the Bristol Method: how to promote renewable energy generation
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Introduction

We are all aware of the problems associated with using fossil fuels: not only are we fast running out of them but burning them exacerbates climate change. So it’s important to find sustainable and affordable alternatives to keep the lights on, our homes and buildings warm and the vehicles and equipment we rely on powered.

That means using energy much more carefully and looking for ways to replace fossil fuels with renewable alternatives.

As well as curbing our use of natural resources, the green economy is a major driving force for future prosperity in this country. Renewable energy generation is playing a major part in the low-carbon economy, helping to create jobs and increase GDP.

By the end of this decade, Bristol’s aspiration is to become the UK’s first city for sustainable energy, leading the way in low carbon energy and renewables, smart energy efficiency and affordable warmth. The city aims to be home to a thriving low carbon sector delivering solutions for the city and across the world.

This module explains how Bristol City Council is boosting the amount of renewable energy it produces.

Bristol is a centre for renewable technologies.

Initiatives include:

- A number of Bristol’s schools and the M-Shed museum have been fitted with biomass boilers which burn woodchip or pellets to create energy on site.

- Avonmouth and the Port of Bristol area is already a centre of wind generation. Next, the aspiration is to accelerate the development of marine energy technology and to realise some of the huge energy resource represented by the local tidal range.

- Bristol boasts world-class companies supporting the development of sustainable energy across the UK and globally, from engineering consultancies and planning and ecological specialists to legal and financial expertise.

- The city supports and is home to a number of leading UK energy charities and companies including: the Centre for Sustainable Energy, Sustain, Low Carbon South West, and Regen SW. We also have a thriving community energy sector, co-ordinated by the Bristol Energy Network, from which has emerged two pioneering co-operatives offering opportunities for investment in local renewable energy projects.
A bit of background

Bristol’s involvement in sustainable energy dates back to the 1970s. Then, in response to the oil crisis and concerns about fossil fuel depletion, the charity Urban Centre for Appropriate Technology (UCAT) was created - now known as the Centre for Sustainable Energy (CSE). Its ambition, sustained by CSE to this day, was to find technologies that are ‘conserving in their use of resources, benign in their side effects [and] convivial in their social impact’.

UCAT was one of the first organisations to help people understand the benefits of and possibilities for living a sustainable urban life. It showed ordinary people the advantages of technologies like solar panels and triple glazing, while also inspiring them to adopt new activities like recycling and growing organic gardens.

As this work has developed and deepened since these early days, so the topic of sustainable energy has expanded from being the domain solely of voluntary and charity groups to become a mainstream concern. Bristol City Council was one of the first local authorities to begin buying green energy – as long ago as 1998 – and has continued to show progressive thinking in its approach to renewable, sustainable and low-carbon energy supply. It has set stretching targets to cut Bristol’s carbon emissions and is making significant investments to achieve that.

Alongside this municipal action, both the local business sector and the voluntary and community sector are developing initiatives which engage people with the new technologies, services, knowledge and behaviours that form the foundations for a genuinely sustainable energy future.
How did Bristol fund investments in renewable technologies?

Having established an ambition to increase the proportion of renewable energy used, Bristol City Council began a series of projects to install new technologies on its buildings and land.

Having established an ambition to increase the proportion of energy it sourced from renewable sources, Bristol City Council began a series of projects to install new technologies on its buildings.

This programme of activity was the seed that grew into an application to the ELENA grant (“European Local ENergy Assistance”) which is run by the European Investment Bank (EIB) and funded through the European Commission’s Intelligent Energy-Europe programme.

While the benefits of renewable technologies are clear, it can still be difficult to access funding or to guarantee that investing in them will offer value for money. ELENA was created to support EU towns and regions to implement large energy efficiency and renewables projects.

In 2010, Bristol City Council secured £2.5m of grant funding, giving the council the capacity to create a step-change in the level of investment it could attract, and help to create structures that ensure that new projects are financially sustainable.

Having used the ELENA grant to initiate and scope energy projects in the city, the council’s Energy Service was able to present a compelling business case to the council’s Board for channelling £140m into a variety of energy efficiency and renewable projects in the city.
CASE STUDY: Avonmouth Wind Farm

Large-scale wind power is now a highly developed, sophisticated technology, achieving good carbon dioxide savings per pound spent. The cost of wind energy varies according to many factors but, according to DECC, onshore wind is by far the cheapest large-scale renewable energy source that can be deployed at significant scale.

The Avonmouth Wind Farm is the first large, high profile renewable energy project undertaken in Bristol. In fact, Bristol City Council was the first local council in the UK to develop and own a wind farm, showing the way to other local authorities.

The council realised that it could cut carbon emissions and generate an income by investing in cost effective, renewable sources of energy. It built two large wind turbines close to Bristol Docks in Avonmouth, each able to generate 2.5MW of energy. In their first year of operation, the two turbines generated more than 12GWh, which is equivalent to more than a quarter of the electricity demand of Bristol City Council’s buildings. This represents an annual saving of more than 5,000 tonnes of carbon. It also meant that the council hit its 2020 goal of sourcing 20% of its energy from renewable sources five years ahead of target.

Aside from the obvious environmental benefits of increasing the amount of renewable energy available, the wind farm provides an annual net income for the council, through the sale of the exported electricity. In 2014, the wind farm netted an income of around £1.3m for the local authority (before interest payments on capital). This has been reinvested back into the city, providing additional benefit to all Bristol’s citizens.

“This is a bold, innovative public project which I’m proud to see in Bristol. It’s with a pioneering and entrepreneurial spirit that we have made this unique investment. It’s this kind of trail-blazing by my predecessors which has secured our spot as the European Green Capital for 2015.”

George Ferguson, Mayor of Bristol
Why did Bristol do this?

The wind farm project was developed primarily to help the council reduce its carbon dioxide emissions and minimise the authority’s impact on the environment. A secondary driver was to develop a sustainable revenue stream for the council.

Bristol City Council set itself a target to reduce the carbon emissions from its estates and operations by 3% each year (from a 2005 baseline), and investing in green, renewable energy was a tangible way that the council could meet this target, whilst making the city more sustainable. The Avonmouth Wind Farm project received cross-party support.

In the wider context, the council’s Energy Service was also looking at the bigger picture and was introducing energy efficiency measures across the council’s assets. This included installing zero carbon biomass boilers into its own estate, and solar PV panels onto the roofs of Bristol City Council’s schools.

In a national context the UK government has supported renewable energy projects and incentivised such initiatives with subsidies like the Feed-in-Tariffs which provided a guaranteed income stream for the operators of renewable energy facilities. Renewable Obligation Certificates were also introduced to incentivise the development of renewable projects by placing an obligation on UK electricity suppliers to source an increasing proportion of the electricity they supply from renewable sources.

Who were the key players?

- Bristol City Council is the first council to seek to generate energy itself through wind turbines. A detailed case study is provided below. Bristol City Council’s Energy Service initiated and developed the project with support from council colleagues and drawing upon external consultants at key points in the process.

- Consultants included: Garrad Hassan (wind analysis, turbine specification), Osprey Consultants and PagerPower (effects on radar and mitigation), Wind Prospect (contract negotiation) and a range of consultants managed by the Landmark Practice during the production of the Environmental Impact Assessment. Burges Salmon provided external legal advice in the consenting of the project.

- The general public was also a key source of support: the public consultation process confirmed that local people were broadly happy with the proposed plans and that the council had chosen the right site and the right technology.
How was the site chosen?

The siting of a wind farm is the most important factor in determining its success as a cost-effective source of renewable energy.

The site chosen for Bristol’s wind farm has very good wind exposure.

In addition, the site was already owned by the council. It was a brownfield site (meaning it had previously been built on) with existing road access and allowed for easy connection to the national grid.

The nearby Bristol Docks has an industrial character and was already home to three operational wind turbines.

Crucially for its chances of being accepted by the general public, the site is more than half a kilometre from the nearest home.

However, the site is adjacent to the Severn Estuary which is a heavily protected area, deemed to be of European importance, and afforded legal protection prevents damaging activities.

This meant that a significant amount of work had to be done to demonstrate that the turbines would not affect the protected species using the Estuary.
Summary of approach

It took more than 10 years to turn Bristol’s vision for a wind farm into reality. These are the steps that the council took:

2002 The plan for a wind farm at Avonmouth was first conceived and a feasibility study was conducted.
2003 For a full year, the speed and direction of the wind was monitored.
2004 The site was deemed viable.
2005 A financial model was developed and formal scoping began for an Environmental Impact Assessment (EIA).
2006 Assessment of all potential impacts begun, and a significant amount of data about birds and the local ecology was collected.
2007 Assessment completed.
2008 Having established there were no major issues with the proposed project, a planning application was submitted in September.
2009 Planning permission was granted in January.
2010 Bristol City Council’s Cabinet approved the plans in March. In August, the Local Government Act allowed Local Authorities to sell electricity, ensuring the economic validity of the scheme.
2011 A procurement tender package was developed. Although a solution was found to mitigate the effects of the turbines on the radar at Filton Airfield, the airport closed removing the need to implement it.
2012 The contract to supply the turbines was awarded to Nordex.
2013 Construction began in April and was completed in November. By December, testing and commissioning were completed and the wind farm began to generate electricity.
2014 By February, both turbines were fully operational.

Governance

- The council’s dedicated Energy Service was responsible for establishing the project and now oversees operational management.
- Following cabinet approval, authority was delegated to an internal project board, which met monthly to make decisions until construction started on site.
- The project board consisted of the Project Director, Energy Manager, Energy Management Officer, internal Legal Advisor, Procurement and Finance Officers.
- Now the wind farm is up and running, just one member of council staff oversees the project on a part-time basis.
Municipal wind turbines: Bristol’s advice for others

Look at what others have done: We learned a great deal from looking at examples of best practice from across the UK and Europe.

Location is everything: For a wind farm to be successful, it is absolutely crucial to have the right site so due care and attention needs to go into locating a suitable area. We devoted a whole year just to tracking wind directions to make sure there would always be enough to generate energy. We also reviewed factors such as grid availability, road access, and environmental constraints.

Talk to your neighbours: wind farms can provoke strong feelings from local residents who worry it could cause noise pollution, kill birds, ruin their view or affect local house prices. We did an extensive public consultation to talk to people living in the area before any decision was made on the scheme. We tried to ensure everyone was engaged with the plans and any concerns were addressed. Once the plans were agreed, ongoing communication is crucial to keep people engaged in what can be a lengthy process. To ensure the local area benefits directly we are intending to follow best practice and make a voluntary contribution to the local community.

Be prepared for complexity: a project like this involves many different stages which need to be anticipated and carefully planned for. We had many different stakeholders to manage, too, which added further challenges.

Know your impacts: The site we chose – while providing near-perfect conditions for a wind farm – is near the Severn Estuary, a Special Protection Area filled with wild bird and an important wildlife habitat. We were therefore required to conduct a full Environmental Impact Assessment (EIA) which involved monitoring birds and other wildlife over a number of years.

Get the right people in the team: delivering this project successfully has required a strong project team with the right knowledge, skills and expertise. We used external advisors and consultants at various points in the process to make sure we had the best possible support and guidance to keep the plans moving.

The bigger the better: Wind turbines around the world are being made taller to capture more energy from the stronger winds that blow at greater heights. Large wind turbines therefore generate much more energy than smaller turbines. The maximum tip height of the wind turbines used in the Avonmouth Wind Farm is 130 metres. The hub that holds the rotor blades is 80 meters high.
CASE STUDY: Bristol’s Solar Programme

In 2013, Bristol Solar City announced the goal of making Bristol the UK’s solar capital. This group is made up of various local organisations, including education and research institutions, community energy groups, cooperatives, installers and wholesalers of renewable technologies.

Bristol Solar City had an ambitious aspiration to generate 1 gigawatt (GW) of electricity by photovoltaic panels by 2020: equivalent to the output of an average nuclear power station. Bristol’s mayor George Ferguson backed the ambition and a programme of work began in the local council.

Launched in 2015, Bristol City Council is currently implementing a programme to install solar photovoltaic (PV) panels onto a wide range of council–owned and public sector buildings and land. The aim is to increase the amount of renewable energy generated locally by installing solar PV systems on council roofs (both corporate buildings and social housing) and facilitating community-owned solar PV installations on buildings that are leased to tenants. Based on current plans, these installations are expected to have the ability to generate around 2MW by the end of this year.

Many of these solar PV installations will consist of a simple 4kWP system which, in the south of England, is capable of generating all the energy a home requires—around 3,800 kWh of electricity a year. Each one of these is expected to save nearly two tonnes of CO₂ annually.

Bigger public buildings can host much larger solar arrays. For example, in late 2014 the council installed a 50kW solar PV system on the roof of St Michael’s Hospital.

This project was delivered in partnership with Bristol UHT and marked the beginning of a number of projects where the council collaborated with public sector partners in the city.

While a building’s tenants benefit from a reduction in their energy costs, the panels also provide a guaranteed revenue stream for Bristol City Council for 20 years via the UK government’s feed-in tariff scheme. The council’s Energy Service will continue to install solar PV systems on their corporate stock, with profits reinvested back into services for the local community, meaning that everybody benefits from the schemes.

The council aspires to install solar panels on appropriate social housing, which will save tenants around £130 - £260 per year on their domestic energy bills (depending on roof size). The council is also engaging its corporate property tenants with their daily energy use via energy and CO₂ reduction displays and dashboards.

Another benefit of the programme is growing Bristol’s capacity as a provider of environmental industries, able to maintain and create jobs in the solar PV industry.
Why did Bristol do this?

In its 2006 Energy Review, the UK government stated that it could achieve the goal of 20% of the country’s electricity coming from renewable sources by 2020 - and this became a legally-binding obligation.

To provide a fiscal incentive, the government announced the first feed-in-tariffs in 2010, and Bristol City Council’s Energy Service began to explore how Bristol could capitalise on this.

Bristol City Council chose to invest £1.1m in solar PV for Bristol’s schools. When the government cut the tariffs, a lot of councils curtailed their programmes but Bristol chose to continue with their programme, installing 568 Kw of PV.

Leading on from this work, the aspiration was to develop a programme that could reduce the council’s energy bills while also reducing the city’s carbon emissions.

A request for funding to allow the team to validate and plan the solar PV programme were included in the grant bid to the European Investment Bank’s European Local Energy Assistance (ELENA) Programme.

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Explaining Feed-in-Tariffs

As a result of the feed-in-tariff, generating renewable energy in the UK has three financial benefits:

1. **The Generation Tariff:** the owner of the property receives a fixed income for every kilowatt hour (kWh) of electricity, whether it is used on site or exported back to the grid. The amount varies depending on the size and type of installation.

2. **The Export Tariff:** this provides the owner with a fixed income for electricity sold back to the grid (4.5p per kwh).

3. **Savings on fuel bills:** the tenants of the building save money on fuel bills because they need to buy less from their utility provider.
Summary of approach

These are the steps that the team at Bristol City Council took, offered here as a guide to other UK local authorities that are considering doing the same:

Feasibility studies
To get the plans off the ground, a group of officers from a number of council teams conducted a detailed initial feasibility study including financial modelling, market testing, contracting structures, delivery models and detailed risk analysis. This was funded by the ELEN A grant, and assisted by technical consultants at Ernst & Young. The feasibility study determined the technical and financial viability of the solar PV programme as well as the preferred delivery and financing routes.

As part of this, a rooftop analysis was also carried out to identify suitable roofs in Bristol. The rooftop analysis was based on a number of factors including orientation, the risk of ‘overshadowing’ from other buildings and trees, security, and sufficient roof space.

Identifying suitable contractors
Rather than awarding contracts on an ad-hoc basis, the council used a bespoke procurement framework to identify a group of approved suppliers who would be invited to bid for each project. In total, 49 contractors expressed an interest in supporting the council with this work, and completed a pre-qualification questionnaire.

Of these, 18 were found to meet the necessary standards of service quality and were invited to tender. These bids were judged on value for money and the quality of their proposals. Five suppliers were selected.

Delivering projects
The five preferred contractors are invited to bid for projects which are typically packaged into ‘lots’, for example three or four larger corporate buildings or several hundred social houses.

The council requires the contractors to conduct detailed surveys that confirm that proposed sites are suitable. These are then turned into individual business cases to ensure that all projects meet agreed targets for return on investment – in other words, that each installation of solar PV panels pays for itself within the 20 year timeframe of the feed-in-tariff, at minimum.

A step-by-step guide:
1. **Identify sites**: work with the council’s Housing, Property and Maintenance teams to assess building stock and conduct solar assessments to establish viable sites
2. **Financial modelling**: develop the business case and explore what funding is available
3. **Approve plans**: sign-off at council Cabinet level, then assign responsibility for the project and staff it accordingly
4. **Contract notice**: alert suppliers to the opportunity, and advertise the procurement framework
5. **Pre-qualification survey**: review results then issue invitation to tender
6. **Award contracts**: and confirm agreements
7. **Begin projects**: in order to streamline delivery, establish a pipeline of projects and ‘package’ the work
8. **Monitor progress**: and learn from experience
Who helped to make the solar project happen?

The growing community energy sector in the city helped to drive the development of the solar PV programme in Bristol. Local groups helped to drive and support change by lobbying the council to make use of its own building stock and, as a result, part of the programme specifically focusses on installing panels onto council-owned community buildings.

These community groups have supported the programme as it has developed and have helped to engage local people with the plans. In particular, Bristol Power Co-op, Bristol Energy Co-op and Bristol Energy Network demonstrated good practice within the community sectors and unlocked some of the issues around delivery.

In 2012, the Bristol Area Solar Installer’s Co-operative was formed, comprised of local installers and technical experts. The aim was to support collaborative working to deliver large-scale solar programmes, as well as improve the local economic profile of the supply chain.

The programme has also been supported by Clean Energy Prospector, a business which helped specify the best new metering product for social tenants. Bristol City Council also received support from an electrical company, Edmundsons, when negotiating volume pricing from manufacturers.
Municipal solar: what we have learned (so far)

As with any technical and complex initiative, the programme required careful planning and preparation and it encountered challenges that had to be overcome. This programme is still in its early stages so, at the end of 2015, we will update this module to include a progress report and any new advice we have for others. In the meantime, the Energy Service team at Bristol City Council share below what they learned along the way:

1. **Learn from others**
   Solar PV programmes have been delivered by a number of local authorities and landlords around the UK with great success and with proven benefits to the local community. Some of these experts have set themselves up as solar PV consultants and can be a cost-effective way of getting to solutions quickly, and helping to ‘sell’ the idea to key people. With hindsight, we would have made headway quicker if we had arranged for the programme board to visit similar successful programmes elsewhere.

2. **Build the right team**
   It was necessary to maintain the correct levels of staffing throughout the process and securing the right levels of expertise was critical. The skills of the team were complimented by those of colleagues in the council’s Housing, Procurement and Legal teams so resource had to be managed accordingly.

3. **Right to Buy**
   The feed-in-tariffs guarantee an income from the solar panels for 20 years, and that is income which the council wanted to protect. If a social housing tenant wished to exercise their right to buy, the ownership of the panels would also be transferred. Trends in right to buy have informed the business case.

4. **Get connected to the grid**
   In order to benefit from the Export Tariff, it is necessary to be able to put electricity back into the grid. We worked with our local Distribution Network Operator, Western Power Distribution, which manages connection to and repair of the electrical network in Bristol. Their team of local planners provided an early assessment of the ability to connect individual properties to the network.

5. **Work out what level of return you want on your investment**
   We were particularly conservative when creating our financial model for return on investment. Larger properties are expected to be profit-generating, while investments in social housing must simply be self-financing. Sometimes this meant that proposed work packages did not meet our minimum standards, once all the internal and tender costs were taken into account. We notice that other local authorities have used a simpler, less restrictive financial model.

6. **Manage uncertainty**
   Our financial modelling was dependent on income from the feed-in-tariff which unexpectedly changed at the end of 2011 and through 2012. This adversely affected perception of the technology, and damaged the business case. However, the UK government has since created a more consistent roadmap of tariff structures which has improved the investment opportunity again.

7. **Establish good governance**
   Following early engagement with service managers from the council’s Housing Delivery team, a programme board was established with key people from relevant teams. This board meets regularly for meetings about procurement, electrical, roofing, communications, marketing and surveying.

   Key decisions made by the programme board are also discussed at the asset management board. Internally the council’s senior leadership...
team is also regularly briefed along with the relevant councillors and Mayor at key milestones throughout the project.

8. Look at what others have done
   We learned a great deal from looking at examples of best practice from across the UK and Europe.

9. Location is everything
   For a wind farm to be successful, it is absolutely crucial to have the right site so due care and attention needs to go into locating a suitable area. We devoted a whole year just to tracking wind directions to make sure there would always be enough to generate energy.

10. Talk to your neighbours
    Wind farms can provoke strong feelings from local residents who worry it could cause noise pollution, kill birds, ruin their view or affect local house prices. We did an extensive public consultation to talk to people living in the area before any decision was made on the scheme. We tried to ensure everyone was engaged with the plans and any concerns were addressed. Once the plans were agreed, ongoing communication is crucial to keep people engaged in what can be a lengthy process. To ensure the local area benefitted directly, we also made a voluntary contribution to a local community fund.

11. Be prepared for complexity
    A project like this involves many different stages which need to be anticipated and carefully planned for. We had many different stakeholders to manage, too, which added further challenges.

12. Know your impacts
    The site we chose – while providing near-perfect conditions for a wind farm – is near the Severn Estuary, a Special Protection Area filled with wild bird and an important wildlife habitat. We were therefore required to conduct a full Environmental Impact Assessment (EIA) which involved monitoring birds and other wildlife over the course of three years.

13. Get the right people in the team
    Delivering this project successfully has required a strong project team with the right knowledge, skills and expertise. We used consultants at various points in the process to make sure we had the best possible support and guidance to keep the plans moving.

14. The bigger the better
    Wind turbines around the world are being made taller to capture more energy from the stronger winds that blow at greater heights. The maximum tip height of the wind turbines used in the Avonmouth Wind Farm is 130 metres. The hub that holds the rotor blades is 80 meters high.
City leaders need to use hard-headed economic arguments to promote renewable energy. Renewables can help bring down energy bills and free cities from their dependence on large corporations and central government. Saving the world, vital though that may be, is lower down the priority list for the majority of the population.

Renewables are no longer a fringe source of energy. In the UK, a record 25% of electricity generation came from renewable sources in the second quarter of 2015, up from only 6% in 2007. Elsewhere in Europe, levels are much higher – for example, Sweden generates around 55% of its electricity from renewable sources and Germany, Norway and other countries are not far behind.

For too long political leaders at national and local level have focused on climate change as the main motivation for renewables, at the expense of a hard-headed economic argument in their favour. Even now, when a quarter of electricity generation in the UK is from renewables, they are often perceived as marginal, unreliable and expensive. It is time to leave this alternative image behind and emphasise its concrete financial and political benefits.

The old criticisms of renewable energy no longer stack up. Renewable energy is cheaper than ever before. At a residential level, solar is comparable with retail prices paid by consumers. As the cost of solar panels continues to fall around the world, there will come a point when it will no longer need any form of subsidy. Technological advances are also bringing down the costs for other renewable energy sources, including wind and biomass (for both electricity and heat).

These cost reductions, when combined with other technological breakthroughs, including the falling costs of battery storage, the roll out of smart meters and the development of demand side response (DSR) technologies, provide the basis of a very different way of producing and consuming energy in the future. These changes will enable consumers to take control of their energy usage, exporting power back to the grid when it is economically advantageous to do so. Optimising energy usage and production in this way offers the prospect of lower energy bills for households and consumers.

It also offers the prospect of greater independence – both from fluctuations in world energy prices and from large energy suppliers. City leaders wanting to promote renewables should emphasise the security and stability created by this greater local generation and energy independence.

This was exactly the approach taken by Hillary Clinton in her recent statement on energy policy. She promised 1 billion solar panels across the US by 2020, with the aim of reducing bills and freeing people from dependence on large energy suppliers. It was a canny move - few would say no to paying less for their energy, greater independence and the potential to make a profit in times of surplus production.

If people own their energy generation, they are more aware of their own behaviour. It is an important benefit – often overlooked - and it should help people reduce their bills. We are all used to simply flicking a switch and paying a monthly direct debit, without any idea of where our energy comes from. Taking charge of your own power is a small step towards responsible consumer behaviour and – whisper it – reducing carbon emissions.

Different locations will favour particular renewable energy uses. Bristol, like many UK cities, is already deploying solar panels on its public buildings and has set up its own municipal energy company. Nearby there is also the Swansea Bay tidal lagoon project, looking to use the power of the tide to drive a turbine beneath the waves.

I would suggest that every city authority looks to their local environment to see what possibilities there are to generate renewable power. For some it will be solar on public, commercial and residential buildings. For others it might be district heating or Combined Heat and Power using household waste.

Green consumers will not need convincing of the importance of renewable energy generation. For those too busy to save the world, using solid economic and political arguments is the route to success.
European Green Capital is a prestigious annual award designed to promote and reward the efforts of cities to improve the environment. Bristol is the first ever UK city to win the award.

European Green Capital is run by The European Commission, recognising that Europe’s urban societies face many environmental challenges – and that sustainable, low-carbon living is vital to the future of our cities and our people.

The award was first won by Stockholm in 2010. Since then, Hamburg, Vitoria-Gasteiz, Nantes and Copenhagen have carried the torch. Bristol will hand over to Ljubljana at the end of the year.

THE BRISTOL METHOD

The Bristol Method is a knowledge-transfer programme aimed at helping people in other cities understand and apply the lessons that Bristol has learned in becoming a more sustainable city, not just in 2015 but in the last decade.

Each module of the Bristol Method is presented as an easy-to-digest ‘how to’ guide on a particular topic, which use Bristol’s experiences as a case study. The modules contain generic advice and recommendations that each reader can tailor to their own circumstances.

The Bristol Method modules are published on the Bristol 2015 website at www.bristol2015.co.uk/method

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