



Greater Brighton Energy Plan

Energy Projects June 2020

Participants in the Greater Brighton Energy Plan have a wide range of investible energy projects under way and planned. These projects will reduce energy demand, cut carbon emissions, and bring community benefits, and also contribute to a resilient energy system for the future.

The table below summarises over 30 projects which seek to transform our energy systems in the areas of low carbon heating, renewable energy, the transport revolution, energy efficiency and energy saving, and smart energy systems.

Some projects innovate with novel technologies and new ways of integrating energy systems, other projects seek to scale up and coordinate well-known interventions.

Also included is a portfolio of one-page outlines of some of the most innovative and larger-scale projects.

	The Projects	Description	Project Owner	Status	Cost of project	Funding required	Energy Plan themes
Transforming our regional energy systems							
1	Hydrogen Hub	Developing a clean hydrogen economy for transport and heating	Brighton & Hove City Council; Lewes District C.	pre-feasibility	£10m	£20k	Renewable generation
2	Riding Sunbeams	A world leading company connecting solar panels to electrified rail routes to power trains. Working with Network Rail.	CES	Riding Sunbeams now entered R&D stage for MW connections to railway	£11m	Match funding & investment opportunity. Also require regional support	Transport revolution
3	Shoreham Port Heat Network	Feasibility Study with BEIS	Adur DC	Feasibility study	TBC		Low carbon heating
4	Heat from Waste Water	Exploring opportunities with Southern Water on capturing and using heat from waste water	Lewes DC, Southern Water	pre-feasibility			Low carbon heating
5	Worthing Civic Quarter Heat Network	Feasibility for a campus and potentially wider Worthing Heat Network being explored with BEIS and public partners.	Worthing BC	Feasibility study	Feasibility £120,00. CAPEX £2m	-	Low carbon heating
6	Communiflex - Zero Carbon Village	National leading project to transform a rural community's energy system and stimulate carbon reduction to become the UK's first Net Zero Village. A consortium bid with UK Power Networks; explores electrification of heat and rural transport, and impact on the grid on the transition of heat and transport to electric.	OVESCO	Consortium in place. Funding bid for OFGEM Network Innovation Competition (NIC) and Network Innovation Allowance	£20m	Looking for 2020-21 contribution to project development stage - request £20k-£50k contribution	Smart energy system
7	Smart Local Energy Systems (SLES, Smarthubs)	SLES is a 3 yr Innovate UK funded programme planning delivery in Adur & Worthing, B&H and West Sussex. Multiple technologies incl Hydrogen, PV, battery storage, EVCP, V2G, Heat pumps, Virtual Power Plant.	Connected Energy, SLES Consortium, West Sussex CC, Adur & Worthing Councils		£30m	-	Smart energy system

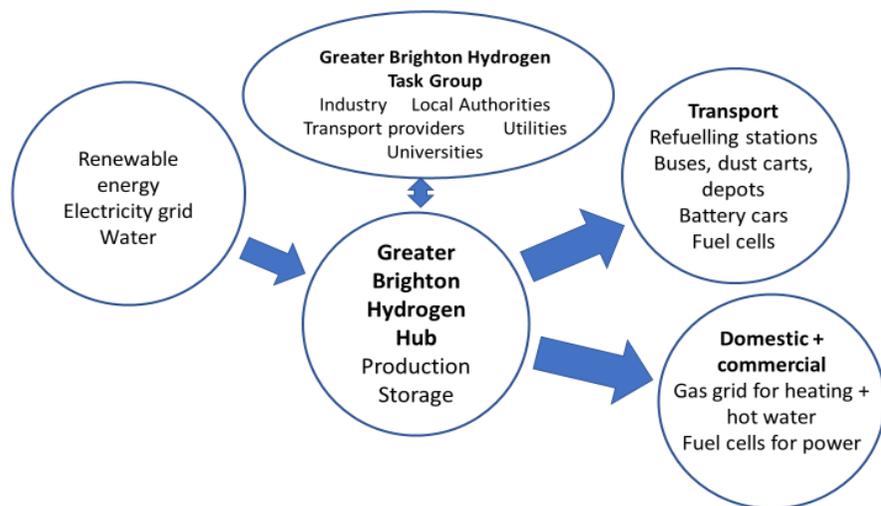
8	Halewick Lane Battery Storage	Electricity Grid services at Adur Substation.	West Sussex County Council			-	Smart energy system
9	Greater Brighton Energy Fund	Establish a £500k grant fund scheme for feasibility projects in community energy sector	Community Energy South	pre-feasibility	£500k		
10	Greater Brighton Innovation Forum	Convene programme of informal meetings on innovation to drive forward delivery of GB Energy & Water strategies	University of Sussex	Will start from June 2020	Funding from University of Sussex		
11	LoCase	Kent CC led 3yr ERDF project to decarbonise businesses and public sector estate	Kent CC leading	funding bid to ERDF - currently on hold during Covid			
Scaling up and coordinating							
12	Local Retrofit Supply Chain Development for Domestic energy efficiency – private rented and home owners	Aims to stimulate the energy efficiency retrofit market in Sussex for 'able to pay' homeowners. Analysis of EPCs and skills gap carried out.	Warmer Sussex (RetrofitWorks), BHESCo	Active	Funding provided by BEIS through to March'21	In kind: local partners promoting scheme to residents and local supply chain businesses - Capital funding from LAs to incentivise /overcome financial barriers to homeowners through grants/loans - Funding for developing supply chain with new businesses	Energy efficiency
13	LEAP	Agility Eco delivering programme of home energy visits to decarbonise homes and save money on energy bills.	Adur & Worthing Councils, Mid-Sussex CC, Crawley BC, Horsham BC, Brighton & Hove CC.	active programme			Energy efficiency
14	Decarbonising our social housing stock at scale	Coordination of procurement and programmes between local authorities	Lewes DC				Energy efficiency

15	Decarbonisation of Worthing Civic Buildings	Radical reduction in carbon emissions for civic buildings through energy efficiency, renewable power and heat upgrades.	Worthing BC	funding bid to ERDF	£1.9m	-	Energy efficiency
16	Electric Vehicle Charging Infrastructure	Coordinating a network of chargepoints to enable rapid change to electric vehicles for residents and businesses	Local authorities				Transport revolution
17	West Sussex EV charge network	WSCC leading procurement of a concession contract for a publically available, consistent, reliable, recognisable, zero carbon, on and off street electric vehicle charging network across West Sussex, collaborating with Districts & Boroughs.	West Sussex County Council	Contract to market July 2020 (date TBC)	Concession Contract	-	Transport revolution
18	Solar Farms (including landfill sites)	BEC and OVESCO are also looking into developing solar farms in GB region.	Brighton & Hove CC; Brighton Energy Coop; OVESCO	Feasibility study			Renewable generation
19	Community Solar Accelerator	Install 42 * 50KW solar PV arrays on SMEs in Coast to Capital region, 12 of these will include EV charging points at carparks.	Brighton Energy Coop	ERDF funding - awaiting confirmation by MHCLG once assessment complete	£2.2M - £1.2M ERDF contribution + £1M match funding from SMEs.	None	Renewable generation
20	Solar Schools	Solar energy on school buildings	ESCC, WSCC, BHCC, BEC, BHESCO, OVESCO ESCC, WSCC, BHCC, BHESCO, OVESCO, Brighton Energy Coop and Repower Balcombe	active			Renewable generation
21	Solar Together Sussex	Group buying of solar PV for home owners	West Sussex County Council	active			Renewable generation

22	Solar PV + EV charging in carparks	Feasibility study on linking PV and EV charging, funded by Power to Change grant. Then plan to develop portfolio of PV & EV charging projects at car parks such as Haywards Heath rail station. Initial phase of 10 * 50KW arrays and 4 EVCPS at each site with £60K project value. Plan to apply for £40K RCEF grant for project development.	Brighton Energy Coop	Feasibility study	£600K	£40K	Renewable generation, Transport revolution
23	Solar PV on social housing	1000 new solar PV installs by 2023, with ambition for 2500 by 2026	BHCC	Budget commitment due July 2020	£4m	nil	Renewable Generation
24	Ground source heat pump	Project to retrofit 75 homes and install an ambient loop GSHP, powered by solar PV	BHCC	Onsite July 2020	c£700k		, low carbon heating
25	Net Zero Firle Village	Creating a microgrid in a rural community	BHESCo	in development	£12m	£500k	Low carbon heating
26	Firle village heat network	Improving the energy performance of hard to treat homes. Replacing oil heating for 22 homes with four networks powered by ground source heat pumps	BHESCo	Development stage pilot			Low carbon heating
27	Low Carbon energy infrastructure ESCO model	Energy services owned and operated by ESCO creating clean, affordable energy for housing co-operatives.	BHESCo, Bunker Housing Co-op	Completed 2 homes, working on next development			Innovation
28	Zero carbon schools	Replace oil heating with ground source heat pump, install solar powered corridor and underfloor heating for school off the gas grid.	BHESCo	Will be completed September 2020			Renewable generation
29	Food waste gas to grid	30 tonne Community owned biogas production plant. Has large support base and identified waste streams.	BHESCo	Need to secure 3.25 hectares of land to move to next stage	£13m		Low carbon heating
Future opportunities							
30	Hybrid heat pumps trial	Testing potential of hydrogen in gas grid for heating					Low carbon heating

31	Powering Parks	Ground source heat pumps under playing fields & parks					Low carbon heating
32	Newhaven Enterprise Zone	Cluster of opportunities around landfill site, waste-to-energy plant, enterprise zone					Renewable generation
33	Large Emitters	GB Energy Plan identified locations which emit large amount of CO2 eg retail parks, crematoria. Potential for programme of audits and retrofits.					Energy efficiency
34	Tackling Grid Constraints						Smart energy systems
35	Solar farms on Landfill sites						Renewable generation

Hydrogen Infrastructure Development



Aims & Objectives

Hydrogen has the potential to make a significant contribution to reducing carbon emissions from our energy system and improving air quality, particularly for heavy freight and public transport sectors that require high-density energy over prolonged periods. 'Green' hydrogen however is a fledgling market with technical and commercial barriers to overcome.

This project will map and determine the potential of hydrogen to meet the energy and transport needs of Greater Brighton, and pathways to deliver this potential.

Key Facts

- Brighton & Hove Buses (BHB) have a programme to decarbonise their fleet and are in early commercial discussions with suppliers on how hydrogen can help to deliver this
- Lewes District Council (LDC) owns its own refuse fleet which will need renewing. It is based in Newhaven so has the possibility of working closely with BHB and other commercial fleets to utilise hydrogen infrastructure
- Newhaven Enterprise Zone (NEZ) was set up to attract inward investment into the area with a focus on the green and sustainability sector
- The planned extension of Rampion Wind Farm may offer a new supply of renewable electricity which is needed to produce 'green' hydrogen. Rampion

Wind Farm's support services are based in Newhaven Port and its grid connection is at Bolney in Mid Sussex.

- The Ryse company is looking to build a hydrogen plant in Herne Bay
- Shoreham Port actively looking to decarbonise with hydrogen one option under consideration.

Delivery Partners: Brighton & Hove Buses, BHCC, LDC, NEZ, Newhaven Port, Shoreham Port, UKPN, Mid Sussex DC, Shoreham Port, SGN and others

Funding Currently in kind, future funding TBC

Outputs

1. Hydrogen Working Group
2. Feasibility Study

Timing

Hydrogen Working Group initiated in July 2020.

Feasibility study to be completed in early 2021.

Next steps

- Set up the working group and agree the final scope and nature of the feasibility study
- As a minimum the feasibility study will look at:
 - i. Mapping sectors which could adopt hydrogen by 2030
 - ii. Identify opportunities and barriers to make hydrogen a reality
 - iii. Identify viable locations and commercial delivery models

Greater Brighton added value

- 1) GB Infrastructure Panel brings together the relevant organisations that own suitable sites and have a customer market
- 2) Provides critical mass to both drive down prices and applying for infrastructure grants
- 3) Would allow lessons learnt and synergies to be explored and shared between partners which could enable wider adoption of hydrogen

Greater Brighton Innovation Forum



University of Sussex Innovation
Forum February 2020

Aims & Objectives

The Science Policy Research Unit (SPRU), University of Sussex to convene a programme of informal meetings on innovation aligned to themes emerging from the Greater Brighton Energy and Water Plans, to help to drive forward the delivery of the Plans and transition towards sustainable low-carbon living.

Expected attendance per meeting: 20-25 stakeholders from industry (Infrastructure providers, SMEs), third sector, local authority (city and county council) representatives, LEP, community energy groups, guest visitors such as national level decision-makers. The number of academics at each meeting will be limited to ensure balance between the different types of stakeholders.

Key objectives:

- Help to drive forward the delivery of the Energy and Water Plans by bringing key regional stakeholders into the forum
- Link to the Greater Brighton Digital Strategy
- Create an informal space to address local project delivery and barriers that may delay implementation. Aid local capacity building, shared learning and partnership building across infrastructure sectors, public and private.
- Informal matching and networking between local and regional stakeholders

- Stakeholders will commit to demonstrate the implementation and learning from workshops and provide practical examples linked to delivery of the plans
- Topics already identified by the Energy Plan working group as essential: scaling up of innovation and pilots; developing innovation-driven business models; learning from pilot projects across sectors; financing innovative and riskier projects; continuing to develop pipeline of net zero projects.

Key Facts

Delivery Partners: University of Sussex, University of Brighton, Greater Brighton Energy Plan stakeholders, businesses

Funding Funding initially for 6 meetings, initially on-line, by University of Sussex covering administration, venues, catering & dissemination

Outputs

Developing a pipeline of innovative projects 1) which aim to achieve the Greater Brighton Energy Plan and local decarbonisation targets; 2) building capacity within the region to innovate across different infrastructure sectors; 3) building partnerships for the diffusion of innovative technology and services; innovative business models which can create greater economic, social and environmental values and meet local objectives.

Two short innovation briefs or podcasts, one in Dec'20 and one in May'21.

Timescale Funding has been secured for a year June'20 – May'21

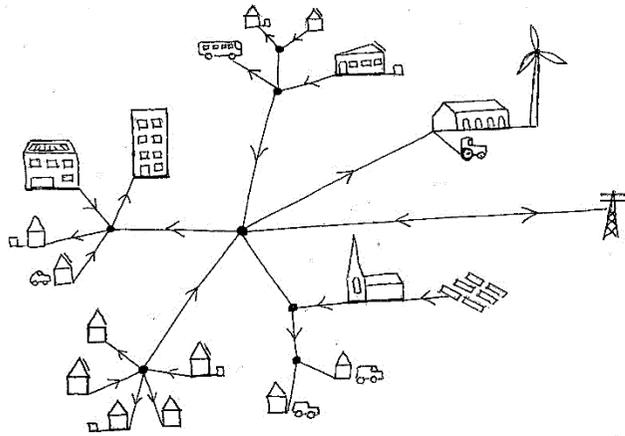
Next steps

Define an annual programme of topics linked directly to the objectives and recommendations of the Energy and Water Plans. The forum will be facilitated by SPRU academics and help provide strategic linkages with UoS faculty; delivery stakeholders will aid convening additional expertise depending on the topic and managing the relationships with Greater Brighton stakeholders.

Greater Brighton added value

Will facilitate lessons learnt and synergies to be explored and shared between partners which could enable wider adoption and innovation in the delivery of regional plans and targets.

CommuniFlex – (Net Zero Village)



Aims & Objectives

This ground breaking Network Innovation Project (Ofgem) project aims to develop a solution for taking a rural community off oil by switching to a local electric heat and transport system. Selected from 40 UK consortium bids to proceed to project development. The project will focus on a community in East Sussex in Lewes and a constrained grid location. Working in partnership with UK Power Networks, an award winning community energy company and leading energy consultancy will develop solutions transition a village to Net Zero.

The objective is to reduce the need to reinforce the local electricity network by providing a masterplan over 5 years for the transition. The transition being to electric heating, electric vehicles with a smart energy system that will flex back to the Grid and reduce costly reinforcement of the electricity network. The solution could potentially be replicated across the UK and shared with all rural off grid communities.

Key Facts

Delivery Partners: UKPN, OVESCO (Barcombe Community Energy), Community Energy South, Buro Happold & Utility Co

Funding

Total Public Funding	Phase 1 - Ofgem TBC 2020-21
Total Private Funding	Phase 2 2021-24 community funding to up to £15million
Total Funding	Up to £15million TBC

Outputs

3. Deliver a ground breaking project that will stimulate carbon reduction in rural communities
4. Develop a network flexibility solution for constrained grid locations
5. Reduce local carbon emissions
6. Take 200 to 500 rural homes off oil by switching to heat pumps
7. Low energy bills for homeowners and provide warmer more comfortable homes
8. Allow for an increased take up of electric transport and improve local air quality
9. Write the book for replication and share the solution with other communities and Electricity Network Operators

Timing or what happened

Bid development – January to July 2020
Masterplan phase – August to March 2021
Development stage – April 2021 to 2023

Next steps

- Prepare bid development stage through OfGEM - NIA Governance. Submit End of June 2021.stage 3 bid development..

Greater Brighton added value

- Infrastructure Panel and Local Authority support
- Match funding opportunities
- Local Authority Investment in Community Municipal Bond for energy efficiency for homes
- Public relations and lifting project profile

Decarbonising Sussex social housing at scale



Newhaven housing stock with retrofitted PV panels (Photo: Lewes DC)

Aims & Objectives

Housing contributes between 20 and 40% of carbon emissions from council estates. The seven local authorities in Sussex own 34,997 homes between them. In addition, there are 23,374 Registered Provider dwellings.

Adur	2,552	Eastbourne	3,437
Arun	3,381	Lewes	3,203
Brighton & Hove	11,563	Wealden	2,941
Crawley	7,920		

On average Sussex local authorities spend circa £1.3m per 1000 homes annually. Their capital programme in 2018/19 was over £98m, and in the decade to 2030 they expect to spend **£1 billion** on repairing and maintaining homes.

A plan for local authorities to develop a significant programme of retrofit and new-build investment at scale could deliver:

- Whole house insulation
- Low carbon heat sources (transition from gas)
- Heat networks
- Solar PV – generation and heat
- Immediate cross area pilot sites

- Smart homes – controlling energy and managing grid fluctuations
- Homes which are more affordable, comfortable and resilient to climate change, for tenants and leaseholders who experience economic and social challenges

Key Facts

Lewes DC is taking an initial proposal to local authorities across Sussex.

Delivery Partners: Lewes DC leads the efforts to build a partnership

Funding Currently in kind.

Outputs

- 10 year plan for carbon neutral investment programme in social housing
- Set out 3-5 year initial program to allow tier 1 & 2 contractors to develop certainty within supply chains
- Shared expertise and procurement opportunities
- Investment into Smart Grid tech
- Skills and training in retrofit and home energy efficiency

Timescale

10 years

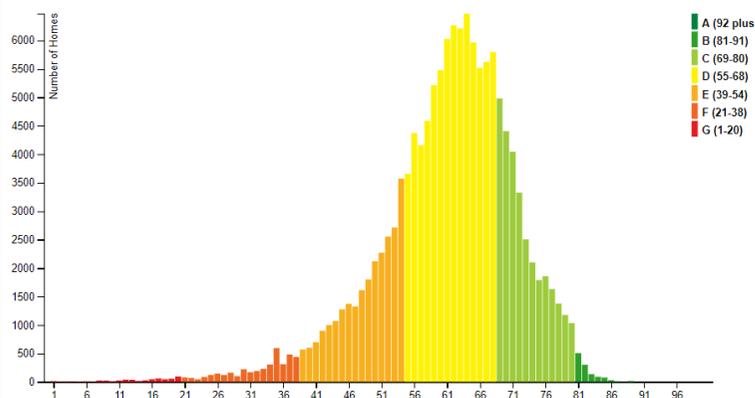
Next steps

- Portfolio holder level meeting with all relevant councils
- Agree 'white label' approach = locality led with Portfolio champions
- Opportunities to learn from each other and to maximise use of innovation through pilots

Greater Brighton added value

- Provides critical mass to drive down prices and facilitate joint procurement

Domestic Energy Efficiency



Warmer Sussex analysis of EPCs in Brighton showing ~65% dwellings in bands D and below.

Aims & Objectives

Much of the UK building stock is very poor in terms of energy efficiency. Current UK policy is to improve all fuel poor households to a minimum energy efficiency rating of Band E by 2020 (6% of households), Band D by 2025 and Band C by 2030. 64% of homes across Greater Brighton have an energy efficiency of D or below and bringing this up to Band C represents the scale of change required.

The number of actors generally makes this harder in a domestic context (particularly private rented) and retrofit costs can be prohibitive. There are many partnerships offering advice, support and energy efficiency refurb:

- Local Energy Advice Partnership (LEAP) in Adur-Worthing offers free Home Energy Advice visits to vulnerable residents
- Warmer Sussex offers Retrofit Coordinators to support households through improving their home's energy efficiency and sustainability
- BHESCo offers affordable energy surveys resulting in home improvement reports, along with Pay As You Save finance that make it easy for home owners, landlords, housing associations and co-operatives to invest to improve the energy performance of their properties
- Your Energy Sussex provides advice about energy saving and renewable energy and offers a good value renewable energy tariff to residents.
- Local authorities and housing associations have programmes to improve energy efficiency in their own social / affordable housing stock.
- Some community energy companies have a network of residents trained as Energy Champions to offer initial advice locally.

Key Facts

Delivery Partners: Warmer Sussex, Retrofit Works, BHESCo, Citizens Advice, local authorities, Housing Associations, Your Energy Sussex

Funding

Improving all homes across Greater Brighton up to an A or B EPC rating would cost in the billions, with an average cost per home in the region of £27k, according to analysis by Warmer Sussex.

Outputs

Targeting ~6% of domestic stock initially but applicable to at least 64%. Warmer homes with cheaper fuel bills have multiple benefits for the local economy, residents' health and wellbeing, and educational attainment.

What happened in the last period?

Warmer Sussex analysed Energy Performance Certificates in East and West Sussex and Brighton, including total costs to improve energy efficiency of homes.

Warmer Sussex estimated that 4,000 new skilled tradespeople are needed across the county to carry out the level of retrofit required to existing housing stock.

Next steps

- Segmentation of property owners to optimise fabric retrofit and targeting of initiatives including any government funding that may become available.
- Neighbourhood-based initiatives with Warmer Sussex and community energy.
- Deployment across public assets.
- Create local programmes to enforce regulations on EPC Band F and G private rented properties.

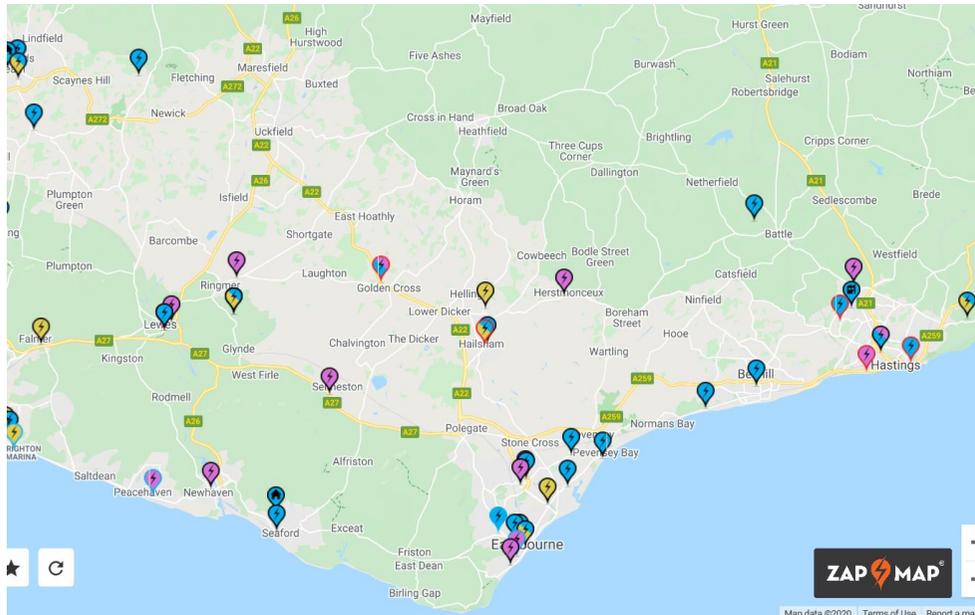
Greater Brighton added value

Greater Brighton LAs have a large building stock which is an initial focus.

Build up best practice for different building typologies leading to a more efficient application of technology.

Sharing of good practice on private rented sector energy efficiency enforcement

Electric Vehicle charging infrastructure



Location of EV charge points in East Sussex 2020

Aims & Objectives

A network of charging points for electric vehicles (EVs) is needed to ensure that individuals and companies are confident to switch to EV cars and vans when they next buy a car. Wherever possible EV charging should draw electricity from renewable sources.

The shift away from petrol and diesel cars will be accelerated by the ban on sales post 2035, and needs to be accompanied by transport mode shift towards public transport and active travel modes such as cycling and walking.

Key Facts

Delivery Partners: Local authorities (County Councils and District Councils), OLEV, EV charge point companies & contractors.

Funding

Outputs

A network of EV charging points, including home-based, on-street, car parks, depot, destination and taxi ranks, coordinated across Greater Brighton by local authorities, to satisfy the needs of residents, businesses and institutions and accelerate the shift away from fossil fuel vehicles by 2030.

A measurable improvement in air quality especially in AQMZs

What happened in the last period?

- Brighton & Hove City Council has appointed contractor Electric Blue to roll out EV charge points across the city
- Other local authorities across Greater Brighton area actively looking at specifications, procurement and funding
- A requirement to provide a percentage of active and passive EV charging points is now incorporated in most planning permissions for new development
- ESCC held a workshop on Building a Sustainable Chargepoint Strategy in Feb 2020 for GB partners, exploring technologies, locations and procurement.
- Further workshops are planned by the University of Sussex and commercial EV charging and parking companies.

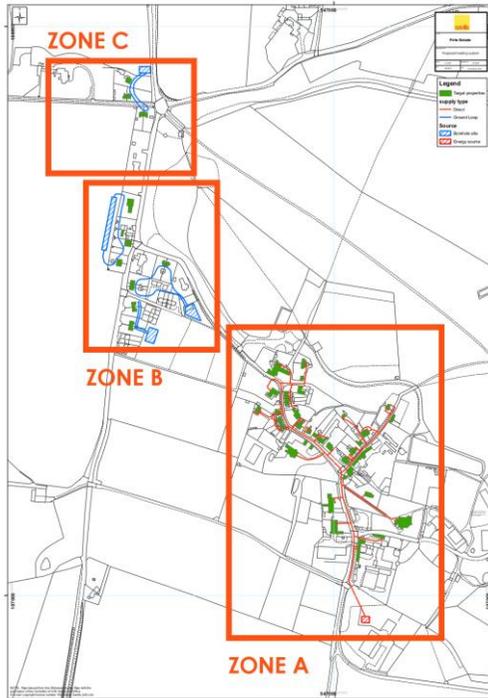
Next steps

- Further efforts to coordinate EV charging locations around Sussex and exploration of interoperability between different EV operators.

Greater Brighton added value

- Work with Transport for the South East to ensure EV and Transport mode shift is incorporated in their strategies and plans.

Firle village heat network



Map of proposed layout of heat network in Firle village

Aims & Objectives

BHESCo are working on the feasibility of developing a shared heat network in Firle Village, to be powered by heat pumps. Most residents of the village currently rely on fossil fuels, like kerosene oil, or expensive electric systems to heat their homes. The financial, environmental and social implications of this pose challenges which can be overcome by exploiting technology and the enthusiasm of the residents of Firle to become a Net Zero carbon village. Renewable heat will be generated from a ground source heat pumps on shared heat networks or individual air source heat pumps, depending on the economic benefit for the community. Hot water will be pumped through uninsulated pipework created specifically for each heating zone. Clean electricity will be generated via solar panels in a nearby field.

The systems will be owned by BHESCo, a community owned energy services social enterprise, undertaking maintenance and operation of the plant. The residents

will pay BHESCo for their heating based on their individual requirements to stay warm and well in winter, along with their hot water provision. The community will be able to invest in the project and have their say in the governance of the energy services co-operative.

Key Facts

Delivery Partners: BHESCo, Firle Estate

Website: <https://bhesco.co.uk/firle>

Funding

The funding will be raised through infrastructural bonds that are offered first to residents, then to other individuals interested in supporting this new economic model for transitioning communities.

Outputs

The project is expected to bring significant benefit to all homes and businesses in the village. The primary aims are to:

- Provide secure, reliable and affordable heat
- Improve air quality and reduce carbon emissions
- Remove dependency on fossil fuels for energy supply.

What happened in the last period?

The Rural Community Energy Fund (RCEF) provided a grant to study the feasibility of the heat network. The feasibility study concluded with a comprehensive plan to create a cleaner, more secure future for residents by generating affordable renewable heat.

Next steps

BHESCo have received a Stage 2 RCEF grant to develop the project. They are now working with RetrofitWorks and Firle Estate to create an investment plan for improving the energy performance of the properties in Firle to achieve the outputs of the project. The supplier tender for installing the heat pumps will be distributed in July 2020

Shoreham Heat Network



Free Wharf - Southern Housing Group

Aims & Objectives

The project aims to deliver a low carbon heat network development in Shoreham town centre, Shoreham Harbour and Southwick as part of ambitious plans for the regeneration of the area. Objectives include:

- reducing carbon emissions
- reducing air quality impacts of new development
- supporting economic growth
- delivering affordable warmth
- increasing security of energy supply
- generating a revenue stream

Key Facts

- HNDU funded heat mapping, masterplanning and feasibility studies
- Detailed project development is now underway leading to outline business case.
- Marine source heat pump is the main proposed technology.

- Consultants identifying viable phasing approaches and investigating potential commercial and legal structures.
- HNIP funding application expected in early 2021

Delivery Partners: Adur District Council, West Sussex CC, Shoreham Port Authority, Shoreham Harbour Regeneration, housing associations, developers

Funding

Total project cost: £10 million

Potential HNIP funding: £3.5 million

Funding sought: £6.5 million

Outputs

Large scale operational heat network extending from Shoreham-by-Sea to Southwick.

Timescale

2020	Detailed project development (ongoing)
2021	Commercialisation
2022	Construction
2023	Operational

Next steps

- Review and update masterplanning and feasibility studies.
- Identify most viable phasing and delivery solutions.
- Identify and establish most appropriate commercial and legal structures.
- Secure commitment to connect from new development
- Prepare outline business case and present to decision makers
- Secure funding and investment

Greater Brighton added value

- The GBEB brings together relevant organisations that are stakeholders in the project.
- Would allow lessons learnt and synergies to be explored and shared between partners which could enable a wider adoption

Solar schools



Students at Ringmer College inspect their new solar panels, installed by OVESCO

Aims & Objectives

In terms of easy win investable projects, solar schools are a good, immediately available opportunity with a proven business model, ready supply chain and several methods of financing. Many community energy groups in the region are involved in solar schools. In essence, the energy group installs panel on school roof and sells the electricity through a Power Purchase Agreement at a lower tariff rate than available from a standard supplier but a higher rate than selling directly to a grid. The difference helps to payback investors, the schools are provided with cheap low carbon energy. If the local authority is able to invest it will receive a return on investment, maximising the benefit.

The scale of deployment could be significant, with the area containing several hundred schools and projects generally ranging from a few tens of kW for primary schools to several hundred kW for large secondary schools and colleges.

Key Facts

Delivery Partners: Brighton & Hove City Council, East Sussex County Council, West Sussex County Council, Brighton Energy Coop (BEC), OVESCO, Energise Sussex Coast, Your Energy Sussex

Funding

Core funding from local authorities. To date, well over £2m crowd funding has been raised by local community energy groups for solar schools. SALIX loans possible.

Outputs

- Potential for ~30 MW capacity solar installed across schools in Greater Brighton
- Schools' electricity bills cut by xx
- Students have opportunity to learn about renewable energy from prominent displays of electricity generated from solar panels.
- Return on investment of x%

What happened in the last period?

Total solar schools installations	Total number schools	Number schools with solar PV	Planned for next period
Brighton & Hove City Council	64	17	
East Sussex County Council	134 (excl academies)	23	Active consideration of frameworks and funding
West Sussex County Council	291 6-8 free schools 37 academies	72 installed by council, ~65 with other funding	11 confirmed, others in pipeline

Next steps

Promote rollout at scale by developing a summary business proposition and outreach to Head Teachers and Boards of Governors.

Greater Brighton added value

Commitment to large scale investment could increase speed of roll-out. A regional energy investment company would be an excellent vehicle to achieve this, allowing for an increase in scale and deployment rate. If the energy investment company was to be Greater Brighton based it would likely be happy to accept a slightly lower rate of return than private companies, ensuring rapid project uptake.

WORTHING CIVIC QUARTER HEAT NETWORK



Plans for Worthing health hub and a multi-storey car park preferred option

Worthing Civic Quarter

Aims & Objectives

Adur & Worthing Councils (AWC) has recently declared a climate emergency and committed to become carbon neutral across by 2030. A 10 year programme of decarbonisation has commenced on adoption of the councils' [Carbon Neutral Plan](#). Decarbonisation of heat one of the key challenges.

The Plan identified an opportunity for the viable decarbonisation of heat on the Worthing Civic Quarter Site through a heat pump based Heat Network which would deliver decarbonisation for key AWC owned buildings and also to neighbouring stakeholders West Sussex County Council and the Ministry of Justice, and the local area. BEIS Heat Network Delivery Unit are providing finance and support to WBC to explore the opportunity

Worthing Borough Council (WBC) are soon to commence the development of the Civic Car Park site, Stoke Abbot Road, Worthing with the construction of a new £30m Integrated Care Centre and adjoining multi-storey car park.

The Civic Quarter site accommodates a number of public buildings:

1. Worthing Town Hall (WBC)
2. Worthing Library (WSCC)
3. Law Courts (MoJ)
4. Worthing Museum & Art Gallery (WBC)

5. Assembly Hall (WBC)
6. Portland House (WBC)

The car park will be infilled with;

1. Worthing Integrated Care Centre (WICC)
2. Multi-storey car park

The redevelopment of the site creates an opportunity to introduce sustainable technologies into the new development that may be linked to and provide environmentally and economically beneficial source/s of heat/energy to the new build and adjoining public properties.

Key Facts

- On site Heat demand 2,200 MWh
- Various Heat pump solutions being investigated
- Final Feasibility Study mid July 2020
- Location - Worthing Civic Quarter and wider Worthing Borough area

Delivery Partners (Feasibility Work): Worthing Borough Council, West Sussex County Council, HNDU, BEIS, AECOM, West Sussex Estates Partnership

Funding

- Total feasibility project cost: £120,000
- Capital cost of Energy Centre and Heat Network estimated at £2m
- Funding sought: application to HNIP, in process

Outputs

10. Heat Network Feasibility Study Report
11. HNIP application
12. Heat Mapping Study

Timescale

Overall timescale of feasibility project – February 2020 to July 2020

Next steps

- Full application for implementation funding to HNIP

- Canvass market support to construct and operate the Energy Centre and Heat Network
- Milestones:
 - Feasibility Reports complete July 2020
 - Development of Business Case October 2020
 - HNIP application October 2020
 - Construction 2021- Summer 2022

Greater Brighton added value

- Infrastructure Panel brings together relevant local organisations that own suitable sites and have a customer market
- Provides critical mass to both drive down prices and applying for infrastructure grants
- Would allow lessons learnt and synergies to be explored and shared between partners which could enable a wider adoption

