

For the municipality, it was clear that pressure from civil society alone was not sufficient to change energy use patterns: it therefore had to **initiate an energy transition process**. However, it refused to position itself as an opinion leader and preferred to **facilitate networking between local stakeholders and the exchange of know-how and experience** by providing impetus and ideas.

Each year, a statistical survey is conducted by *Clean*, the partnership parent organisation, on all the professionals trained in southern Denmark as part of the partnership. Over the 2013-2014 period, **the craftsmen who received training increased their turnover by 29%** on average whereas craftsmen as a whole did not experience any growth in their activity[7]. The partnership also led to the **creation of 130 full-time jobs** over the same period[8]. All in all, 225 craftsmen received training and two-thirds of the partners interviewed said they were satisfied or very satisfied with the benefits of the partnership.

In three years, the municipality of Odense trained **50 local craftsmen**, who benefited from this training. Some doubled their turnover. These are plumbers, carpenters or electricians who have understood the **advantages of communicating and operating in a network** and recommend each other, thereby increasing their customer base.

The municipality also learnt a lot from this project. Working with partners from different backgrounds helped share knowledge and know-how. It was also the first time that the municipality worked with stakeholders on climate change action programmes. It was a new and stimulating situation: what are the best strategies to inspire people? How can they be encouraged to participate without imposing a specific measure?

For the municipality and the *Green Business Growth* network the **experience has been positive**: the partnership **has contributed to multiplying the efforts** towards achieving greenhouse gas emission

[6] Energy companies can subsidise energy saving measures. In Denmark, they have the obligation to reduce energy end use annually and the *Green Business Growth* partnership seemed a good way of achieving energy savings.
[7] Results obtained from the first 85 craftsmen who attended the training.
[8] Ditto.

reduction targets and has had an **indirect impact on citizens** by facilitating their access to smart energy solutions.

Difficulties encountered:

- Providing the training proved to be a lengthy process. **Patience is needed**, whilst obstacles are overcome. In Odense, the local branch of the craftsmen association managed to block the project for over a year.
- **Maintaining contact** with the trained craftsmen, to better assess the impacts of the training at the local level.

Training local craftsmen and creating a network of them through the *Green Business Growth* partnership has enabled the municipality of Odense to stimulate the green economy in its territory and to have an indirect impact on consumers. The concept of the *Green Business Growth* partnership is easily adaptable to various local contexts.

For further information

Contacts

Jane Immerkær
City of Odense - Businesses and sustainable development
Business liaison officer

Martin Thomsen
City of Odense - Businesses and sustainable development
Industry and climate dept.

Christoffer Kirk Strandgaard
City of Odense - Businesses and sustainable development
Industry and climate dept.

Useful links and information

Odense: case study analysis: imagine low energy cities. August, 22nd 2014. URL: http://www.energy-cities.eu/db/Odense_imagine_case_study_analysis_2014_en.pdf

Green Business Growth in Danish Municipalities. ManagEnergy, April 2014. URL: http://www.managenergy.net/sme/usecases?casestudy=1460

"Odense's Green Business Growth – Craftsmen as energy ambassadors", *Low-Energy City Policy Handbook*. Imagine, October 2014. URL: http://www.energy-cities.eu/db/Odense_involvingstakeholders_craftsmen_2014_en.pdf

Working with industry: Dunkirk's industrial waste heat network (France)

The Urban Community of Dunkirk has been a member of Energy Cities since 1999.

The context: the energy strategy of the Urban Community of Dunkirk

The Urban Community of Dunkirk (CUD - *Communauté Urbaine de Dunkerque*) is composed of 18 municipalities and is home to around 200,000 inhabitants. CUD has been the **granting authority for electricity and gas distribution concessions since 1995** and has made **tackling energy poverty** the priority of its energy policy. In 2004, an **aerial thermography survey campaign** called *"Réflexénergie"* was launched to detect heat losses through roofs. Supported by the Energy Information Centre and a dedicated fund for financing insulation work, installing individual condensing boilers and developing solar energy, the campaign aimed to **tackle climate change and address social issues by reducing energy use**.

Since the adoption of the **Climate Plan in 2009**[9], the industrial waste heat network has doubled in Dunkirk (an additional 140 MW) as the result of an **overall energy strategy** aimed at achieving the "3x20" objective by 2020[10]. This strategy has also been instrumental in developing 60 MW of onshore wind turbines and in installing 1,000 PV and thermal solar roofs.

The origins of the industrial waste heat network

The idea of creating an industrial waste heat network in Dunkirk, a port and industrial city in northern France, and in the neighbouring town of Saint-Pol sur Mer, dates back to the 1970s' **oil price increase**. The economic crisis of the 1980s and its repercussions on the unemployment rate confirmed that **supplying energy at a controlled price** in an area where heating is so important was a precondition to tackling fuel poverty.

In 1982, a sociotechnical survey confirmed that the most cost-efficient solution was recovering waste heat generated at the Usinor plant[11]. Both municipalities joined together to set up SICURD (Dunkirk intercommunity district heating council) in 1983. In 1985, the **agreement between the city of Dunkirk and the steelworks' owner Usinor** (now Arcelor-Mittal[12]) led to the **installation of a 23 MW capture hood at the steelworks** and to the beginning of the construction of a heat network, which went into service one year later. The *Compagnie générale de chauffe* (which became Dalkia in 1998 and is now part of the EDF group) was in charge of overseeing operations as part of the concession contract signed with the city council.

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[9] The new Local Climate and Energy Plan (PCET in French) was launched on 3rd November 2015.
[10] A 20% reduction in greenhouse gas emissions compared to 1990, a 20% increase in the share of renewable energy and a 20% improvement in energy efficiency by 2020.
[11] Four potential sources were compared: a coal-fired boiler, the recovery of steel production gas from Usinor blast furnaces, the recovery of heat produced by the Gravelines nuclear plant and recovery of Usinor waste heat.
[12] Known as Usinor until February 2002 and Arcelor until June 2006.

The extension of the heat network

At the beginning of the 2000s, the prospect of increased energy demand resulted in a reflexion on the expansion of the network, which had already been upgraded with the addition of three CHP units and **a second 13 MW capture hood** at the steelworks. Although the first network connection owes a lot to the determination of Michel Delebarre, President of SICURD and Mayor of Dunkirk, the second was a joint project.

For SICURD, the objective was to **guarantee a reduced 5% VAT rate in the event of a network extension**. To qualify, 50% of the network heat had to be produced from renewable and recovered sources. For Arcelor-Mittal, installing a hood at the exit of the sinter strands made it possible to **recover process dust** and thus was a solution to meeting clean environmental requirements. The hood installed in 2008 thus integrated environmental considerations.

At around the same time, the City and the Urban Community of Dunkirk developed a **strategic plan aimed at doubling the heat network** (an additional 140 MW)[13].

The feasibility study conducted by Hexa Ingénierie and submitted in 2013 considered population densities and the various heat production sources. It was finally decided that **heat sources should be diversified** and a project for connecting the CVE, the waste-to-energy processing plant also operated by CDU, to the heat network was developed.

As part of this strategic plan and in compliance with the French urban areas' public action modernisation and reinforcement law (the so-called MAPTAM law), **CUD regained authority over the heat network**. The Urban Community is therefore now responsible for overseeing the smooth running of this public service operated by Energie Grand Littoral (a 100% Dalkia subsidiary created to operate the network) and for interacting with stakeholders brought closer by 30 years of positive experience.

© photo http://www.communaute-urbaine-dunkerque.fr/

The waste-to-energy plant at Petite-Synthe

[13] The network extension project dates back to 2010.

The benefits of the Dunkirk industrial waste heat network	
	CARBON NEUTRAL. The energy produced is GHG neutral and avoids emitting 19,000 tonnes of CO_2 per annum.
	LOCAL JOBS. A heat network creates local, non-relocatable jobs (operation, maintenance, outfitting works, etc.).
	COMMERCIAL PERFORMANCE. Waste heat is bought at a low price (between 5 and 10 euros per MWh).
	TACKLING ENERGY POVERTY. Low waste heat prices mean that energy costs are kept under control.
	RENEWABLE ENERGY AND TAX REDUCTIONS. The use of renewable energy makes the heat network eligible to reduced VAT rate and to the ADEME heat fund.
	AIR QUALITY. The capture system installed on the steelworks cooling bed contributes to improving air quality by collecting dust

The dialogue between CUD and the various local stakeholders (waste heat producers and users of the heat network)

Arcelor-Mittal and other industrial plant owners in the Dunkirk area

On a daily basis, the City Council of Dunkirk, and now CUD, the Urban Community Council, do not have much contact with industrial companies[14] as routine relations with Arcelor-Mittal are handled by Energie Grand Littoral (EGL), the company holding the network concession. Their **successful involvement in the waste heat project**, however, is to be put to the credit of both local authorities. At the end of the 1980s, the development of closer relations between Arcelor-Mittal and the President of SICURD, who was also Mayor of Dunkirk, had a lot do to with the personalities involved, but other factors also played a part.

In the late 1970s and early 1980s, the Dunkirk area was the stronghold of **powerful environmental associations** which questioned the massive tax incentives offered to polluting industries to encourage them to set up local plants, with no regard for the environment or air quality. Arcelor-Mittal was one of these industries, with its blast furnaces and dark, thick fumes identifying it as a major polluter. In this context, the **steel making company put a lot of efforts into improving its relations with local stakeholders from an environmental point of view**. **Its participation in the heat network may therefore be seen as an expression of goodwill and a way of maintaining good relations with local people**: the political dimension here is undeniable.

Moreover, Arcelor-Mittal (AM) did not invest in the first capture system: it was the concession holder that invested, on behalf of the city council, the owner of the network. As regards the second system, AM and Dalkia paid for half of the investment each. This type of set-up is fairly exceptional: as previously mentioned,

[14] CUD regained control of the heat network only recently, on 1st January 2015. Before that, the network was jointly managed by the city of Dunkirk and SICURD.

Arcelor-Mittal was under pressure from the Regional Environment, Space Planning and Housing Directorate (DREAL) and therefore **extremely keen to take environmental and regulatory measures**.

Whereas the local authority originally started the heat network as a way to **tackle energy poverty**, it is now also part of a **long-term, overall strategy aimed at reducing greenhouse gas emissions and increasing the share of renewable energy in the energy mix** as part of the "3x20" by 2020 objective[15] set out in the Urban Community climate and energy plan (2009). Thanks to the massive use of unavoidable energy, the heat network has turned into a **strategic tool for reaching the 20% renewable energy target[16] by 2020**.

The heat network is fairly unique in that the local authority and Arcelor-Mittal have succeeded in reconciling their operational dynamics and time horizons, aligning their synergies despite different long-term visions. Risks may still exist however with respect to the sustainability of the partnership.

The network extension feasibility study conducted by Hexa Ingénierie in 2012-2013 was spurred by the fact that **almost 70% of the heat network depended on one single industrial company**, AM, which in turn relied heavily on market conditions and international capital. In this context, how could the long-term existence of the network be ensured? The study examined the **diversification potential of diverse heat sources** and identified 13 industrial waste heat sources and potential connections (private homes, industrial parks).

The heat network is such a success that Dalkia has investigated the possibility of connecting other industrial plants to the network. Some surveys have been commissioned by ADEME on a regional level.

Discussions between industrial companies and CUD have been facilitated by the existence of Ecopal, a network of over 200 industries from the Dunkirk area promoting industrial ecology. Created in 2001 on a proposal by Arcelor-Mittal, the association originally aimed at pooling waste management resources. Its attempts at developing tangible synergies between industrialists have never truly materialised but its role as network facilitator has contributed to promoting a culture of exchange in the area, with Arcelor-Mittal as the central hub.

In fact, the industry no longer needed to be convinced of the **benefits of the heat network** highlighted by the experiment with Arcelor-Mittal in terms of **additional revenues, environmental performance and corporate image**[17]. In return, the local authority is making good progress in its ambition to tackle fuel poverty[18] and reduce greenhouse gas emissions in its territory.

Several extension scenarios have been envisaged, notably with Rio Tinto Alcan and Ball Packaging. But the waste-to-energy plant already operated by CUD however appears to be the most reliable solution, with no uncertainty as to its future.

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[15] A 20% reduction in greenhouse gas emissions compared to 1990, a 20% increase in the share of renewable energy and a 20% increase in energy efficiency by 2020.
[16] This includes unavoidable energy under the term "renewable and recovered energy".
[17] These benefits should be put into perspective: financial and CO_2 savings are almost nil. At AM, only about 0.3% of unavoidable energy is recovered (survey carried out in 2013). This explains why AM communicates very little on the heat network compared to CUD.
[18] Served by a dense gas network, many inhabitants in the Dunkirk area continue to use fuel oil heating.

The users

Michel Delebarre, the former mayor of Dunkirk, played a key role in the dialogue with the direct customers of the heat network (housing associations like *Partenord Habitat*, public facility managers, etc.). This political figure and former minister promoted a sustainable development approach as a solution to the 1980s' economic and social crisis. By multiplying urban development projects and tackling fuel poverty, his action proved pivotal **in bringing stakeholders together around the industrial waste heat network** and enabled many connections to be made. Today, the heat network supplies heat not only to the city hall, a hospital, a swimming pool and schools, but also to the equivalent of 16,000 social housing units. **The benefits of the heat network are also acknowledged by the elected representatives of neighbouring municipalities** and many of them have expressed their wish to be connected to it.

As part of the network extension project, CUD is also engaged in discussions with other users: public facility managers, social housing landlords and building owners for whom the heat network has clear social benefits. The authority, however, **does not have much contact with private individuals**, who are often not or little aware of the heat network, and even less of the origin of the heat.

Social acceptance of the heat network is not automatic by all. Developers and planners, for example, do not see the economic interest of having their new buildings connected to the network. CUD has several ways of convincing them: thanks to the **ZAC (*zone d'aménagement concerté* – mixed development zone) and to the PLU (*Plan local d'urbanisme* – local urban plan)**[19] it can impose what future urban areas will be served by the heat network. But the authority usually prefers an approach based on discussions and dialogue to convince stakeholders. For urban development projects, the Urban Development Department acts through a local public company: the objective is to step in as early as possible by attending meetings and have the heat network integrated in the planning process. On some occasions, like the **Grand Large green district project**, the inter-municipal PLU, which also serves as a housing and urban mobility plan (PLUIHD) can make connection of facilities to the heat network mandatory. For new buildings, political will therefore appears to be a determining factor. But despite this, the network has not been classified as a mandatory network, mainly to preserve good relations with other operators seeking to supply energy in the local area.

The Dunkirk case shows that political determination combined with a motivated energy department with the necessary technical skills and good communication (with relevant success stories) are necessary for meeting the economic, environmental and social interests. **Growing interest in the heat network may certainly be attributed to increased awareness of the benefits of the network, but it is also the result of long-term efforts by the city council and CUD.**

[19] One of environmental targets of the CUD local urban plan is the systematic connection of areas earmarked for future development.

Lessons learnt: is the project replicable?

Reproducing such a network is relatively easy, provided heat sources are easily identifiable and minimum production and consumption densities are available. The difficulty lies in **"making stakeholders' dynamics and time scales coincide"**[20]. The private sector and local authorities, for example, have very different ways of working, including in terms of time horizons: whereas industrialists make plans for the next 5 to 10 years (often reduced to 2 to 3 years nowadays), local authorities may make commitments for up to 25 years. In addition to reconciling different timelines and operational dynamics, local stakeholders must also **have faith in the long-term commitment of other players**. The issue of the long-term viability of an industrial activity may make the local authority be wary as, together with the operator, it bears all the financial risks[21]. In Valenciennes, a heat network project was blocked for this reason.

In all cases, to convince an industrial partner to join a heat network project, even a private one, the local authority must support the project by at least showing an interest in its success. This brings us back to the issue of trust, without which nothing can be done.

The Dunkirk heat network illustrates the need for stakeholders to trust each other, and is also a fine example of the fact that, with the right level of political commitment and communication, not only is it possible to reconcile economic interests, social issues and environmental requirements, but also to get a wide range of stakeholders involved in a common project.

For further information

Contacts

Martine Monborren
Urban Community of Dunkirk
Energy Division
Head of the energy production and distribution department

Frédéric Mabille
Urban Community of Dunkirk
Energy Division
Director

Zelia Hampikian
Ecole des Ponts ParisTech Laboratoires Techniques
PhD Candidate

Useful links and information

"Associer les usagers à la vie du réseau de chaleur", Fiche Action, Cerema Direction Territoriale Ouest. URL: http://reseaux-chaleur.cerema.fr/associer-les-usagers-a-la-vie-du-reseau-de-chaleur
Claire Thibault, "Dunkerque, pionnière sur les énergies durables", *Batiweb*, 3rd February 2014. URL: http://www.batiweb.com/actualites/collectivites-territoriales/dunkerque-pionniere-sur-les-energies-durables-03-02-2014-23682.html
Clara Canévet, Vivien Duthoit, Julia Labarthe and Amos Waintrater, *Entre autonomie et solidarités territoriales, quelle gouvernance énergétique dans les territoires urbains ?* Etude ACUF - AMGVF - INET, September 2012. URL: http://www.communautes-urbaines.com/download/PUBLICATIONS/Gouvernance_energetique/070912_rapport__gouvernance_energie.pdf

[20] Zélia Hampikian, telephone interview, 28/08/15.
[21] A guarantee fund to secure this aspect is being examined by ADEME.

"District Heating Network. Dunkirk, France", Global District Energy Climate Awards Copenhagen, 3rd November 2009. URL: http://www.districtenergy.org/assets/CDEA/Case-Studies/Copenhagen-Energy-SummitDunkerque-France-submission.pdf
"Dunkerque Grand Littoral et développement durable. Un exemple d'agglomération industrielle innovante", Communauté urbaine de Dunkerque, 2002. URL: http://www.communaute-urbaine-dunkerque.fr/fileadmin/user_upload/pdf/Institution/Dev_durable/Durable.pdf
Dunkerque Grand Littoral. Rapport annuel développement durable. Communauté urbaine de Dunkerque, 2014. URL: http://www.communaute-urbaine-dunkerque.fr/fileadmin/user_upload/pdf/Develpt_durable/Rapport_annuel_2014_-_developpement_durable_-_communaute_urbaine_dunkerque.pdf
"Interview de Robert Serna (Ville de Dunkerque)", *Smart grids – CRE*, 3rd April 2014. URL: http://www.smartgrids-cre.fr/index.php?p=reseaux-chaleur-froid-intelligents-dunkerque
"Le Quartier Grand Large de Dunkerque", Aucame, April 2008. URL: http://www.aucame.fr/web/publications/etudes/fichiers/Fiche_Dunkerque.pdf
"Le réseau de chaleur de récupération industrielle de Dunkerque (59)", Cerema, November 2009. URL: http://reseaux-chaleur.cerema.fr/le-reseau-de-chaleur-de-recuperation-industrielle-de-dunkerque-59
"Les réseaux de chaleur enfin reconnus à leur juste valeur… ajoutée !", *L'observatoire énergies entreprises*, 4th February 2015. URL: http://www.observatoire-energies-entreprises.fr/les-reseaux-de-chaleur-enfin-reconnus-leur-juste-valeur-ajoutee/

AND ALSO: The Inzell initiative (Germany), 20 years of public-private cooperation to forge a shared sustainable mobility vision in Munich and Bavaria[22]

Munich has been a member of Energy Cities since 1999.

In the 1990s, Munich had to face major traffic jams and a saturated public transport system. The demand for transport had indeed rocketed since the extension of the road network for the 1972 Olympic Games.

It is in this context that the Inzell initiative, an innovative example of public-private cooperation, was launched with unparalleled success[23]. The combination of a number of converging key factors contributed to its development: research breakthroughs in data communications systems, BMW traffic management experiments and the election of Christian Ude as mayor of Munich, a young mayor determined to deal with the urban traffic problem.

A first two-day meeting was organised in the small village of Inzell in 1995 at the joint initiative of the city of Munich and BMW[24] to discuss urban traffic issues and look for solutions beyond current political and ideological divides. This event gathered local authorities, businesses and industries, scientists and local mobility stakeholders. The informal setting of the meeting meant that a number of politically sensitive issues could be addressed in a pragmatic and discussion-oriented way such as parking in the inner city, traffic management and the planning of tunnels on the ring road.

Priorities set by the Inzell platform

1. The development of residential areas should be geared to the public transport network.
2. The closer to the city centre, the lower the proportion of automobile traffic should be
3. Through-traffic should be kept away from densely populated areas.
4. Those who wish to calm traffic flows must concentrate traffic on the main arteries.
5. Cooperative traffic management enables the performance of the transport systems to be boosted and improved.
6. Local public transport has priority.
7. The Park and Ride system as a means of networking different modes of transport needs to be improved.
8. A parking-space management concept must be drawn up for the city.
9. In the individual transport area, commercial and trade traffic has priority.
10. Freight transport is to be optimised by promoting logistic systems.
11. Traffic is to be avoided by encouraging car owners to carry more people in their vehicle.

[22] This case study is a summary of the study published by Markus Mailer et al., *Mobility 2050. Region of Munich – creating a common vision for sustainable development in a unique Public Private Cooperation*. Elsevier, 2014. Doi: 10.1016/j.trpro.2014.11.043. URL: http://www.sciencedirect.com/science/article/pii/S2352146514003263

[23] Markus Mailer et al., *Mobility 2050. Region of Munich – creating a common vision for sustainable development in a unique Public Private Cooperation*. Elsevier, 2014. Doi: 10.1016/j.trpro.2014.11.043. URL: http://www.sciencedirect.com/science/article/pii/S2352146514003263

[24] Christian Ude, Mayor of Munich and Bernd Pischetsrieder, BMW CEO got to know each other at school. This probably facilitated the discussions.

Whereas the small village which hosted the meeting gave its name to the initiative, budding cooperation between regional mobility players led to the decision to continue to work in the same way. The so-called Inzell platform was thus created, together with a list of planning priorities for the future of mobility and urban development in the Munich region.

This cooperation platform gradually built up to become a national and international benchmark in regional mobility and transport governance.

In 2007, the "Future of mobility in the region of Munich" forum was set up to work on a common vision of mobility. "Vision 2050", whose results were presented in 2013, also highlights the future challenges and opportunities of mobility.

The Inzell initiative and traditional political and administrative processes

> *"The initiative was described as a stakeholder network without proper democratic legitimation contributing to a powerful strategy for sustainable mobility" (Hajer and Kesselring, 1999)*[25]

The fact that the discussions take place outside the formal political and administrative processes is certainly one of the key success factors of this initiative. This feature, which is both a risk and an opportunity, has contributed to assuaging the discussions about highly sensitive and potentially divisive political issues. The initiative is not designed to replace the traditional political decision-making process but to support it.

Forum-based governance

The plenary sessions serve to define the strategic orientations and main guidelines. For each task, a "pate" (sponsor) is appointed to develop solutions with the stakeholders involved. Forums are then set up to start discussions oriented towards pragmatic solutions: these discussion sessions are not public, which helps remove some political barriers. It is a simple dialogue recipe consisting of a "presentation-discussion-impulse-solution-implementation" series.

Preparing the "*Vision Mobility 2050*": governance according to the "*Future Workshop*" method (Jungk and Müllert, 1987)

Developing the *Vision Mobility 2050* involved a number of steps: a review and update of existing studies on the future development of mobility, the definition of sustainable development principles as an orientation for the concepts of future mobility, and development of the *Vision Mobility 2050* with all the stakeholders using the "*Future Workshop*" method (Jungk and Müllert, 1987). Note: this vision was defined by always taking the lowest common denominator into account, which means that only the most consensual measures and elements were retained.

[25] Markus Mailer et al., *Mobility 2050. Region of Munich – creating a common vision for sustainable development in a unique Public Private Cooperation*. Elsevier, 2014. Doi: 10.1016/j.trpro.2014.11.043. URL: http://www.sciencedirect.com/science/article/pii/S2352146514003263

For further information

A number of documents are available in English or in German. Readers seeking further information are referred to the bibliography in Markus Mailer et al., *Mobility 2050. Region of Munich – creating a common vision for sustainable development in a unique Public Private Cooperation*. Elsevier, 2014. Doi: 10.1016/j.trpro.2014.11.043. URL: http://www.sciencedirect.com/science/article/pii/S2352146514003263
One of references in particular looks at the initiative from the angle of collaborative interaction (Baumann and White 2012; Healey 1997).

Initiative website. URL: http://www.inzellinitiative.de/_engl.Version/index_eng.htm
Brochure presenting the initiative (in English). URL: http://www.inzellinitiative.de/shared/10-jahre-inzell-englisch.pdf

AND ALSO: *Les Acteurs du Paris durable* (France), promoting stakeholders' involvement

Paris has been a member of Energy Cities since 2004.

Les Acteurs du Paris durable is an initiative launched in 2011 by the city of Paris in the wake of an Agenda 21 diagnosis and advocating immediate involvement of civil society in reducing Paris's ecological footprint. Combining a website for citizens, businesses and associations to declare and give visibility to their initiatives as well as physical meetings with other "Sustainable Paris Stakeholders", the project aims to create a partnership dynamic beneficial to the identified projects.

Do you want to promote local initiatives as a source of inspiration to encourage their replication and dissemination? A number of factors need to be taken into account:

- **Communication** is an essential factor for success. The Paris urban ecology agency first mobilised its contacts and a number of network leaders. It also communicated on a regular basis with the general public though posters in green spaces and on the Internet.
- A best practice website must be combined with **physical meetings** for project holders to develop their networks. 80% of the responders to a poll carried out by the Paris urban ecology agency said that they had at least three fruitful interactions for their projects.
- This type of initiative requires a lot of **flexibility** to avoid pitfalls. For example, there is no point in organising meetings lasting several hours if the persons interested by these events have a busy diary and would therefore prefer shorter meetings, preferably held in the evening.
- The fact that the municipality renounced its prescriptive role is essential. After listening to its local stakeholders, the municipality understood that a **bottom-up** approach was increasingly in tune with their expectations, as it creates a **new momentum, based on support** and mutual respect.

For further information

Les Acteurs du Paris durable website. URL: http://www.acteursduparisdurable.fr/

AND ALSO: Greater Besançon (France), a communication strategy tailored to the various target groups

Greater Besançon has been a member of Energy Cities since 2004.

As part of the partnership component of its Climate Plan, Greater Besançon has a number of projects in progress or in the pipeline:

- A project with the Praxibat platform for **developing the skills of building professionals** through the organisation of regular meetings with professionals from the Besançon area;
- Two projects with communication students aimed at creating a **database of transition companies**, obtaining an overview of the obstacles and levers affecting transition and developing a **citizen mobilisation strategy** with the environmental education platform;
- Other **community mobilisation projects**: 150 families acting for the climate, projects related to agriculture and local food, etc.

Greater Besançon has drawn a number of lessons from its experience about how to engage a dialogue with local stakeholders. With **families**, the important point is to convey messages in a **pleasant way**. It is also possible to rely on **relay-stakeholders** based on the knowledge that mobilising one third of the citizens is enough to trigger a snowball effect. When addressing **local businesses**, Greater Besançon focuses on **economic gains and existing best practices** while working on developing a network of interested businesses already promoting energy transition. The "Energy transition meetings" (*Rendez-vous de la transition énergétique*) are a good example of this.

In the wake of the Stakeholders' Club and to prolong the emulation generated locally by the national debate on energy transition, Greater Besançon contacted the **FACE Business Club**, asking them to integrate a sustainable development and energy transition dimension. After approval by the Board of Administrators, a symposium was organised in January 2014 around themes like mobility, thermal retrofitting, the social and inclusive economy, etc. The positive feedback from the President of the FACE Club (ENGIE) led to the organisation of **Energy transition meetings** (December 2014, March 2015, October 2015), on the model of the morning sessions already organised by ENGIE: around fifty participants from various companies meet for two hours to discuss and review energy transition themes and share best practices; they also receive input from financers like ADEME or the Regional Council.

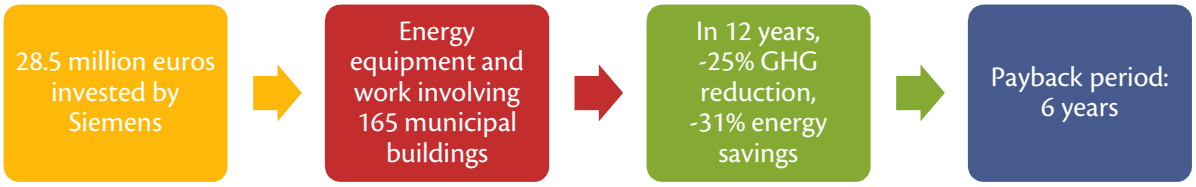
<u>The Energy transition meetings: key success factors</u>

- **Suitable times**
- **Open discussions** covering a wide range of subjects, from economic gains to competitiveness and more technical or behavioural aspects.
- **No sanctimonious discourse**

AND ALSO: "Energy-Saving Partnership Berlin" (Germany)

The impact of energy performance contracting, whether initiated by the private sector or the local authority, is usually limited to the greenhouse gas emissions and energy bills of public buildings.

In 1995, the city of Berlin launched "Energy-Saving Partnership Berlin", an energy performance contracting programme, which delegated energy management in public buildings to Siemens, a private operator. The savings made annually on the energy bill are used to pay back the supplier's initial investment[26].



The energy performance contract between Berlin and Siemens

These contracts are interesting in that they remove one of the major barriers to the energy transition: financing. They are increasingly used for street lighting or for improving the energy efficiency of municipal buildings. A similar system may be used internally, within a local authority, and is called internal performance contracting, or *intracting*. This system is used by the city of Stuttgart and by well-known European universities, like the Heidelberg University in Germany or St-Andrews[27] in the UK. The principle is the same as energy performance contracting, but in the case of intracting, only municipal funds are used.

For further information

Peter Schilken, *Internal Performance Contracting*. Energy Cities, 2013. URL: http://www.energy-cities.eu/IMG/pdf/dossier_intracting_en.pdf
Rémi Dorval (dir.), *Quel rôle pour les villes dans la transition énergétique?* La Fabrique de la Cité, Janvier 2013. URL: http://www.lafabriquedelacite.com/fabrique-de-la-cite/data.nsf/BB378981B8DA3EF2C1257C7F003E2240/$file/6_etude_energie_jan2014.pdf

[26] Rémi Dorval (dir.), *Quel rôle pour les villes dans la transition énergétique?* La Fabrique de la Cité, January 2013. URL: http://www.lafabriquedelacite.com/fabrique-de-la-cite/data.nsf/BB378981B8DA3EF2C1257C7F003E2240/$file/6_etude_energie_jan2014.pdf
[27] Peter Schilken, *Internal Performance Contracting*. Energy Cities, 2013. URL: http://www.energy-cities.eu/IMG/pdf/dossier_intracting_en.pdf

AND ALSO: The Essonne Climate Network (France)

The département of Essonne has been a member of Energy Cities since 2006.

With a view to promoting a dynamic energy transition momentum, the *département* of Essonne in France has decided to use its unifying and facilitating role to encourage and motivate local stakeholders to reduce greenhouse gas emissions. The Essonne Climate Network (*Réseau Climat Essonnien*) was therefore launched with funding from the LIFE+ programme. It provides a platform for discussing climate-related issues with elected representatives, technical experts, community organisations and economic players. The experiment has shown the importance of political leadership. Training the departmental council staff to use interaction, participation and concertation methods has also been a success factor.

For further information

"CLIMATE: Changing Living Modes: taking Action in our Territory for the Environment", Brochure, Département de l'Essonne. URL: http://www.energy-cities.eu/db/CG-Essonne_LIFE_CLIMATE_2014_en-fr.pdf

PART 2: ENCOURAGING CITIZEN PARTICIPATION

Since the 1990s, the idea that citizen participation is necessary for public policy-making has gained momentum, notably with the development of Agendas 21.

The energy transition throws into question the existing energy model, but it also "questions the governance and hierarchy of the stakeholders (in order to effect) a transition to a model which places individuals and citizens back at the centre of the system and to an economic democracy in which finance is just a means and no longer the ultimate end and source of power"[28]. Citizen participation is therefore a fundamental pillar of the energy transition.

However, although citizen participation contributes to citizens' empowerment and stimulates their involvement in public life, encouraging a diversity of opinions, the ability to listen and legitimating the decisions made by policymakers, it is hard to implement in its ideal form. Given the difficulty in mobilising people and the risk of excluding the most socially disadvantaged from the decision-making process, citizen participation does not necessarily mean inclusion.

In this case, how can all citizens become involved?

Participative democracy is at a turning point, in that it has become an intrinsic part of the shift towards a more sustainable society model. It is no longer a question of whether citizens participate, but rather of how they participate.

Conventional consultation models have shown their limits. This is why this section will present initiatives based on innovative forms of participation, co-piloted by local authorities and citizens and paving the way for tomorrow's society.

[28] *Pour une transition énergétique citoyenne*. Le Labo de l'ESS, September 2015. URL: http://www.lelabo-ess.org/?Pour-une-transition-energetique-1784

Utrecht (the Netherlands): an energy plan devised by citizens

Utrecht has been a member of Energy Cities since 1998.

The context: the necessity for citizen participation in the energy strategy

Situated in the heart of the Netherlands, Utrecht is a university city with a population of 330,000 and around 70,000 students. Since the population is expected to grow until 2020, the local authority pays great attention to the quality of life in the city. In 2030, Utrecht will be a "clean, sustainable, green and safe"[29] city, a pleasant city thanks to the place given to green spaces, air quality, health and the development of soft modes of transport. The municipality's ambition is also to become a more participative democracy.

In the Netherlands, barely 5% of the population is a member of a political party. Most citizens pay little attention to the actions of the municipality of Utrecht between elections. This is especially true of energy policies. Although the 2009 and 2011 energy and climate plans underwent public consultations, the meetings were always attended by the same people, meaning that the majority of citizens knew little of these plans. But many within the municipality believed that **energy was too important an issue to ignore citizens' priorities**.

After reading "*Tegen verkiezingen*" (Against elections) by David van Reybrouck, the elected representative in charge of sustainable development, Lot van Hooijdonk, suggested that **citizens should devise the 2016 energy and climate plan using deliberative democracy principles**. This initiative had two objectives: compensate for the democratic deficit in energy policies and give the city the means to rapidly become carbon neutral through intensive collaboration with all the local stakeholders. Thanks to the participation of its residents, the city of Utrecht hoped to create a popular movement that would make the city a pioneer, a truly "energetic heart"[30], where energy would not only be the responsibility of the local authority, but also of all the local stakeholders.

Deliberative democracy

Deliberative democracy is about reaching a collective decision and is characterised by an open debate of rational arguments, free from unequal negotiating powers. Bernard Manin analyses the various components that are necessary to encourage such a deliberation process. Loïc Blondiaux and Yves Sintomer look into the emergence of a deliberative imperative as the "new spirit of public action".

Blondiaux Loïc, Sintomer Yves. "L'impératif délibératif", *Politix*. Vol. 15, N°57. First quarter 2002. pp. 17-35. Doi: 10.3406/polix.2002.1205
URL:
http://www.persee.fr/web/revues/home/prescript/article/polix_0295-2319_2002_num_15_57_1205

Bernard Manin, "Comment promouvoir la délibération démocratique ? Priorité du débat contradictoire sur la discussion", *Raisons politiques* 2011/2 (n°42), p. 83-113. Doi: 10.3917/rai.042.0083. URL:
http://www.cairn.info/revue-raisons-politiques-2011-2-p-83.htm

[29] "Utrecht: energetic heart of the country", *Interpretation of the Energy plan by the Municipal Executive.* Utrecht, June 2015. URL: http://www.utrecht.nl/fileadmin/uploads/documenten/3.ruimtelijk-ontwikkeling/Milieu/Energie/Interpretation_of_the_Energy_plan_by_the_Municipal_Executive.pdf
[30] Slogan adopted during the discussions about the 2016 energy plan.

Three days of debate were organised in early 2015 to draw up the city's 2016 energy and climate plan. The discussions focused on a central issue: **what more can Utrecht do in order to reach the target of climate-neutral energy provision as quickly as possible?**

Method and organisation of the discussion days

Selection of the participants

The representativeness of the panel was a key point in organising the event. The municipality first randomly selected 10,000 people and sent them invitations to participate in drawing up the new energy and climate plan in return for financial compensation (participants could choose between a €300 voucher to be used freely and a €600 voucher redeemable for energy measures or electric transport). 900 people answered favourably. The municipality selected 165, equally distributed in terms of gender and geographic area. **Contrary to previous experiments, the compensation offered ensured equal representation of the various neighbourhoods.**

The team

Eight municipal staff members prepared the event. In total, ten people were involved before and over the three days: a researcher from the municipality, who selected the participants, a communication officer, a project manager responsible for creating the process (transition manager), an energy expert (information to participants and support for consultants), a project manager from Utrecht energy department, a planning manager, a logistics manager (bike parking places, café, catering, etc.) and a project coordinator. An expert in deliberative democracy chaired the three days of discussion.

Using the services of a consultancy

In order to provide participating citizens with the best possible information, the municipality hired energy consultants. Their missions were essential: production of information sheets to be distributed to the participants before the first day, preparation of an energy scenario, presence of experts for special themes, reporting on the atmosphere during the discussions and recording of the participants' contributions into a draft energy plan.

Together, the project team agreed on two principles.

Strict adherence to the procedure

The municipality's absolute priority was for citizens to come up with an energy and climate plan of their own. It therefore attached great importance to implementing and complying with the procedure (random composition of the groups, time allowed etc.) and to the fact that citizens should not be influenced:

- **The groups** were made up randomly so as to ensure diversity. Each group appointed its own chairperson, timekeeper and reporter so that the group would be responsible for keeping to the procedure. Each working group was also assigned a specific question. Their outputs were then presented in a plenary session supervised by an independent external facilitator.
- **As far as possible, the groups were asked to count all the votes received by each idea, keeping only those that most people agreed with.** The consultants sorted out the inputs and ideas on behalf of the municipality of Utrecht.

A flexible appreciation of expertise

The second fundamental principle was to accept the level of expertise of the citizens. The municipality did not want the project to be perceived as an attempt to "educate citizens" or to influence them. Access to information was therefore a key part of the way these days were organised. This means that citizens were unrestrictedly able to get information about all energy-related aspects. About twenty factsheets were handed out to participants before the meetings. A number of talks were also given and experts were present and available during the three days to answer questions.

The discussion days (March and April 2015)

After a long preparation process, the 165 selected participants met three times on Saturdays in March and April 2015.

Day 1: "Dreaming of the future" (14th March 2015)

During this first, rather open day, the participants were able to discuss with experts and between each other and tried to imagine their city in the future. To encourage them to dream, several questions were put to them: what will Utrecht look like in 2030? What can we do to make these dreams a reality (use less energy, produce more sustainable energy, etc.)? What strategy should be adopted? The answers were as varied as innovative. Some were even quite unexpected: a teacher even suggested nuclear fusion!

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The results of this first day of discussions were collected by the consultants and organised in "packages" of measures. After eliminating the most extreme proposals, the consultants calculated their impacts in terms of CO_2 emissions and renewable energy production, as well as the costs and potential yields of the suggested measures. These calculations were presented by the consultants on the second day.

Day 2: "Building scenarios" (28th March 2015)

During this day, the municipality imposed a number of constraints on the participants: budget, yields, technical means, impacts, etc. The aim was for citizens to build scenarios and assess their consequences in terms of economic impact, jobs and comfort, thanks to a specifically designed simulator. Two independent experts also presented their vision of a climate-neutral Utrecht. Given the difficulty of devising a scenario by 165 people, the participants organised the proposed measures into three categories: measures to be

eliminated, measures approved by the majority, and measures requiring certain conditions for their implementation.[31]. Finally, a list of 10 priorities was drawn up for each sector: housing, work and transport.

Based on the first two days, a draft energy plan was prepared by the experts, consultants and facilitators and handed out to the participants. Once again, only the most widely accepted proposals were kept so as to obtain the lowest common denominator. The draft clearly showed the input of the participants, the response of the experts and what "gaps" remained (questions on Post-Its to be worked out later on).

Day 3: "Devising the energy and climate plan" (18th April 2015)

After reading the draft energy plan and listening to the opinions of business representatives, social landlords and energy companies regarding the previously defined priorities, the participants were asked to draw up a provisional energy and climate plan that was presented to the councillor in charge of sustainable development at the end of the day. On this occasion, the municipality was able to appreciate the ability of citizens to discuss with stakeholders and to think comprehensively.

What are the next steps?

The participants were very clear about their desire to keep track of the process. To guarantee transparency, the municipality set up a number of monitoring levels. Once the energy plan has been formed into an action plan by the city council, the municipality will invite all the participants to a meeting in April 2016 so that they can express their opinion on how their priorities have been translated into concrete actions.

Information is also regularly sent by e-mail to report on the progress made in forming the energy plan. Invitations to city council debates have also been made and the municipal departments have remained available for advice.

Results and lessons learnt

The Energy Plan

Ultimately, the Energy Plan that was drawn up was quite ambitious but not fully-fledged and remained halfway between a vision and a scenario[32]. The municipality, however, really appreciated how the participants approached the issues, for example on behavioural aspects or the integrated dimension of energy. Participants also mentioned examples where the efforts of the municipality were not sufficiently integrated in development areas. This approach also led citizens to identify conditions that would improve social acceptance of district heating networks or wind turbines. Concerning the heating network, they demanded more transparency and that citizens be part of the decision-making process. This would give the municipality more legitimacy in the future negotiations with the heating network operator.

Overall, the municipality was positively surprised at how participants were able to find common ground, not only with it but with other stakeholders like *Eneco*, the heating company or *Stedin*, the energy distribution

[31] "*Measures to be taken right away!*", "*Measures Yes, provided…*" and "*Measures No, unless…*"
[32] Hence the recommendation to give more time to day 2 and day 3, because they require some kind of confrontation with the reality.

operator. This will certainly encourage the municipality to include citizens in negotiations with other partners on a more frequent basis.

Feedback from stakeholders

Overall, the team in charge of the project noted that participants were genuinely enthused about the approach and very keen to learn more. 97.5% said they were satisfied or very satisfied with these three days of discussion, which seem to have stimulated a real reflection about energy and the ability of citizens to take action, whether at individual, community, neighbourhood or city levels.

A good example of the interest shown by citizens in the approach is the fact that many opted for the €600 vouchers redeemable for energy measures (56 participants) instead of the initially highly coveted €300 gift voucher (chosen however by 109 participants).

The role of the municipality

Finding out what participants wanted from the municipality was one of the most unexpected outcomes of these three days of discussion. Throughout the process, the city of Utrecht feared adopting a lecturing or preaching role. Surprisingly, the participants asked the municipality to assume this role more often. According to them, the municipality must play an active role in the energy transition process for it has the power to initiate many of the desired measures. It must also stimulate change in behaviour by providing information (energy information service, energy publication, website, energy ambassadors, etc.) and enhanced visibility to energy initiatives (installation of solar panels on municipal buildings for example). Neither do citizens exclude the possibility of the municipality becoming an energy supplier in the long term, which would clearly affirm its pivotal role in the local energy policy.

Following this process, the municipality has thus reviewed its own roles:

- **Directive role** (strategic choices, notably on a large scale, such as using the district heating network in the city) ;
- **Legislative/enforcement role** (public law, enforcing energy saving measures under the Dutch Environmental Management Act);
- **Role as facilitator and catalyst** (facilitating initiatives like purchasing schemes for solar panels), and
- **Role model** (setting an example in the market, the municipality being responsible for part of local emissions, and becoming a regional or even national leader).

For both citizens and the municipality, it appears key that the latter combines *bottom-up* approaches (inspiring citizens, supporting spontaneous movements) with *top-down* approaches (creating optimal regulatory and financial conditions for the energy transition).

Future prospects

After the energy plan drawn up by the citizens was presented to Utrecht City Council, the Utrecht Energy Agendas 2016-2019 were published in autumn 2015. These translate the energy plan into practical measures embedded into other local energy and climate policies. The idea is to get back to the participants once the action plan is defined, to see if they recognise the result of their inputs.

For the sake of transparency and to continue the participation process started, the municipality is looking for tools to maintain the level of motivation of the participants and harness the momentum of enthusiasm generated by the discussions. With these discussions, the municipality hopes to start a citizens' movement and spread it across the city by word of mouth. It is also considering following the advice of participants by adopting a combination of *bottom-up* and *top-down* approaches with other stakeholders.

> *"The city-wide conversation has taught us that we can only bring about the desired energy transition with a joint approach in which everyone feels ownership and has their own roles and responsibilities and in which alliances are forged around ever-changing issues. This calls for a common approach: top-down and bottom-up. An approach focused on technology, market, awareness, attitude and behaviour. And an approach focused on short-term and long-term breakthroughs. We are riding the coattails of a movement that has already begun. We want to create more movement, support the movement there already and make further movement possible*[33]*." Municipality of Utrecht.*

Considering that energy is too important an issue for citizens not to have their say on it, the decision to have citizens draw up the Utrecht Energy Plan 2016 is a concrete and successful example of deliberative democracy. It revealed the importance of governance that is half-way between *top-down* and *bottom-up*, ensuring that all stakeholders are involved in the energy transition process.

For further information

Contact

Inge van de Klundert
City of Utrecht
Sustainable development advisor
Environment and mobility department

Useful links and information

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[33] "Utrecht: energetic heart of the country", *Interpretation of the Energy plan by the Municipal Executive*. Utrecht, June 2015. URL: http://www.utrecht.nl/fileadmin/uploads/documenten/3.ruimtelijk-ontwikkeling/Milieu/Energie/Interpretation_of_the_Energy_plan_by_the_Municipal_Executive.pdf

Community energy projects in the UK: a diversified answer to social, environmental and economic issues

The context

In a context of economic, social and energy crisis, community energy projects are booming across the United Kingdom. These are **local energy production, demand-side management or energy-purchasing projects in which local communities take ownership or even control of the project and benefit from its results (energy savings, income)**. Because they are community-based, community energy projects help reduce the energy bill, reinforce social interaction, tackle climate change and promote energy security in line with energy transition and citizen participation principles.

According to DECC (UK's Department of Energy and Climate Change), there are **over 5,000 *community energy* initiatives in the UK**: programmes aimed at reducing energy demand and tackling fuel poverty, installation of PV panels to provide energy independency, local versions of national policies or isolated initiatives, and production of renewable energy. The **concept of community energy encompasses a wide variety of initiatives** and does not correspond to a specific form of organisation or activity. To get a better idea of the possibilities offered by community energy, a specific project in which the municipality played a key role is presented below.

Plymouth Energy Community

In Plymouth (261,500 inhabitants), in the southwest of England, the city council launched an **innovative project aimed at encouraging community involvement in local energy policy** in 2013. Concerned with fuel poverty[34] and greenhouse gas emissions[35], the city council decided to **give 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 initiative resulted from strong political will and was part of the 100 pledges of Councillor Tudor Evans, themed around 10 priority areas focusing on: the economy and jobs, tackling crime, supporting young people, the environment, transport, housing, sport and culture, the city's image, the inhabitants' well-being and transparency of local government. All these pledges give backing to the establishment of an organisation that provides services, empowers local citizens and stimulates the economy.

More specifically, the initiative stems from the councillor's strong commitment to supporting grass-root initiatives aimed at tackling fuel poverty and helping households reduce their bills. It is also unique: in 2012, community energy schemes already existed in the UK, but they mainly concerned energy production models in rural communities, independent from local authorities. Brixton Energy was one of the few urban examples and influenced the Plymouth project. As for local councils, they were little or not at all involved in these

[34] In 2015, 11,500 households lived in fuel poverty, i.e. 10% of the population.
[35] In 2013, the objective was to reduce emissions from the council estate by 20% by 2015 and to reduce city-wide emissions by 30% by 2020. http://www.plymouth.gov.uk/corporate_plan.pdf

projects. Some local authorities elsewhere in Europe were probably more involved in these types of projects, but differences in the national contexts made comparing and reproducing them difficult.

Plymouth therefore launched a pioneer project **at a time that was particularly conducive to the development of community energy initiatives**: initial reflections on collective switching, a Labour government policy in favour of community energy with the Energy Company Obligations (ECO). The ECO programme launched by the Government created a legal obligation on large gas and electricity companies to finance energy efficiency measures for the most vulnerable households: insulation, connection to a district heating system, boiler repair schemes, etc.

Establishing Plymouth Energy Community (PEC)

It was therefore as a front runner but also in a favourable national political context that Plymouth embarked on a **thinking process to develop a community energy project**.

At the beginning, **the main aim of the community energy project was to tackle fuel poverty**, as well as cold, damp homes. To achieve this aim, the city council team in charge of the project first focused on how to help as many as possible of Plymouth's residents to switch energy supplier to save on their energy bills.

In 2012, the municipality set up the **Low carbon city team**, which rapidly identified community energy as a **great way to involve citizens, empower them and transform energy-related services**. Subsequently, a **decision was made to create a "community benefit society"** based on cooperative values so that local citizens could benefit from **local renewable energy potential**. Lengthy pre-development work was put into identifying and developing sites suitable for solar panels, for example.

All this work led to the establishment of Plymouth Energy Community (PEC) in June 2013, a community benefit society whose aim is to reduce fuel poverty, rapidly followed by **Plymouth Energy Community Renewables (PEC-R), another community benefit society for renewable energy production**. In fact, both organisations are cooperatives in addition to being community benefit societies: they indeed belong to and are managed by their members and their structure is subject to British legislation on cooperatives. **Their governance is very similar to that of a cooperative**: all Board members are elected by the society members, except one who is elected by the city council[36]. PEC-R was set up to take advantage of investment opportunities: it is a sort of sister society to PEC, with the same cooperative structure. Both PEC and PEC-R are therefore **cooperative organisations working together and playing the role of an energy agency and a renewable electricity producer**.

Both societies have five full-time employees and share five employees with the council[37]. These shared employees ensure the liaison between the societies, the city council and council services, including the *Low carbon city team*. They also liaise with the two boards, meet members on a regular basis, propose ideas and manage the day-to-day running of the societies. **In addition to the pre-development work[38] and sharing**

[36] PEC has nine volunteer Directors on its Board and PEC-R has five.
[37] A shared services agreement allows the cooperatives to "buy" expertise from the city council rather than employing staff directly.
[38] Pre-development work, initial community engagement and business plan development.

of staff (and office space on its premises) with both societies, the council also plays an active financing role[39]. It has also made some of its buildings available for the installation of PEC-R solar panels.

The activities of PEC organisations

Tackling fuel poverty (PEC)

After setting up PEC, **several activities were developed simultaneously**. The first was the **energy advice service (including home visits)** with the Home Energy Team which was created to help people living in fuel poverty. One of its primary aims is to help local people understand their energy options so that they spend less on energy (e.g. by switching supplier or by insulating their homes). A partnership was also developed with British Gas under the ECO scheme to help people with energy debts. As part of this **Fuel Debt Advice Service**, grants from the British Gas Energy Trust allowed £110,000 of energy bill arrears to be cleared in 14 months. Although the city council financed most of the project at the beginning, many PEC activities now receive **support from partners** as well as **subsidies**. The Energy Champions project, for example, receives financial support from DECC.

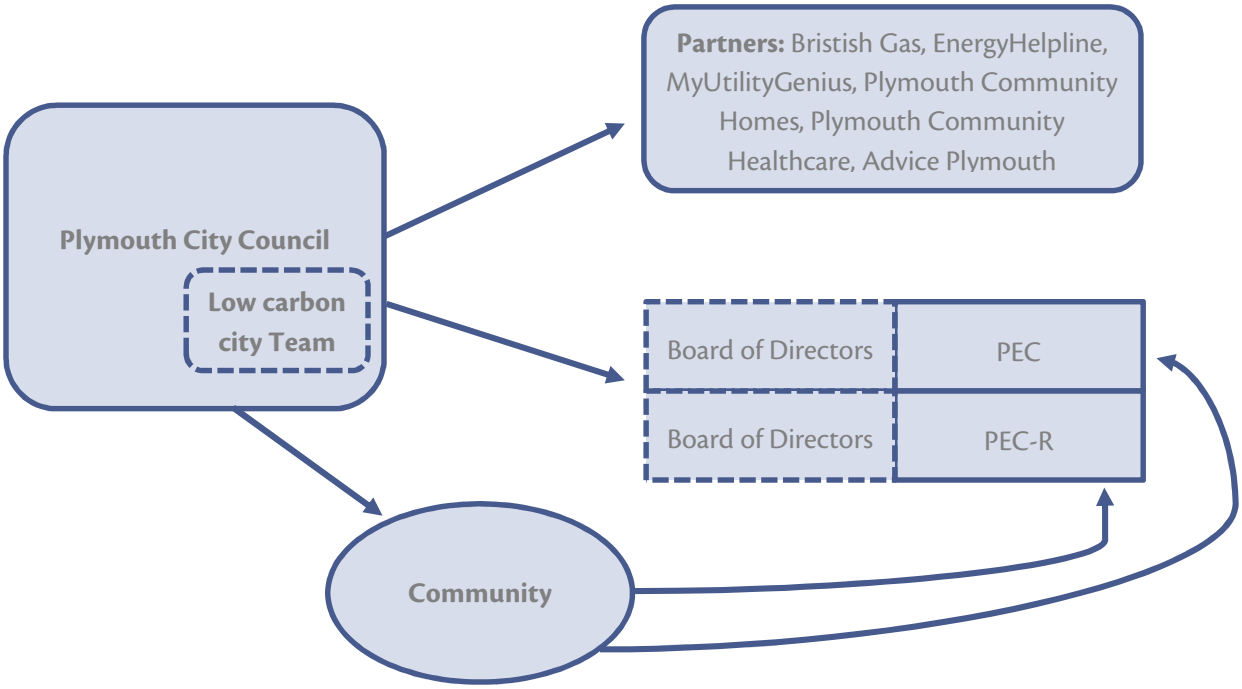
Renewable energy production (PEC-R)

In 2014, the sale of society shares to 144 investors generated £602,000 in seven weeks, completed by a £500,000 municipal loan. The sale enabled PEC-R to install **PV panels on 18 schools and 3 community buildings** free of charge between May and November 2014. A second share offer took place more recently and generated about £850,000, completed by another £500,000 municipal loan, for the production of 2 MWh of solar energy. A third offer is being planned to finance a **solar farm with a potential of 4.1 MWh**, currently awaiting planning permission.

The electricity generated is sold at half price to the schools and other building owners and surplus electricity is sold to the grid[40]. In the long run, Plymouth expects **PEC and PEC-R to become mutually self-sufficient**, with revenues generated by PEC-R from the production of electricity compensating for the cost of PEC fuel poverty programmes. To achieve this objective, **PEC-R is planning to increase the number of its PV panels** (local wind energy potential is limited and hydroelectricity is highly regulated).

[39] In addition to £69,000 in grant funding, the city council provided PEC with a £60,000 loan.
[40] On this occasion, PEC-R benefited from advantageous feed-in tariff for the production of renewable community energy.

The dialogue with stakeholders



The municipality, PEC and local stakeholders

Engaging members, investors and volunteers

When setting up the societies, the **municipality managed to enlist the support of many citizens motivated by the project**, despite the fact that the approach was part and parcel of the political mandate of the majority party via the 100 above-mentioned pledges. Such positive feedback is easily explained by the fact that fuel poverty was an issue many people were aware of.

Interested citizens, volunteers… **shared concerns explain why so many people rallied round the project**. And the speed with which the project came to fruition (nine months from conception to power generation) has a lot to do with the fact that **control was rapidly passed to members**.

Today, PEC has 1,000 members and PEC-R 330 investors, i.e. **1,200 individual members in total**. The fact that the minimum share purchase was reduced to £50[41] and that priority allocation was given to investors with Plymouth postcodes explain that 95% are local residents[42] and the number is rising. Once a year, the 330 members of PEC-R get together at the annual general meeting of shareholders (AGM). The 1,200 members of both societies meet approx. 4 times a year for conferences or in working groups. The PEC team also attends a number of community events to raise people's awareness of energy issues and PEC services.

Both the societies and the city council regularly launch **mobilisation campaigns aimed at members and potential members**, notably via social media. The initiatives of both societies are **largely relayed in the local press**. An **efficient marketing strategy** also explains the success of the share offers, with messages tailored to the various target audiences and **taking the seasonality of investor preferences into account**. The PEC

[41] For investment in PEC-R solar installations.
[42] Kidd, *Power to the people: Plymouth co-operates to change its energy future.*

website[43] is a good example of the professionalism shown in the society's communications, both when addressing potential members and people living in fuel poverty.

Collaboration with partners

Dialogue with commercial partners has not always been easy. 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** has not always been a bed of roses. British Gas is a huge corporation with high staff turnover. Finding the right person was therefore difficult and building relations with a new 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**.

Results and future prospects

PEC and PEC-R have been successful, not only with citizens and society members, but also with other municipalities in the UK. Barth, Somerset, Oxford, Halifax and Oldham have launched similar initiatives. In Plymouth, the project enabled the *Low carbon city* team to expand and develop its skill base.

There are, however, some difficulties, which are tending to increase in the current context: reduced feed-in tariffs make the financing of PEC and PEC-R more uncertain and reduced ECOs also make collaboration with large companies much more complicated. This dependence on the national legislative context must not be ignored and defending the interests of community energy is a major issue for Plymouth and the municipalities following in its footsteps, if they want to continue to benefit from the economic gains and citizen engagement potential provided by community energy.

The experience gained by Plymouth Energy Community and Plymouth Energy Community - Renewables is unique. Through tackling fuel poverty, they allow the community to take back ownership of energy issues. The role of the municipality was central at the beginning of the initiative and now consists of gradually leading both community benefit societies towards full autonomy.

[43] http://www.plymouthenergycommunity.com/

For further information

Contacts

Alex Midlen
Plymouth City Council
Low Carbon City Officer

Alistair Macpherson
Plymouth City Council
Low Carbon City Team Leader

Useful links and information

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The *BürgerEnergie Jena cooperative* (Germany)

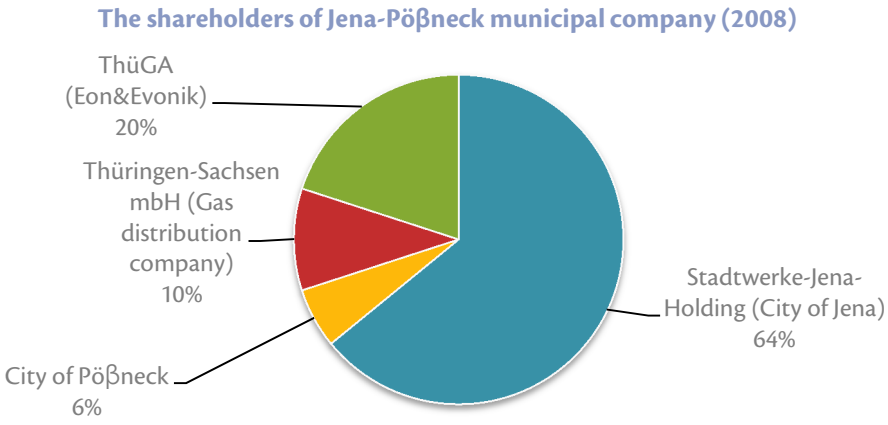
The context: the *BürgerEnergie Jena* cooperative and the energy strategy of the city of Jena

Established in March 2011, the *BürgerEnergie Jena eG*[44] cooperative aims to influence the energy policy of the city of Jena by buying shares in the municipal energy distribution company, *Stadtwerke* Jena-Pößneck. This community energy cooperative is unique: its citizen participation model is rare among energy distributors and it is also one of the few to enjoy such an exceptional level of political consensus in Germany.

Located within the valley of the Saale River in Thuringia (Germany) Jena is an **industrial and university urban district** with a population of 105,600. The proximity and abundance of universities, research institutes and innovative businesses have led to the development of a deep-rooted **tradition of discussion and debate** which has played an important role in the development of *BürgerEnergie Jena*.

Having been awarded the **EEA (European Energy Award) Gold,** the city is at the forefront of energy and climate policy. In its local Agenda 21 and Climate & Energy Plan, the city sets out the **pivotal role of citizen participation in sustainable development**. It also plans to reinforce community energy cooperatives by allowing them to take a 10% stake in the municipal company[45].

Stadtwerke Jena-Pößneck



At the time of German reunification, *Treuhandanstalt* was the organisation responsible for privatising state-owned property in the former German Democratic Republic. **Most East-German energy companies were then established in a top-down way** and Jena was no exception. Since its establishment in 1991, the Jena-

[44] *eG, Eingetragene Genossenschaft*: registered cooperative society.
[45] "*Stärkung der Genossenschaft Bürgerenergie eV und Erwerb von bis zu 10 % Anteilen an den Stadtwerken*" (Geplante Maβnahmen, EEA).

Pöβneck municipal company has operated the heating, electricity and gas networks, supplying energy to Jena and 22 neighbouring municipalities. It also manages the public transport system as well as Jena's largest property company. Its setting-up involved bringing together **two private partners as well as the cities of Jena and Pöβneck**, which had only very little control over the process. However, the municipality of Jena managed to negotiate a **Call Option clause in the concession contract**, allowing the municipality to change partners after twenty years or to buy assets, if approved by a vote of the city council.

How the idea of opening up *Stadtwerke* Jena-Pöβneck's share capital to citizen participation emerged

At the end of the 2000s, a decade that saw **a massive re-municipalisation of energy companies**, all previously privately-owned in Germany, Jena city council started to contemplate the idea of selling shares of its *Stadtwerke* capital to other shareholders. At that time, Martin Berger was on the supervisory board of the municipal company in his position as the city's property sales director. He was also the president of the Green Party on Jena city council. With some colleagues, Till Noack, former managing director of the Jena-Pöβneck municipal company and Denis Peiβker, project manager for the bioenergy consultancy Biobeth (now deputy mayor in charge of the environment), he launched the idea of setting up a **community cooperative** to buy shares in the municipal company. Citizens would then have a say in the company's commercial strategy and be able to promote the development of renewable energy.

The setting-up process: attracting support in the city council

In 2008, the three founder members initiated **talks with the city council** so as to identify potential support and move on to the next step: convincing the city council to authorise the sale of shares to a community energy cooperative.

The idea of opening up the share capital of the municipal company to citizens appealed to the Greens and to the Social Democratic Party (SPD), who made it their main campaign theme at the next elections. A **long discussion and negotiation process ensued** within the city council, whereas an "information offensive" aimed at the general public was launched by *Klimanetz Region Jena*, a network of citizens, in connection with the *Energie in Bürgerhand* cooperative (a citizen's network for safe, local and sustainable energy).

Overcoming partisan positions within the city council

Although the **Greens supported and defended the project** of opening up the share capital of the municipal company to citizens before the city council, many councillors were still quite reluctant do to so. And not all the parties shared the same views on the subject.

For the **Free Democratic Party (FDP)**, the best option was to **leave energy management in private, competent hands**. The fact that the initiative had links with a number of community cooperatives with strong antinuclear positions and considered to be Green strongholds, like *Energie in Bürgerhand*, was also an issue. The Free Democratic Party was the last to embrace the project of opening up the municipal company's share capital to citizens, well after the 2009 municipal elections.

Conversely, the **far left (Die Linke)** considered that allowing private individuals, even local citizens, to buy shares belonging to the municipality ran the **risk of reinforcing social inequalities** and was contrary to **their project of municipalising the municipal company** (which was impossible due to a lack of financial resources). Care was needed to ensure that citizens would not make money at the expense of the municipality and in particular the financing of public transport.

The **Social Democrats (SPD)** and the **Christian Democrats (CDU)** were also divided.

The 2009 municipal elections

In 2009, the **municipal elections** saw the victory of a **majority coalition** composed of three parties: the Christian Democrats, the Social Democrats and the Greens, all in favour of the project[46]. These elections helped accelerate the discussions, leading to an agreement and then to a **decision in principle** that was adopted by the city council in late 2010, enabling citizens to buy up to 10% of the municipal company. The decision laid down a number of conditions, like a minimum €500 share purchase, eligibility to sit on the supervisory board conditional on a minimum 5% stake, the legal forms qualified to hold the equity investment, etc.

In the wake of this decision and **encouraged by the *Energie in Bürgerhand* experiment, thirteen founder members set up the *BürgerEnergie Jena eG* cooperative in March 2011**. The main reason for this choice is the **organisational structure** of German cooperatives (*eG, eingetragene Genossenschaften*) since the "one person = one vote" system appeared to them to be the most democratic. **Transparency, social responsibility and community justice values** also explain this choice. Any citizen, community organisation or business established within Jena's boundaries may buy shares and become a member of the cooperative (one share costing €500).

Involving citizens

Whereas the city council was the scene of tough negotiations to decide what shareholder would sell its shares, the cooperative launched its **campaign aimed at citizens** on 28th May 2011. At the same time, another step, just as important started - finding people willing to buy shares in the municipal company.

The arguments? In addition to meeting the need for more transparent energy policies, citizen shareholding makes it possible to influence the commercial strategy of the municipal company and to push for a more sustainable and socially responsible energy supply. The aim of the cooperative was indeed to ensure **safe, decentralised and affordable energy distribution** in the region. The investment is also local and traceable: by buying shares in the municipal company, people feel that are "doing something for the region" whilst obtaining a good return of between 3 and 4%. The communication campaign therefore relayed **an environmentally-friendly, social and political message**, whilst highlighting the **financial opportunity** of citizens buying shares in the *Stadtwerke*.

[46] Opening up the share capital of the municipal company to citizens was part of the coalition agreement.

The means? The cooperative widely publicised the initiative in newspapers and on the Internet and organised forums and other information meetings. The publicity given to **the debates with the city council** also contributed to the success of the initiative.

A last round of negotiations before setting up the cooperative

Faced with the impossibility of selling only **part of the shares of Eon and Evonik to ThüGa**, the city council decided to sell all of Eon and Evonik shares (20%) to ThüGa and to make **its own shares available**.

The subsequent negotiations between the initiative instigators and the council were very heated and gave rise to many varied claims. The **CDU and FDP demanded that the energy cooperative should break off all relations with the *Energie in Bürgerhand* cooperative,** which supported it but also had close ties with the **Schönau cooperative (see box)**[47], which had a strong political bias. The ties were then severed to make the cooperative project an **apolitical one**. **The SPD imposed a €50,000 ceiling on the amount of shares that could be bought**: it was out of the question that the cooperative that was offering an attractive interest rate (4%) given the economic context should allow for the enrichment some individuals to the detriment of the municipality or consumers.

The Schönau cooperative, another example

The small town of Schönau (Baden-Württemberg) is home to one of the most famous community initiatives in Germany, pushed by the "association of parents for a nuclear-free future". Using existing democratic tools, the community electricity cooperative EWS aims to produce decentralised, green energy. After fighting an uphill battle and despite corporate and governmental opposition, the cooperative managed to buy the municipal grid and is now supplying over 100,000 households and companies throughout Germany with renewable energy from production units owned by citizens.

The following agreement was concluded in February 2012 and approved by the municipal company supervisory board one month later. It **provided for the sale of 2% of the municipality's shares**. The *BürgerEnergie Jena* cooperative then became the **fifth shareholder of the *Stadtwerke***. At that time, the cooperative had only raised one fifth of the eight million euros necessary to buy these 2%, but the decision of the city council and the signing of the sales agreement prompted local stakeholders, who were somewhat reluctant until then, into buying shares in the cooperative.

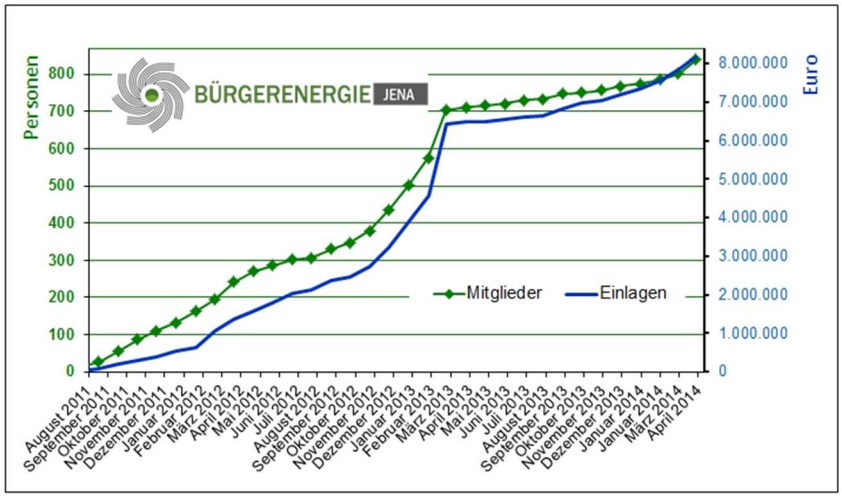
Achieving the 8 million-euro target...

Despite initial fears of not being able to interest a sufficient number of people, the 2% shareholding was achieved in April 2014 thanks to around **1,000 Jena citizens who bought the equivalent of 8 million euros of shares**. The success was such that the number of shares an individual could buy had to be limited to allow as many people as possible to become a member of the cooperative. On 14th March 2013, a short article in the newspaper announced the sale of the last 200 shares to achieve the eight million euros target, limited to

[47] Floriane Bernardot, Jean-Pierre Vallar and Julia Wyssling, *The Energy Transition Chronicles*. Energy Cities, 2015. URL: http://www.energy-cities.eu/IMG/pdf/chroniqueste_intro.pdf

four shares per buyer. Out of the **8,206,000 euros of assets sold to local stakeholders**, 654,000 euros are held by companies, associations and foundations. The rest belongs to individual citizens.

BürgerEnergie Jena continues to organise **information meetings, debates and sessions** about the cooperative on energy-related themes: energy savings, heating network, energy storage, energy transition, etc. A hard **core of 150 motivated members** attend the meetings on a regular basis and six working groups have been set up. Members and non-members of the cooperative can share ideas on the website.



BürgerEnergie Jena membership (Mitglieder) and financial support (Einlagen) over time[48]

The proportion of the share capital held by the cooperative has not increased since 2014: the only way in is therefore to buy shares from members. The *BürgerEnergie Jena* Internet page even states: "Shares are no longer for sale. Should you want to become a member, we can inform you of members interested in selling their shares". However, the cooperative has envisaged reopening negotiations with the city council to increase the number of shares available.

What is the impact of *BürgerEnergie Jena*?

The setting-up and organisational structure of the cooperative have much to recommend them. But a number of issues remain, especially as regards its impact. Considering the cooperative's climate change targets and intention to influence the energy transition process, the environmental impact of *BürgerEnergie Jena* appears to be fairly limited.

[48] www.buergerenergie-jena.de/wiki/index.php?title=Mitgliederstatistik

With only 2% of the capital, **the cooperative cannot sit on the *Stadtwerke* supervisory board**, one of its long-term aims. But to achieve this aim, reaching a 5% stake is necessary, which would mean being able to acquire 22 million euros of shares. So far, the cooperative only sits on the Board of Directors. Its weight on the decisions made is therefore limited but it can have a say in the matters discussed and can express its opinion. When asked about it, **Martin Berger denies any lack of influence**: "I believe we can basically have more influence than what this mere percentage suggests, as civil and political opinion leaders have already bought shares"[49]. In addition to this, the project **has an awareness-raising impact**: 1,000 citizens, associations and businesses from the Jena area have invested at least 500 euros in an environmental project, i.e. slightly over 1% of the city's population.

Since 2011, the *Stadtwerke* has been supplying nuclear-free electricity to the city of Jena and the surrounding area. Since 2013, only renewable, mainly hydraulic, sources have been used to generate electricity. The municipal company has also developed biogas stations and its role as property developer is a plus for promoting energy efficiency and reinforcing the district heating network. Its strategy focuses on renewable energy, energy efficiency and reducing energy use. Is this evidence of *BürgerEnergie Jena's* indirect influence?

Reinvestment of dividends is optional. An important vote on the subject took place in early May 2013, putting an end to animated discussions. Asked about what they wanted to do with the 4% dividends, **an overwhelming majority of the members voted to keep the entire amount**. However, when questioned about their motivations to join the cooperative in 2012, the majority had put the environmental dimension and the development of renewable energy above financial gain. This decision echoes the **desire to attract more citizen investments** and is consistent with the communication campaign run so far, which focused on the **financial attractiveness of buying shares in the municipal company**.

A **mechanism allowing members to donate their dividends**, however, has been set up to finance renewable energy projects. Combined with an initiative by the "*Eine Welt Haus Jena eV*" association, this mechanism has helped finance a solar station in San Marco, a Nicaraguan city twinned with Jena. There is, therefore, a direct environmental impact, but a limited one due to the optional nature of the process.

Thanks to a change in the legislation[50], **the cooperative will soon be able to invest in its own projects**. This possibility is currently being investigated.

Similar developments are taking place in other German cities, with varying degrees of success... In Lübeck and Hamburg, initiatives have been launched to help citizens regain control of energy distribution. *BürgerEnergie Jena* has taken on a role as a model – this is what the cooperative aspires to be – but this raises a number of questions: under what conditions can this project be reproduced? What are the success factors?

[49] VOLLEBERG, Katja, "Bürgerenergie kommt in Fahrt". *Jenaer-internetzeitung.de*, Jena, 3rd April 2012.
[50] https://www.genossenschaftsverband.de/verband/presseservice/aktuelle-meldungen/kagb-problematik

Project reproducibility

According to Thomas Blanchet, from the Nexus Institute in Berlin, there are **two key success factors**:

- **Attracting a sufficient number of citizens** ready to invest in a cooperative society, whether for environmental or financial reasons. In Berlin for instance, *BürgerEnergie Berlin* was very efficient in gathering a mass of members through very aggressive PR: free concerts whose profits would go to the cooperative, awareness raising campaigns, etc.
- Paying attention to the **relations with the political elites**. In Berlin again, *BürgerEnergie Berlin* had all the financial resources necessary but was politically blocked. This was one of *BürgerEnergie Jena*'s strong points: project holders have always entertained deep, continuous relations with the city council members. In fact they had already a foot in the door before it even started: having the former managing director of the municipal company, a former employee of the incumbent director, the president of the Greens and a member of the SDP in their ranks certainly helped develop relations with political decision-makers.

Institutional activism, an essential component of the project's success

According to the sociology of social movements, in a given area, institutional players (*insiders*) rub shoulders with players from outside the institutional field (*outsiders*) who rally to a cause. **Institutional activists** are *insiders* who rally to the cause of *outsiders*. These people create a link and are essential for social movements to be able to influence policies.

In Berlin, the young leader of the BEB community cooperative came from the anti-nuclear movements and had no political pedigree. As a leader of a movement connected to the Schönau rebels with no interpersonal relations with *insiders*, her status as an *outsider* did not help her from a political point of view.

In Jena, on the contrary, incumbent *outsiders* are former (or current) *insiders*, which facilitated the discussions. There is also "**a very strong interpersonal link**"[51], on a personal, political or professional level. All this contributes to another specific feature of the cooperative: all decisions are made taking the expectations of the political majority into account. For example, the fact that all Jena residents, and not only the clients of the municipal company, could buy shares in the cooperative is a decision that clearly echoes **the city council's willingness to include the whole population**. **Consensus and interpersonal relations** played a pivotal role here.

This case study highlights the importance of the notion of institutional activism. Thanks to their personal, political and professional connections, the founders of the *BürgerEnergie Jena* initiative convinced the city council to authorise the cooperative to buy shares in the municipal company. Flexibility is another key success factor, since including all the opponents' claims into the project helped create a broad consensus.

[51] Interview of Thomas Blanchet, *Nexus Institute*, 1st September 2015.

For further information

Contacts

Thomas Blanchet
Nexus Institute for Cooperation Management and Interdisciplinary Research Berlin

Martin Berger
City of Jena
Director of the Finance Directorate

Useful links and resources

BürgerEnergie Jena website: http://www.buergerenergie-jena.de/

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Co-building the city with participatory housing in Strasbourg (France) and Tübingen (Germany)

The Eurometropole of Strasbourg has been a member of Energy Cities since 1996.

"If the inhabitants are ready to get involved in building a more sustainable city, why not take advantage of it?"
Pierre Zimmermann. City and Eurometropole of Strasbourg – Urban Planning, Development and Housing Directorate – Urban project department

The context: why do we hear so much about participatory housing today?

The term "participatory housing" may refer to a wide range of alternative and collective methods for designing, building and managing one's own residence: housing cooperatives, self-development, cohousing, grouped housing, *baugruppen*… In France, the term "participatory housing" embraces all existing initiatives under the same banner, regardless of the method used, and may be defined as follows: **"the involvement of inhabitants in the production or co-production of their living environment and in the day-to-day, routine management of the property they occupy"**[52].

Participatory housing **experienced unprecedented development in France and in Europe in the early 2000s**[53]. It has become a way of objecting to increased commodification and individualism in society and regaining control of one's place of residence by integrating **economic, social and environmental aspects**.

Participatory housing is radically different from the standardised offer of conventional property developers in that it enables residents to integrate their own choices and values into their future residence. It is this freedom that makes participatory housing such an interesting energy transition tool.

Depending on the groups of residents behind the initiative, participatory housing projects may integrate **very different principles and values**, like solidarity, environmental-friendliness, equal housing rights, social and generational diversity and non-speculation. In all cases, participatory housing heralds a **new way of designing, building and managing both housing and the city**. Participatory housing is based on the principles of social, inclusive economics and integrates a **reflection on citizenship and living together**; it is defended by people driven by a common desire to participate in public urban planning and housing policies by making their own building and planning choices. Participatory housing usually involves **sharing space and costs**, but may also include other features such as the use of environmentally-friendly materials, kitchen gardens, the availability of social housing units or public space for neighbourhood activities. All these initiatives can be encouraged by local authorities.

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[52] Anne D'Orazio, *L'habitat participatif à Montreuil. Une histoire, des initiatives collectives, une dynamique*. City of Montreuil, November 2011. URL: http://www.est-ensemble.fr/sites/default/files/l_habitat_participatif_a_montreuil.pdf

[53] Participatory housing first emerged in the 1960s in reaction against the lack of housing and continued in the 1970s-1980s, driven by the quest for a better living environment, away from conventional mass housing.

What is the role of local authorities in participatory housing?

Since participatory housing is still a **recent, experimental topic** for most stakeholders, it is relatively unfamiliar to local authorities, at least to French ones, except for the members of the national network of French local authorities in favour of participatory housing, which was created to share experience on the subject. The involvement of local authorities may, however, be a deciding factor in bringing projects to fruition.

Relations between the local authority and group of inhabitants

Krämer and Kuhn (2007) identified **three categories of relations between the local authority and the group of inhabitants at the origin of the project**[54]: (1) the local authority *"plays a central role in the project"*; (2) the *"tandem" model establishes a genuine partnership between the authority and its citizens, notably through project assistance provided by the municipality"*, and (3) the local authority is just a facilitator.

In Berlin, Hamburg, Amsterdam and Montreuil, the municipality played the role of a facilitator, for example by helping community groups find plots of land, but did not integrate this activity into its public urban policies. The strong development of participatory housing in the 2000s, however, once again questioned these links. **Participatory housing has become a co-building tool**: local authorities are taking a more active role and integrate these projects in their urban, environmental or social strategy.

In Montreuil, for example, participatory housing has never been the subject of a specific public policy: *"However, the fact that the authority supports participatory housing initiatives and associations is indicative of the interest it takes in the approach and is a way of recognising its social value"*[55].

Local authority support

Support may take different, often complementary forms:

- **Communication** on the initiative;
- **Technical support** (land, urban planning, technical and legal advice);
- **Political support**: in Montreuil, projects like *Les Castors*, *Les Babayagas* and *l'Apaum* were able to rely on the local authority to *"receive political support, elected representatives perceiving the exemplarity of the operation, its ideological content and the attention it receives from the media as a benefit for themselves and will therefore, with their departments, facilitate the development of the project, notably by helping find a plot of land, a major stumbling block"*.[56]

Technical support is extremely useful when it comes to setting up and consolidating groups, or to reducing the gap between the group's expectations and reality, especially from a financial point of view. But political support legitimates the project and facilitates proceedings with banks, solicitors, etc.

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[54] Sabrina Bresson and Lidewij Tummers, "L'habitat participatif en Europe", *Métropoles* [online], 15 | 2014, put online on 15th December 2014, consulted on 4th September 2015. URL: http://metropoles.revues.org/4960

[55] Anne D'Orazio, *L'habitat participatif à Montreuil. Une histoire, des initiatives collectives, une dynamique*. City of Montreuil, November 2011. URL: http://www.est-ensemble.fr/sites/default/files/l_habitat_participatif_a_montreuil.pdf

[56] Ditto.

The city of Strasbourg decided to make participatory housing a central component of its public policies, in the 4th Eurometropole Local Housing Programme (2009) and in its "eco-neighbourhood" approach in favour of sustainable planning and housing. The fact that the same elected representative is in charge of both the city's energy strategy and participatory housing also contributes to reinforcing the links between the two.

Strasbourg: a lightning development

In Strasbourg, the local authority's commitment started with the Ecoquartier association and its eco-neighbourhood project. To address the lack of political response and reaction, the association decided to launch a high environmental quality participatory housing project, which became its hobbyhorse. The association bought a plot of land from the municipality and once the project was completed, it organised meetings to spread the initiative to other groups of citizens interested in the idea. This new strategy, by showing that it was possible to get reference projects built, contributed to raising the local authority's awareness of the issue. The city of Strasbourg, now interested, decided to launch a **call for projects entirely dedicated to participatory housing, a first in France**. Throughout the process, the municipality used the neighbouring examples of Tübingen and Freiburg as a source of inspiration (cf. Tübingen example page 54).

Strasbourg, the Eco-logis project

Participatory housing consultations in Strasbourg

Consultations	1st "Participatory housing or self-development" consultation May 2009	2nd "Participatory housing or self-development" consultation Nov. 2011	SERS consultations 2012	4th "Participatory housing or self-development" consultation May 2015	5th consultation reserved for social landlords Upcoming
Project holder	City of Strasbourg	City of Strasbourg	SERS (Local public company in charge of the Danube eco-district)	City of Strasbourg	City of Strasbourg
Main features	Reduced land prices according to an environmental scale	Reduced land prices according to an environmental scale	Contract with the municipality. Participatory housing helps the residents take ownership of the district	No reduction in land prices	Identification of suitable plots of land for future developments
Results	10 plots 5 groups selected out of 17 2 projects delivered and inhabited; one is being finalised completion time: 5 to 6 years (for the longest projects)	7 plots 4 groups selected out of 14 completion time: 3 to 4 years	10% of homes are participatory housing units 6 or 7 groups completed or in the process of completion	5 plots	Upcoming

An environmental scale to ensure high environmental performance

The **first consultation** was initiated by the city of Strasbourg. Although the **specifications** gave much leeway to the applicants in terms of project design, they also encouraged compliance with sustainability principles:

- **Environmental and ecological performance**: the emphasis was laid on energy by encouraging "high building efficiency (Low Energy Building minimum standard), renewable energy sources, healthy and environmentally-friendly materials"[57]; other criteria like mobility and water management were also given much attention.
- **Social dimension**: functional mix, social diversity;
- **Economic dimension**: improved building environmental performance, architectural and constructive innovation aimed at controlling construction costs (limited/controlled investment, maintenance and repair costs)"[58].

[57] *10 terrains pour 10 immeubles durables en autopromotion*. Plaquette de la première consultation. Ville et Communauté urbaine de Strasbourg, November 2010. URL: www.strasbourg.eu/developpement-rayonnement/urbanisme-logement-amenagement/projets-urbains/autopromotion-habitat-participatif

[58] *Autopromotion - Habitat participatif. Consultation n° 2. Cahier des charges de la deuxième consultation*, Ville et Communauté urbaine de Strasbourg, November 2011.
URL: www.strasbourg.eu/developpement-rayonnement/urbanisme-logement-amenagement/projets-urbains/autopromotion-habitat-participatif

The proposals came up to expectations: all the projects met low energy building or passive standards. Most of the applicants also opted for local renewable energy production solutions like thermal solar, wood-pellet boilers, heat pumps or PV panels.

The **use of a specific environmental scale** organised in three themes: "integration and functionality of the project in its surrounding area", "energy needs and technical facilities", and "materials used" has much to do with the results obtained. Each group defined its own environmental and social targets, thus obtaining points that could be used to benefit from a "reduced GFA/m² cost on the price of land as set by France Domaine"[59].

Comparing the first and second consultations

Common elements	Novelties introduced by the 2nd consultation
- Optimised, personalised projects; - A richer community life; - Main homes only; - Non-speculative investment (except in the case of an accident, owners are not free to sell their property as they like); - Environmental and social performance is a selection criterion; - Unrestricted design; - Reduced land costs.	- No costs incurred before winning the consultation; - The obligation to set up an association facilitates communication between the group and the local authority; - Mandatory professional assistance with project management (co-funded by the authority) ensures that projects are financially viable; - Flexible schedule with extended timeframes allowing fast-moving groups to move their projects forward more rapidly.

Financial support for the acquisition of plots of land was provided as part of the first consultations to facilitate the emergence of such projects and encourage innovation and experimentation. The experiment now being well under way, the on-going 4th consultation (2015) no longer uses this environmental scale but continues to assess and select groups based on their environmental and social commitments.

So far, **20 projects have been developed in Strasbourg**: about one third are completed and are inhabited, another third is under construction and 8 are in the pipeline. A **5th consultation reserved for social landlords** is being considered and would be consistent with the idea of encouraging a diversified representation of stakeholders and frameworks.

What is the dialogue between stakeholders?

Since participatory housing is an **experimental object** and unknown to most stakeholders, difficulties may 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**.

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[59] *Grille d'évaluation en 3 thèmes et 43 cibles, Autopromotion - Habitat participatif. Consultation n° 2. Cahier des charges de la deuxième consultation*, Ville et Communauté urbaine de Strasbourg, November 2011.
URL: www.strasbourg.eu/developpement-rayonnement/urbanisme-logement-amenagement/projets-urbains/autopromotion-habitat-participatif

Most **conventional developers**, for example, perceived participatory housing as a form of **competition, a challenge to their traditional role**. For them, this new approach could only be a source of technical and legal difficulties for project holders. It was therefore necessary to **reassure them, explain the processes, and engage discussions**… Over time, relations have become less tense and some promoters now propose shared terraces or the co-finalisation of projects to groups of families, concepts that clearly evoke some of the features or benefits of participatory housing.

Social landlords and urban planners also viewed participatory housing as a new, "risky" approach. **Community groups were new players and conventional stakeholders did not know how to work with them** for a number of reasons: obstacles linked to the introduction of new practices, incompatible operating methods, lack of know-how. Again, **assistance with communication** and collaborative work to create a common culture were necessary. Since then, pioneer players have come forward and are now overseeing a number of projects.

Many bankers also considered the financial arrangements to be too risky (this was just after 2008). The approach of the city of Strasbourg thus created a more reassuring framework which indirectly facilitated the interactions between the banks and groups of citizens, by giving them greater credibility even though it could not underwrite them. The assisted approach showed that the local authority was developing programmes to support the projects (*mandatory assistance with project management ensuring the technical and financial viability of the project, soil surveys (structure, pollution), archaeological surveys, etc.)*, thus making the financial arrangements more secure. Follow-up meetings and regular advice were also provided as additional support.

During the second consultation, **meetings with the French Architects' Association proved necessary** to explain the obligation imposed on community groups to seek professional assistance with project management by hiring a project consultant who could not be the general contractor (or architect). Far from depriving architects of this "support" function, which is indeed part of their role, the local authority's intention was to give community groups the possibility to check the financial feasibility of their projects at an early stage and to benefit from further assistance. This cooperative work led to the **signing of an agreement** with the architects.

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 is 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**.

Every two months, the main local stakeholders attend a **steering committee meeting**: SERS, the social landlord involved (Habitat d'Ill), *Conseil d'architecture d'urbanisme et de l'environnement* (non-profit consulting organisation in architecture, urbanism and environment), elected representatives, practitioners, the Ecodistrict association… The main challenge is to **create a common culture and to continue to reinforce the partnership momentum**. More generally speaking, financially viable projects completed

within the allowed timeframe generate consensus on the benefits of participatory housing and contribute to the dissemination of similar initiatives and consultation processes in Strasbourg and in other cities[60].

Participatory housing encourages environmentally- and energy-aware citizens to go beyond the legal requirements in terms of energy sources and materials, promotes a more demanding governance and awareness model than traditional methods and demonstrates the energy and financial performance of these projects. It is therefore an energy transition tool that has a role to play in the development of green urban planning and participative cities.

AND ALSO: Tübingen (Germany), from an experimentation to a reference model

"Never before had a public authority based the construction of a whole new district on the systematic empowerment of citizens"[61].

At the beginning of the 1990s and following the departure of the French army, the city of Tübingen (90,000 inhabitants) found itself with **unoccupied barracks,** the Hindenburg barrack and the Loretto barrack. The conversion of these unused areas was a **unique opportunity for the city to entirely restructure the southern districts whilst improving social, intergenerational and functional diversity**.

At that time, the municipality had **two prerequisites**: developing the district heating network and increasing the number of buildings complying with high energy performance standards.

The development of participatory housing was somewhat fortuitous. Architects and conventional developers were used to working with community groups on self-promotion projects. But the municipality soon realised that participatory housing groups were far more ambitious than traditional property developers, who contented themselves with complying strictly with the energy and environmental standards. The first passive building and the first positive energy building, for instance, were built by participatory housing groups. Those were also more ambitious from a social point of view and more active in promoting functional diversity. **Participatory housing was therefore the model that best suited the city's diversity objectives.**

In 1998, the municipality of Tübingen decided to develop whole districts based on participatory housing principles. In addition to promoting social and functional diversity, participatory housing also enabled ambitious choices to be made in terms of energy, building material and sanitary quality standards due to fully unrestricted design. Value for money was excellent since final project costs were 20% lower than that of a conventional project[62]. The participatory approach and the possibility to adapt it to individual needs also encouraged strong identification of the residents with their neighbourhood.

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[60] A national local authority network promoting participatory housing exists in France, but no institutional network at European level has been created yet.

[61] Pierre Lefèvre and Michel Sabard, "Le quartier français : Tübingen Sud", *Les Ecoquartiers*. Ed. Apogée, 2009.

[62] Notably through reduced legal fees.

During the calls for projects, the **municipality rapidly took advantage of these principles by selecting projects based on a number of criteria**: social and functional diversity, innovative aspects (ecology, materials, energy, etc.), and project pragmatism. There were some specificities: no importance was attached to the price proposed by the groups (since the land was sold at a set price) and the concepts has priority over the images. Once the projects were selected, the applicants had six months to develop them.

In addition to offering **plots at set prices**, the municipality also created a **meeting platform to help set up community groups**, thus greatly **facilitating interactions between the groups and the administrative authorities**. Technical participatory housing guidelines were published in 1997 and helped many groups with the procedures.

The **grouped approach of the call for projects** makes it possible to build a whole district and facilitates the planning and construction of inner courtyards, parking areas, parks and gardens. By way of example, a group can now move in just three to four years after the call for projects.

Today, **participatory housing benefits from a general consensus**. Disputes are settled through specific dialogue structures set up for each inner courtyard and block, for architects, districts, project owners, etc. **25 years of experience and low municipal staff turnover have made the municipality even more efficient and projects are now completed increasingly quickly and easily.** This has resulted in a standardisation of the approach, which has permeated all levels of society.

The only drawback is that the **municipality is now lacking building land** to offer to groups, which has slowed the momentum initiated in Tübingen.

Many European cities and associations are using Tübingen as a source of inspiration. Like Freiburg, Tübingen **is a model and a valued destination for field trips**. Here are a few recommendations provided by the municipality:

- Trust people; they have a huge potential!
- Set clear targets.
- Think twice about the whole scheme.

But generally speaking, **it is up to each city to find its own path!**

For further information

Contacts

Pierre Zimmermann
City and Eurometropole of Strasbourg
Direction de l'urbanisme, de l'aménagement et de l'habitat

Cord Soehlke
City of Tübingen
Baubürgermeister

Useful links and resources

10 terrains pour 10 immeubles durables en autopromotion. First consultation leaflet, City and Urban Community of Strasbourg, November 2010. URL: http://www.strasbourg.eu/developpement-rayonnement/urbanisme-logement-amenagement/projets-urbains/autopromotion-habitat-participatif

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URL: http://www.strasbourg.eu/developpement-rayonnement/urbanisme-logement-amenagement/projets-urbains/autopromotion-habitat-participatif

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Living Streets in Ghent (Belgium): healthy, safer streets for all

The context: the mobility strategy of the city of Ghent

Transforming urban space by creating pedestrian streets designed to revive social links. That is what the *Living Streets* initiative from Ghent, Belgium (250,000 inhabitants) is all about. In line with the city's objective to become climate neutral by 2050, the initiative is an integral part of the city's mobility strategy. By offering a reinterpretation of urban space, it reinforces social interaction and changes the perception of streets and mobility.

It all started in 2012, when the municipality of Ghent gathered 25 volunteers[63] to **reflect on mobility in Ghent by 2050**[64]. After several days of prospective thinking, the solutions imagined were noted down in a **transition agenda, "*The Bike of Troy*"** and presented to a hundred citizens.

Living Streets is one of these initiatives, a **dream about transforming urban space** in the hope that by 2050, cars will only have the smallest role to play in our cities thanks to the generalisation of alternative transport (public transport, cycling, car sharing, etc.) and centralised, rather than on-street parking. This dream would have significant social consequences: giving streets back to pedestrians would create social interaction by encouraging neighbours to share space where children can play and by requiring carpooling use for shopping. Mobility will no longer be the same, with more green spaces and the ability to walk everywhere.

Among the citizens present during the feedback session, some were fired up by the concept. This meeting was the final event of the city's initiative, but it **also marked the beginning of a movement of fifteen or so citizens who wondered why they should wait until 2050 to start creating *Living Streets***: the group included volunteers, and also municipal staff who took part in the organisation of the event. People quickly saw Dries Gysels and Pieter Deschamps, the most committed volunteers, as the project leaders.

[63] All these people had a certain amount of previous expertise and were able to critically reflect on the existing mobility system and to mobilise their network using a "*make it happen*" attitude.
[64] Under the INTERREG IVB NWE MUSIC (*Mitigation in Urban Areas-Solutions for Innovative Cities*) project.

***Living Streets* is a pilot initiative, supported by the municipality and coordinated by "*Lab van Troje*"**, a not-for-profit association that was set up after the first edition of the *Living Streets* initiative to apply for financial support and which received EU and Flemish subsidies six months' later. It brings together citizens, businesses, authorities and community organisations.

Living Streets aims to give streets back to their residents, and more generally to the city's population, by closing them to car traffic for an extended period of time (2 months). A sustainable, dreamed of space is therefore created, the street being transformed into an interactive, collective place where the social and economic aspects are given as much importance as aesthetic ones. It is a sort of **living laboratory of the future**. Its objective is threefold:

- **Experiment with sustainable mobility;**
- **Create a new approach to urban space;**
- **Reinforce social links by multiplying interactions between inhabitants.**

The initiative started in residential areas, with a strong local focus. The first streets to be transformed into *Living Streets* were *Pussemierstraat* and *Karel Antheunistraat*. In the following editions, other streets followed suit: city-centre streets, suburban streets, main and secondary streets, residential streets, streets with or without commercial or shopping activities. One street contained a school and the idea of transforming it into a *Living Street* came from the parents. People of different ages, backgrounds and educational levels take part in the experiment. This diversity of streets and stakeholders is fully in line with the experimental dimension of the project.

How is a *Living Street* operation organised?

The starting point is always a group of motivated citizens (in December). Volunteers from the "*Lab van Troje*" association engage in discussions with the group and then with all the residents concerned. The objective is to get an **overview of everybody's motivations and needs, residents and shopkeepers alike**. This is how a **pragmatic vision** starts to take shape. This **participative phase** is extremely important as the whole *Living Street* concept is based on citizens' engagement.

This is also a potential stumbling block for the project, for many reasons: lack of people interested in the project, divergent interests, gap between the *Living Street* concept and the residents' expectations (sometimes organising a barbecue is enough to reinforce social cohesion without having to ban cars).

Throughout the eight-month process, **volunteers** are present and **a representative of the municipality** attends the meetings in each neighbourhood.

Once firm vision has been decided (usually in March), **practical matters** have to be attended to: applications for occupying public space[65], obtaining materials (benches, lawn, pot plants, barbecue, etc.). During the first edition, an article in a national newspaper publicised the *Living Street* concept and drew the attention of sponsors who then contributed to buying materials.

[65] The *Living Streets* initiative has no predefined legal status and therefore needs the same type of permit as renovation work encroaching on public space.

Finally, by early May, the residents are able to try out their *Living Street*. It is often an opportunity to discover new activities: events may be organised (a football tournament between *Living Streets*, picture hunt[66], popular meals, etc.), but on a daily basis. The residents also take ownership of their street: they eat together in the evening, read or play music, chat with their neighbours, children have more room to play. In a nutshell, **the city is once again the theatre of the social interactions** that it once was. Residents can also experiment other ways of getting around, especially electric bikes, and a new craze for gardening and greening *Living Streets* is emerging.

Results

An evaluation of the first edition was made by the volunteers of "*The Bike of Troy*" network, together with municipal staff and VITO (Flemish Institute for Technological research).

The Spring 2014 second edition included more streets. A third edition launched in 2015 saw 22 streets of Ghent become *Living Streets* for ten weeks. There was a novelty: in addition to sponsorship, projects were also able to benefit from crowdfunding.

Crowdfunding for a crowd initiative

In 2015, "*Lab van Troje*" used crowdfunding to buy materials for the third edition. This type of financing was justified by the fact that taking part in the *Living Streets* has always been free, so those residents benefiting from it might be interested in contributing to it.

Volunteer organisers were able to use the **community crowdfunding platform launched by the city of Ghent**[67] in March 2015. The marketing campaign, however, was entirely designed by *Lab van Troje* volunteers. To facilitate the process, the municipality launched communication campaigns to provide information about the platform.

The municipality's role

"*Lab van Troje*" has contacts with the mayor and deputy-mayors, as well as with a number of municipal departments: transport, urban development, citizen participation and environment. The municipality has been supporting the Living Street initiative since 10th April 2013 and the first edition was launched on 1st June in the same year.

The project leaders consider that they share a **co-building relationship** with the municipality. For them, the project is not a community initiative, in the sense that they work with the municipality, with municipal staff in charge of public policies as well as with trading and non-trading companies.

Thanks to the **involvement of the Environment and Mobility departments**, the municipality has been able to **facilitate procedures**: first contacts, negotiations with the police, assistance with waste collection and street cleaning, help in obtaining street closure permits. The municipality has also contributed to setting up

[66] A picture is taken of each *Living Street*: the objective is to match each picture with the correct street.
[67] https://crowdfunding.gent/nl/

a reference framework for the project. The presence of Dries Gysels, a volunteer and employee of the city's Environment department, was precious in that it facilitated the dialogue between "*Lab van Troje*" and the municipality.

Gradually, month after month, relations between the volunteers and the municipality have improved. Both parties have learned to work together and the municipality has been able to measure the impact of the *Living Streets* experiment. It appreciates this temporary approach that contributes to changing both habits and mentalities. The **objective of "*Lab van Troje*", through cooperation with the city, is to radically change the way streets are organised by the local authority.**

The difficulties encountered

- Setting up Living *Streets* is a new experiment. It involves working out **how interpersonal dialogue can help create a common vision**.
- The initiative launched by "*Lab van Troje*" provided an opportunity to develop a **unique, co-building relationship that places the municipality and citizens are on an equal footing**, which is a strength but also involves new challenges, like **making the various municipal departments work together**.

***Living Streets* is trying out new governance where citizens and the municipality co-create urban space. The project is easily reproducible and helps develop the city labs of the future.**

For further information

Contact

Pieter Deschamps
Lab van Troje

Dries Gysels
Lab van Troje

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Fab labs as innovation incubators: the case of Barcelona (Spain)

How can production be relocated locally? How can an international fab lab network help meet local needs? Such is the ambition of fab labs (*fabrication laboratories*), i.e. digital fabrication workshops offering all sorts of tools and machines as part of an international network[68]. Launched in the late 1990s by Neil Gershenfeld, a professor at the *Massachusetts Institute of Technology* (MIT), the fab lab is based on an open, collaborative concept: a fab lab must enable all kinds of people - students, researchers and members of the general public - to design and produce unique objects (from decorative items to prostheses). Sharing these creations through *open source* or *creative commons* licences is also an integral part of the concept.

In Barcelona, the first fab lab was opened by IAAC (Institute of Advanced Architecture of Catalonia) in 2007. **It happened by chance that the IAAC founders joined the municipal team in 2011 and brought with them their vision of the city**: a smart city promoting a new ecosystem centred on fab labs - a "fab city". Integrating their ideas into the city's political agenda resulted in public fab labs open to all being provided as a public service, on the model of public libraries (and called "*ateneum de fabricacio*" by the city of Barcelona). Since 2011, no fewer than three public fab labs have been opened thanks to cooperation between the municipality and IAAC. The ambition of the municipality is to open ten fab labs, one per district!

The Ateneu Les Corts Lab, a public fab lab

The Ateneu Les Corts Fab was **the first public fab lab** to open in Barcelona. For its director, this prototype is proof that the concept works. With **three employees** (one manager and two design and electronics technicians), the lab received around 9,000 visitors in 2014 (a higher figure for 2015), disseminated information, organised conferences and offered know-how and skill development programmes.

With an €8,000 annual budget, the lab delivers **three programmes** designed to **develop citizen's skills**:

- an educational programme offering **schools** to come and produce the tools or items they need;
- a **social innovation programme** giving residents and local community organisations access to computer-controlled equipment (access is free but includes a quid pro quo: service, knowledge, time or other type of compensation);
- a programme for **families**.

Centred on social inclusion, this fab lab generates social interaction, challenges traditional access to technology by putting production and learning within everybody's reach and tackles overconsumption and planned obsolescence. As part of the **"Reborn" programme**, visitors can learn how to repair a computer or any other type of device.

The two other fab labs of the Fab Ateneus network have five employees each. The ***Ateneu Ciutat Meridiana Fab*** aims to create professional opportunities and therefore focuses on research and education. The ***Ateneu***

[68] To be recognised as a *fab lab*, a fabrication laboratory must sign the MIT (*Massachusetts Institute of Technology*) charter, but does not have to be affiliated to it.

Fabrica del Sol Fab develops projects aimed at improving **citizens' quality of life through self-sufficiency**. The emphasis is laid on **energy** (production, savings, improving energy efficiency, tackling fuel poverty), **materials** and **resources** (resource optimisation, recycling, locally-sourced materials with a low footprint, circular economy, eco-design).

Private initiatives

In addition to these public labs, there are also mixed public-private fab labs like the *BCN fab lab* (Barcelona) as well as fully private ones, like the *Valldaura lab* (IAAC), as well as other fabrication areas like makerspaces and private workshops. They all contribute to creating innovative, inventive city life. **Whatever the innovation area concerned, the energy transition concept is well under way.**

Initiated by IAAC in 2014, the ***Valldaura Self-sufficient Lab*** is located in a former monastery and gathers researchers, students and other people engaged in exploring immediate solutions to meet local needs in three labs: *Green fab lab* (development of natural building materials and a project aimed at improving material traceability, water management with the *Hydrogrid* project), *Energy lab* (energy efficiency with the *Energrid* research project, the lab's energy self-sufficiency project) and *Food lab* (organic/gastronomic school, developing technologies for large- and small-scale environmentally-friendly agriculture). The lab should become energy self-sufficient in a near future.

The Smart Citizen Kit

This sensor measures ambient environmental conditions: two toxic gases, CO and NO_2, temperature, humidity, light and noise levels. This 1992 private initiative from the BCN fab lab is a small, inexpensive device aimed at making environmental data capture more affordable. It heralds an era of smart cities and marks a shift towards a data-centred economy.

How can fab labs, the path to energy and societal transition, be spread? Founded on fundamental ecological and energy transition values, fab labs aim to revive creation and innovation by making tools and knowledge available to all and by promoting a culture of innovation.

Although fab labs aim to democratise fabrication in their workshops, a mere inventory of available machinery is not sufficient. As **fab labs require extensive know-how and skills**, they have been criticised for the risk of exclusion that this creates. Both IAAC and the city of Barcelona are aware of this and training sessions are provided at *fab academies* organised annually by IAAC. **The democratic potential of fab labs, although this can be improved, continues to arouse interest. But what stirs up even more enthusiasm is their potential as innovation incubators.**

The municipality of Barcelona has harnessed the momentum created by the establishment of private fab labs in Barcelona. Its public fab lab service, designed on the model of public libraries, meets a democratic, empowerment objective and develops creativity, whilst contributing to developing Barcelona's smart city model.

For further information

Contacts

Tomas Diez
Director of the Fab Lab Barcelona

Jorgina Martinez
Director of Ateneu Les Corts

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The greenest idea in Haarlemmermeer (the Netherlands): crowdfunding at the service of a municipality

The context: a competition integrated in the city's sustainable development strategy.

In 2013-2014, the municipality of Haarlemmermeer in the Netherlands (144,000 inhabitants) launched a **competition for the greenest citizen idea through the crowdfunding platform *Oneplanetcrowd***: "the greenest idea in Haarlemmermeer" or "Het groenste idee van Haarlemmermeer", in Dutch.

The principle is straightforward: inspired citizens propose **energy saving projects for the city**; a jury selects the **five best ones** and **a crowdfunding campaign** is organised for each of them**.** Those who achieve their financing target will receive additional funding from the municipality.

In 2011, the first greenest idea competition was launched, but with no crowdfunding. The 2011 and 2013 editions were launched as part of **Haarlemmermeer's sustainable development strategy 2020-2030**, with specific targets in terms of GHG emission reduction and renewable energy production. Both **contributed to encouraging the existing momentum by stimulating citizens' innovation in the field of sustainable development**.

The success met by the first competition prompted the municipality to continue the experiment. The **crowdfunding platform *Oneplanetcrowd*** contacted the municipality and proposed exploring other sources of financing. The idea was soon adopted and the only obstacle encountered was the lack of skills/knowledge about crowdfunding among citizens. *Oneplanetcrowd* immediately solved the problem by offering to train those citizens whose projects would be selected by the jury. With crowdfunding, the municipality plays a **role of financer and facilitator**.

Who are the stakeholders involved?

- The municipality, as instigator and facilitator,
- The *Oneplanetcrowd* platform, for crowdfunding and citizens' training;
- A communication agency for marketing and promoting the competition;
- Citizens;
- The jury, composed of the councillor in charge of sustainable development, the director of the Nature and Environment Centre (NMHC), the director of the *Oneplanetcrowd* platform and partners from the business and associative sectors.

The phases of the competition

The **first phase** was dedicated to the submission of applications. A **communication campaign** was organised with ads in local newspapers, on a website and in public areas. To encourage early applications, a chance to win an electric scooter was given to those who submitted their proposals at least one month before the deadline.

In total, **fifty projects were submitted**, a number below the municipality's ambitions. The projects submitted were all small-scale and highly local, like the proposal for an electric school cart service for one kindergarten. But the competition has had **a positive impact on citizens' engagement**.

A jury then selected the five best projects on the basis of the following criteria:

- Contribution to the city's GHG emission/energy use reduction target;
- Visibility and number of beneficiaries;
- Usefulness, easiness of implementation and user-friendliness;
- Development and dissemination potential.

The **five projects selected** were an electric school cart service, the installation of solar panels in a field, an organic kitchen garden, a solar recharging station for electric bikes and a hen-at-home scheme (the hen eats organic waste, lay eggs and raises children's awareness of animals).

Electric school cart service

The selected project holders benefited from a **training session on crowdfunding**, so as to be able to raise sufficient funding on the *Oneplanetcrowd* platform. All projects achieved the financing target set by the municipality and the platform and received additional subsidies from the municipality (total budget: €100,000 in subsidies and €150,000 in loans).

The success of the initiative prompted the municipality to launch a second edition of the "Haarlemmermeer's greenest idea" in January 2016. The three winners will share €40,000 from the sustainable development programme to implement their projects.

Using crowdfunding to finance projects submitted by citizens is an original and efficient way of stimulating citizens' engagement and creating an emulation of initiatives in the local area.

For further information

Contacts

Natalie Ziegler
Oneplanetcrowd
International coordination

Drs. Stèphanie van Cappelle-Buijs
Municipality of Haarlemmermeer
Project manager

Useful links and information

http://www.groensteidee.nl

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