

Bristol BRITE - developing the municipal power sector - Bristol, UK

Population: 428,100 inhabitants	Project signed on 15 May 2012	Grant from ELENA-EIB: EUR 2,612,207
---------------------------------	-------------------------------	-------------------------------------

Awarded the title of EU Green Capital for the year 2015, the city of Bristol is a leading municipality in terms of local climate action. Bristol City Council's ambitions in the matter were laid out in its 2012-2015 *Climate Change and Energy Security Framework*, adopted in 2010. The Council also has a target of 40% GHG-emission reduction by 2020 compared to 2005.

To implement its climate objectives, the Bristol City Council developed an inclusive ELENA programme. Named Bristol Retrofitting - Innovative Technologies for Everyone (BRITE), the program articulates climate targets and social priorities. It is structured around the development of a municipal energy company, the first of its kind in the UK, to provide low-cost and low-carbon energy to local residents. It is associated with a scheme to improve the energy efficiency of Bristol's building stock and to increase local renewable energy supply.

1. Business model: How the programme is implemented

A municipal energy company for Bristol

In May 2012, the Bristol City Council signed a contract with the European Investment Bank for BRITE programme. This initiative aims to cut CO₂ emissions in the city of Bristol by 40% (i.e., by 37,800 tCO₂/year). To achieve this objective, the council opted for the creation of a municipal energy company, notably to provide a framework for future investments which:

- Is a means to centralise all activities from the council's energy portfolio to find synergies and avoid inefficiencies;
- Gives more responsibility to the city and includes a social dimension in energy projects;
- Gives more flexibility as to how the Council can deliver its actions and goals;
- Introduces a commercial dimension in energy efficiency and RES actions, to seek for the best cost-efficiency.

This municipal energy company in Bristol is conceived as a vehicle to help the council deliver its targets in terms of energy efficiency and renewable energy with cost-efficient actions. First of its kind in the United-Kingdom¹, the initiative is inspired by the existing model of the German municipal energy companies: the so-called *Stadwerke*.

Bristol Energy, the name given to the municipal energy company set by the programme, is to be fully operational by the end of 2015.

Renewable energy in Bristol

BRITE aims at developing the supply of affordable renewable energy to the citizens of Bristol. To a large extent, the municipal energy company will serve as a vehicle for completing this goal. It shall act as a provider of low-carbon energy to the citizens and install renewable energy capacity in the West of England region to supply Bristol.

The Bristol City Council also supports the development of a district-heating programme in Bristol thanks to its energy company and within the framework of the BRITE programme, under which feasibility studies for the development of district heating on three sites are financed. The development of a district heating network aims at increasing the efficiency of heating in the city, and at generating electricity through cogeneration.

Effectively the entity will centralise all energy assets of the Bristol City Council, as well as its activities regarding energy demand management or other energy services. It also provides the opportunity for the council to engage local businesses in the implementation of its climate and energy targets. Moreover, it makes the link

¹ <http://www.bristol.gov.uk/press/new-proposal-municipal-energy-company-bristol>

with parallel initiatives for installing renewable energy in Bristol such as the Bristol Energy Cooperative (see box below).

Community Energy in Bristol: Bristol Energy Cooperative

Alongside the Municipal Energy Company project, Bristol City Council is supporting the development of community energy programmes in the city. This allowed the development of the Bristol Energy Cooperative (BEC), a programme that encourages Bristol’s citizens to collectively invest in local energy production units.

So far Bristol Energy Cooperative issued three share offers, two of which have been completed and raised GBP 250,000 to install rooftop solar PV on community buildings for 143 kW of capacity. Future plans notably include the development of a wind farm.

The financing raised by BEC to realise these investments comes from the community. Citizens of Bristol fund the project by buying shares. This involves them in the community production process, as they are also able to contribute to future actions and the way investments are conducted. They can for instance suggest new sites for solar power implantation.



Example of ELENA-BRITE action: installation of rooftop solar PV on St. Michael’s hospital - 50kW (Picture courtesy of the Bristol City Council)

Different financing mechanisms for different types of actions

Several financing mechanisms are used to achieve the different objectives of the programme, each corresponding to one of the 4 categories of actions. A significant component of the ELENA-BRITE actions is to be implemented in the building sector. Indeed, the UK has one of the most inefficient and ancient building stock in Europe and significant savings can easily be made in this sector. The aim being to propose schemes that are as adapted as possible to the actions to be financed:

Category	Type of action	Financing scheme
Community energy	Development of local and decentralised energy production	Financed by the community through the emission of bonds and shared within the community (on the model of crowdfunding)
Social housing	Refurbishment of tower blocks through actions of external insulation to improve their energy performance standard	The rent perceived by the public lessor is reinvested to finance these energy efficiency actions
Private housing	Retrofitting of private housing through	Households subscribe to the Green Deal

	<p>actions such as solid wall insulation notably realised under the Bristol Green Deal.</p> <ul style="list-style-type: none"> - Green Deal assessment: conducted beforehand to determine which actions should be realised in each home - Up to GBP 10,000 per household in Green Deal finance <p>Overall, the Bristol Green Deal is part of a larger private housing initiative: Warmup Bristol².</p>	<p>for GBP 49 (which allows them to benefit from a Green Deal assessment). The rest of the Bristol Green Deal is financed as follow:</p> <ul style="list-style-type: none"> - GBP 7.3 million as grant funding (from European Union) - GBP 60 million in the form of an Energy Company Obligation³ - Additional financing comes from the UK government loans
Public Buildings	<p>Energy efficiency retrofits are conducted in public buildings to improve the energy performance of Bristol's building stock</p>	<p>The financing of public building retrofitting is made thanks to the establishment of a dedicated revolving fund, which was provided by UK government loans. The retrofitting actions financed through the fund are paid back by the savings on energy bills.</p>

Financing the programme

The overall expected investment to be mobilised for the ELENA-BRITE programme amounts to EUR 161 million, which represents a leverage factor of 62 compared to the ELENA grant funding. At the inception of the project the Bristol City Council considered subscribing to a loan from the European Investment Bank for about half of that planned investment (GBP 70 million). In the end however the council opted for a series of loans from the UK government, a type of funding source that it has more experience with - it was merely more convenient. The high threshold of EIB loans (EUR 50 million, for an overall investment of at least EUR 100 million) was indeed an issue for the Bristol City Council, as it did not know at which speed it would be able to develop the whole ELENA-BRITE programme. The minimal size of EIB loans implied the risk that the council would be holding loans it could not invest on the spot, paying interest on money it was not using. UK government loans provided more flexibility in this regard.

2. Organisation & partnerships

The ELENA-BRITE programme involves actors at every level, from European Institutions to local communities thanks to the impulse of the municipality. The Bristol City Council dedicates a specific team of 5 municipal agents⁴, mostly financed by the ELENA subsidy, to the management of ELENA-BRITE. This team:

- Is in charge of the collaboration with the European Investment Bank, and more generally the management of the project;
- Coordinates and monitors consultants that are employed as reinforcement of the council's services - notably for legal, technical or financial assistance;
- Monitors the contractors that implement on the field energy efficiency actions and renewable energy deployment;
- Is in charge of the establishment of Bristol's municipal energy company.

² Warmup Bristol (<https://warmupbristol.co.uk/>): a programme driven by the Bristol City Council to improve the energy efficiency of Bristol's building stock in partnership notably with Climate Energy. The scheme proposes a range of financing options to help homeowners or tenants to implement some of the 45 energy efficiency measures covered by the scheme provided they have an Energy Performance Contract or a Green Deal assessment. These options include the Green Deal, but it also notably proposes eligible citizens to subscribe to a Wessex Home Improvement Loan.

³ Energy Company Obligation: this mechanism was introduced in UK legislation in 2012. It is based on the principle that energy companies realise mandatory offsets of carbon emissions by participating in the financing of energy efficiency measures (such as solid wall insulation) in British homes. The mechanism is designed to fit within the framework of the Green Deal initiative.

⁴ This figure then increased to 15 agents in the last months of the project, as the Council felt short of internal manpower to implement all the actions it had planned as part of the ELENA-BRITE programme within the initial timeframe.

A significant part of the resources for the management of the project are dedicated to external consultants for legal, technical or financial assistance on specific tasks. These actors are called in to provide their expertise to the City Council; however they do not necessarily contribute to capacity building on the long term.

Overall the municipality is also an actor of the project through several of its services, not only the ELENA team, as it is involved in the refurbishment of its public buildings, which is expected to represent the bulk of the investment under this project. As the BRITE programme also plans for public housing to undergo retrofitting, Bristol's public housing sector is also mobilised.

The citizens are greatly involved, notably through the Bristol Green Deal and Community energy programmes that lead them to invest in renewable energy projects or to undertake energy efficiency actions within their own houses.

3. Beneficiaries

Players	Impact of the Programme
Citizens	Overall, the citizens of Bristol are the beneficiaries of the programme as the municipal energy company will aim at providing low-cost electricity to households and businesses.
Social housing tenants	So far, public housing tenants have been the main beneficiaries of the ELENA BRITE programme as actions have mostly been undertaken in social housing retrofitting through external insulation. They notably benefit from more comfortable houses.
Private housing	Private households benefit from assistance in planning the retrofitting of their house. They also benefit from dedicated financing mechanisms. In the future they will benefit from reduced energy bills, and increased property value.
Public sector bodies	The public sector will be the main beneficiary of the scheme, as the renovation of public buildings represents the majority of the investment realised. This will result in lower energy bills and an upgraded building stock.
Local businesses	Local businesses operating in the field of energy services and renewable energy should greatly benefit from the programme which is designed to be implemented by this type of actors.

Although actions have mostly been implemented in the social housing sector, the Bristol City Council collects feedback from the actions it has undertaken so far in order to improve the efficiency and the public acceptance of the actions. So far, the feedback received from social housing tenants is rather positive.

4. Results

The ELENA-BRITE contract was signed in May 2012, and it is still in the early phase of development. Only a limited number of actions are today in the implementation phase:

- Social housing, retrofitting of tower blocks: **28,000 social housing units** benefitted from energy retrofitting, notably external insulation
- Private housing: households have been able to undertake retrofitting of their house thanks to the Bristol Green Deal since 2013. Before that, **over 200 households** benefitted from retrofitting under the Bristol Home Energy Scheme Programme.
- Some renewable energy capacity has been installed under the **community energy scheme** (for instance solar panels on the roof of the hospital).



Example of ELENA-BRITE actions: a tower block building after refurbishment (Picture courtesy of the Bristol City Council)

5. Promotion

- EU Green Capital: the Bristol City Council was awarded the title of EU Green Capital for the year 2015, which triggered media attention for its climate actions such as the ELENA-BRITE programme;
- The City Mayor wrote a letter to the citizens to inform them on how they could benefit from the programme;
- Representatives of the Green Deal Community go door to door to see people in their home and encourage them to sign up to the scheme;
- Product demonstration were carried out in various neighbourhoods, with show houses, of the actions private citizens could undertake in their homes thanks to the Green Deal or Warmup Bristol;
- Developing one of the first municipal energy companies in the United Kingdom increased the fame of the city as some other municipalities are interested in replicating the action.

6. ELENA-EIB technical assistance

The grant of EUR 2.61 million from ELENA over three years was absolutely crucial at the inception of the BRITE programme. Without this support Bristol would probably not be in such a leading position in terms of energy efficiency and renewable energy actions. The type of financing provided by the European Investment Bank for project development under ELENA allowed the City Council to develop simultaneously a wide number of projects, without having to present a business case each time.

It also corresponded to the establishment of a long term partnership supporting the development of the programme:

- ELENA helped the Bristol City Council and the European Investment Bank to build a relationship of partnership based on extensive exchanges (the council received feedback, there were exchanges in Luxemburg with EIB experts, etc.);
- The communication with the EIB was easy and the bank showed flexibility, understanding that cities have specific constraints for such a large project;
- The EU ELENA funding provided overall stability to the development of the project. The three years period on which the subsidy is granted gives enough time to develop a solid project that is in line with the specific constraints of the city.

7. Key takeaways for other public authorities

- The ELENA grant should primarily be dedicated to **capacity-building** within the municipality, as internal staff provides benefits beyond the ELENA period. Indeed, reinforcing the municipality's capacity provides long-lasting benefits;
- **Limit the use of consultants** to specialist areas that would not justify hiring a staff member;
- ELENA should be used to develop **new set of skills** which can benefit the City Council.

A notable challenge faced by the council in implementing the programme came from the **underestimation of the needed workforce** to engage in the development of ELENA-BRITE. As a result, the number of municipal agents working on this programme increased threefold over the last months of the 3 years grant period.

Contact - Bristol City Council

Mrs Mareike Schmidt, Strategic Energy Programme Manager: mareike.schmidt@bristol.gov.uk