

smarter grid solutions

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Largest UK smart city-wide, low carbon energy system plans unveiled

- **Low carbon, smart energy scheme in Peterborough aims to deliver a significant drop in CO2 emissions by 2030, while cutting energy bills by up to a quarter.**
- **Scheme could be rolled out to other UK towns and cities to help UK achieve its Net Zero ambitions**
- **Project is being led by Peterborough City Council, whose partners include SSE Enterprise, Element Energy, Cranfield University, Smarter Grid Solutions and Sweco UK.**

Today (23rd July 2020), sees the launch of plans for the largest smart city-

wide, low carbon energy system in the UK.

Launched at an online event, Peterborough Integrated Renewables Infrastructure project (PIRI) aims to deliver a significant drop in CO2 emissions by 2030, while cutting energy bills by up to a quarter. Peterborough is one of the fastest growing cities in the UK and is facing a significant increase in energy demand as the city continues to grow.

The two-year project has been granted funding from UK Research and Innovation, alongside corporate investment, to design a low carbon, smart energy system for the city. The partnership includes Peterborough City Council, SSE Enterprise, Element Energy, Cranfield University, Smarter Grid Solutions and Sweco UK.

PIRI combines a next generation heat network, electricity network and electric vehicle infrastructure under one smart holistic scheme. If successful, the scheme could be rolled out to other cities and towns, to help the UK realise its ambitions of Net Zero by 2050.

The project over the next two years will deliver cleaner, cheaper energy and the benefits of the scheme include:

- Locally produced, cleaner energy and heat from waste and with services being low carbon driven
- Multi-utility infrastructure delivery, meaning lower costs and lower bills for consumers
- Integrated billing and service for heat, electricity and mobility (such as electric vehicle charging) so customers can benefit
- Low carbon technology made available at cost-effective connection cost
- Transparent tariff setting will generate long-term savings for local authorities

The PIRI project brings together energy generation, demand and storage, thereby unlocking efficiencies not deliverable under existing, traditional energy systems. It is envisaged to be especially effective in areas where the electricity network is constrained; as well serving as a blueprint for other urban locations across the UK.

Elliot Smith, PIRI Programme Lead at Peterborough City Council, explains; “This is a highly innovative project - one of the most ambitious nationally and one which could become the most significant in the UK’s transition to low carbon infrastructure. For Peterborough, it has substantial benefits and supports the sustainable growth of the city.”

Professor Philip Longhurst, Head of the Centre for Climate and Environment Protection at Cranfield University, said: “For the UK to achieve its ambitions of Net Zero, we are going to have to do things differently. These plans announced today for the PIRI project show how local low carbon, smart energy systems could be used across the UK for the benefit of both the environment and consumers. At Cranfield, we pride ourselves on the practical application of our low carbon technology research and our close links with industry, PIRI is a fantastic example of that in action.”

Neil Kirkby, Managing Director of SSE Enterprise, said: “SSE Enterprise sees PIRI as a progressive project that will showcase the potential of smart urban energy systems and help drive local decarbonisation in a commercially viable manner. It builds on the ‘whole system approach’ that our distributed energy business offers; where we look to integrate different energy elements into one investable solution and thereby make savings for customers. As PIRI develops we’ll be able to show how city living and regeneration can be enhanced and we expect this project to serve as a blueprint for other urban locations across the UK.”

Dr Tanja Groth, Director of Urban Energy at Sweco UK, said “To maximise benefits to consumers and businesses while addressing the climate emergency we need to move away from incremental improvements to isolated energy segments and instead move towards transformational change to the whole energy system. PIRI is applying best-practice innovation in a city-scale energy regeneration project, demonstrating that this approach not only delivers aggressive reductions in carbon but provides resilience, lowers consumer energy costs and provides wider societal benefits such as improved local air quality, more efficient use of local resources and stimulates the local economy.”

Shane Slater, Element Energy’s founding director and Smart Energy Systems team leader, said: “Our future energy supply can be clean and cost-effective, but this comes with the key challenge of greater variability in renewable energy generation. Element is delighted to be part of PIRI, which will

demonstrate how balancing energy supply with demand from a diverse range of users of heat, transport, and electricity in Peterborough, across day-to-day and seasonal variations, can deliver an efficient energy infrastructure that will be clean, secure and affordable for decades to come.”

Dr Graham Ault, Director at Smarter Grid Solutions, said, “Locally led solutions to the climate challenge are essential and the leadership and ambition being shown in Peterborough is exemplary. The design of smart, flexible, clean and decentralised energy systems is both challenging and a great opportunity. Our work across the UK, Europe and US is showing us the core role and high value of our software products for flexible, intelligent control of energy assets required in smart local energy systems. We welcome the opportunity to harness what we have learned about the management, grid integration and market interconnection of distributed energy resources and bring this to the design of the Peterborough system alongside all the project partners.”

Rob Saunders, UKRI - Challenge Director, leading the £100m ‘Prospering from the Energy Revolution programme’, said, “PIRI brings together a highly ambitious, forward looking city like Peterborough, with the best innovations in Smart Energy by one of the UK’s leading SMEs in this sector - Smart Grid Solutions, with the deep network experience of SSE, a combined knowledge of Cranfield University and Element Energy, and the delivery track record of a large organisation like Sweco. This project is set up really effectively, to be able to deliver this complex, system project.”

About SGS

Smarter Grid Solutions (SGS) is a leading provider of distributed energy resource management system (DERMS) software with the company about to exceed 1.3GW of renewable generation, energy storage and flexible load under control through 2019. With offices in New York, Glasgow, and California, SGS is a global solutions provider to distribution utilities and distributed energy resource operators.

About ANM Strata

ANM Strata is Smarter Grid Solutions’ world-leading enterprise solution for

utilities and renewable generation operators. With its unique real-time control platform it delivers sub-second, precise control of renewable and other energy assets across a wide area from a centralized location.

About ANM Element

ANM Element is Smarter Grid Solutions' local control solution managing a smaller number of low carbon technologies in a local area in both local grid connection management and behind-the-meter operating modes. ANM Element can also integrate seamlessly into an ANM Strata system for wider asset control.

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