



Background

In 2017 LEPs were invited to bid for grant money from the Department of Business, Energy and Industrial Strategy (BEIS) to produce an energy strategy and associated evidence base through early-2018.

SELEP formed a collaboration with Coast to Capital and Enterprise M3 to pool resources in the development of a tri-LEP Energy Strategy and Action Plan, and was successfully awarded £120,000 in Nov 2017 to lead the tri-LEP initiative branded South2East.

Siemens was contracted in Feb 2018 to (i) deliver a series of engagement events that would raise awareness, gather evidence and seek local views on actions and priorities; and (ii) develop a data and intelligence tool that would generate recommendations for build the action plan from the bottom up.

The Energy Strategy and Action Plan, and the intelligence tool that sits alongside it, is due to be launched during the Summer of 2018 to align with the SELEP Strategic Economic Plan. A draft executive summary of the South2East Energy Strategy is given in Appendix 1.

Purpose of the Energy Strategy and Action Plan

The need for UKplc to transition to a low carbon economy for affordable, reliable and clean energy supply into the future is clearly explained in the Industrial Strategy. It is a Grand Challenge that can only be properly achieved through a transitional, collaborative and iterative process.

Local benefits will be derived through the prediction that the low carbon economy will grow at four times the rate of GDP; our traditional energy infrastructure is no longer fit for purpose and new technologies to transform it are emerging at pace. The purpose therefore of a regional energy strategy is to help identify what alternative technologies can be employed locally that will reduce carbon emissions in a cost effective way. Energy needs to be supplied in renewable forms that complement existing supply, and in ways that can be stored so that it is available when demand is high.

The South2East Energy Strategy will undertake a process of optioneering to produce a pipeline of potential energy projects based on local data and evidence. It will identify where demand hotspots exist and where they are likely to grow based on planned developments. It will also identify what types of technologies are most applicable to our localities.

The strategy and action plan will provide a baseline for potential projects to be developed and prioritised in order that funding can be sought for short, medium and long-term delivery from both public and private sector sources.

Implementation of the Energy Strategy and Action Plan

This paper seeks the TES Board's support for the publication of an evidence base and action plan, which will act as a delivery mechanism for both the SELEP's Strategic Economic Plan and local authority local development, economic and environmental plans and strategies.

In parallel to the production of LEP Energy Strategies, BEIS has committed £1.26m to establish a Greater South East Local Energy Hub, one of five multi-LEP hubs that will translate priority local energy actions into investment ready business cases for delivery over the next two years.

Local Energy Hubs are being established this summer and it is envisaged that the emerging East Sussex Environment Sub-Board will be best placed to oversee and influence delivery on behalf of East Sussex and in collaboration with SELEPs other federated areas.

Conclusion and recommendations

The TES Board is asked to support the development, publication and implementation of the South2East Energy Strategy and Action Plan.

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Our economic growth, our environment, and the health and wellbeing of our communities are all profoundly affected by the design and operation of our energy system.

But the energy system that has served us for more than 120 years is in the midst of great change, driven by the emergence of new technologies and a growing social consensus around climate change and sustainability. Analysts from across industry, government and academia agree there is a global trend away from high-carbon economies and towards a low-carbon alternative. This transition presents a significant opportunity and an enormous challenge for both the public and private sector. Success hinges on us developing a coordinated approach to the way we deploy policy, technology and capital so that we use our resources effectively and support our businesses to exploit new opportunities around the world.

Over the last two decades the UK government has set an ambitious agenda to foster the transition to a low carbon economy. The Climate Change Act (2008) provided a strong legislative basis for the future direction of our energy industry and wider economy, and this led the way to many other fundamental reforms to energy, transport, industrial, agricultural and fiscal policy. The government's Industrial Strategy and Clean Growth Plan, launched in 2017, have laid out a path towards building a system that is cleaner, smarter, more efficient, and reflective of the environmental costs of greenhouse gas emissions.

At the forefront of this transition will be the Local Enterprise Partnerships (LEPs), in which the public and private sectors come together to drive economic growth. The Department for Business, Energy and Industrial Strategy has empowered LEPs to take a more active role in the energy eco-system of their area and provided funding to establish regional energy strategies like this one. The five new Local Energy Hubs that have been set up across England will work under the direction of the LEPs to deliver impactful energy projects that support the national trajectory for decarbonisation, and stimulate the low carbon economy.

This energy strategy was developed by three organisations – Coast to Capital LEP, Enterprise M3 LEP and the South East LEP – and covers a geographic area from Essex to Hampshire, representing a large swathe of South East England. It has two main aims. The first is to analyse the whole energy system - electricity, heat and transport – and articulate the opportunities and challenges facing the region. The second is to use this knowledge to conceive an action plan of key projects that can help to reduce emissions and fuel the growth of the low carbon economy.

Through extensive primary and secondary research this strategy has identified a number of features that characterise the energy system in the South East of England. It has found that the area is rich in natural resources; solar irradiation levels and the density of woodland for instance are amongst the highest in the country. Our findings have also shown that the key regional players – the public sector, utility companies, industry, universities and land owners – are all keen to engage and support investment in new technology. What's more, the large amount of development that is taking place offers significant opportunities to pioneer new ways of generating, distributing and consuming energy.

Yet on the other hand there are several challenges facing the South East that must be addressed. There is quantitative and qualitative evidence to show the region is affected by heavily constrained electricity networks and by other factors such as energy inefficient housing stock, which risk undermining economic growth and slowing the pace of decarbonisation. It is also evident that we don't make full use of our existing energy resources and the economic value they create. Kent for instance generates 12% of its own electricity requirements, but sees little economic return from this because of ownership models and way they are connected into the national electricity network. It is clear that the local community has enjoyed limited benefits from the emerging low carbon economy, and so reform is needed to reverse some of the ineffective dimensions of current arrangements.

Progress is being made; the Tri-LEP region for instance has reduced its emissions significantly since 1990 when it produced more than 63 million tCO₂e. The latest statistics from 2015 show this has reduced to 40 million tonnes, but the area's emissions will need to fall to around 13million tCO₂e by 2050 if the South East is to support the national decarbonisation trajectory set out in the Climate Change Act. The extensive stakeholder engagement exercise delivered in support of this strategy as well as our techno-economic analysis has shown that a wide range of new thinking will be required if we are to achieve this.

This strategy has identified five key themes that we need to focus on in order to drive forward the decarbonisation and clean growth agenda. These are:

- District heat and a move away from oil as a fuel for heating homes
- A push towards community owned renewables, plus investments in biofuels and 'clean' gas
- Energy efficiency in both the industrial and domestic sectors
- Investment in smart technology systems
- Enabling the transport revolution through integrated transport systems and support for new ultra-low emitting vehicles

Key investments in these areas will address the challenges and opportunities identified above. By utilising smart energy systems such as batteries and demand response technology for instance, we could unlock constraint on the electrical network in a cost effective way. Also, by deploying solar onto unused land like old landfill sites the area could generate much more of its own energy, even potentially becoming self-sufficient. By ensuring such investments are owned by the community or local authority, and through the use of micro grids or private wire networks, we can ensure the economic value they generate benefits the people who live there.

The parcel of interventions set out in this strategy provides a practical and impactful way of delivering the twin goals of decarbonisation and clean growth. We have calculated that the total cost of these investments will be in excess of £xx but will deliver a reduction of XXXX tCO₂e annually. The benefit to the local low carbon economy could be significant, with as many as XXXX new jobs created and £XX of potential GVA uplift over the next XX years. The programme could also support local authorities and other public sector organisations, who could generate returns of more than £XXXXXX through targeted investments and 'invest to save' programmes.

However, it is clear that technology does not hold all the answers. We must augment these five themes with a whole range of non-technological measures that will help to address problems in the energy system and drive forward the low carbon economy. One example is to lobby government to continue support for subsidies such as the Renewable Heat Incentive (RHI). From our discussions with key regional stakeholders such as SGN, the gas network operator, we know the RHI is crucial to enabling the advancement of transformative low or zero carbon fuels such as hydrogen, biomethane and synthetic natural gas, which are so crucial to our efforts to decarbonise and stimulate the low carbon economy.

It is important that the action plan delivers benefits not just in the immediate future but in the coming decades too. Therefore the investments we have proposed have been structured into short, medium and long-term; representing both an evolutionary and revolutionary shift in the way we produce, distribute and use energy.

Ultimately, this strategy contends that we can and must do more to improve the way our energy system works so that it protects our greatest assets – our community and environment – and it supports our economic growth plans long into the future so that we may capitalise on the many opportunities offered by the low carbon economy.