

CLIMATE CHANGE AND ENVIRONMENT SCRUTINY COMMITTEE	AGENDA ITEM No. 7
17 JANUARY 2023	PUBLIC REPORT

Report of:	Adrian Chapman, Executive Director Place & Economy	
Cabinet Member(s) responsible:	Councillor Eley, Cabinet Member for Infrastructure, Environment and Climate Change	
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PETERBOROUGH INTEGRATED RENEWABLE INFRASTRUCTURE (PIRI)

RECOMMENDATIONS	
FROM: Adrian Chapman, Executive Director Place & Economy	Deadline date: N/A
<p>It is recommended that the Climate Change and Environment Scrutiny Committee:</p> <ol style="list-style-type: none"> 1. Reviews the progress made towards delivering the PIRI project and provides comment on the next phases of the project. 2. Support the proposal to establish a cross party working group, as detailed in section 4.4, to inform and guide the progress of PIRI throughout the development of the Full Business Case stage. 	

1. ORIGIN OF REPORT

1.1 The report has been requested by the Climate Change and Environment Scrutiny Committee.

2. PURPOSE AND REASON FOR REPORT

2.1 This report is brought to the Scrutiny Committee to provide an update to the committee detailing the progress of the PIRI project and to seek support for a proposed new cross party working group.

2.2 This report is for Climate Change and Environment Scrutiny Committee to consider under its Terms of Reference No. Part 3, Section 4 - Overview and Scrutiny Functions, paragraph No. 2.1 Functions determined by the Council:

4. Climate Change;

5. Reducing Carbon Emissions and achieving Net Zero Carbon Emissions; 10. Energy Generation and Consumption.

3. TIMESCALES

Is this a Major Policy Item/Statutory Plan?	NO	If yes, date for Cabinet meeting	N/A
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4. BACKGROUND AND KEY ISSUES

4.1 **Introduction:** The Peterborough Integrated Renewables Infrastructure (PIRI) project aims to combine a next generation district heat network, private wire electricity network and EV charging infrastructure into one holistic scheme aimed at contributing to net zero carbon whilst reducing energy bills. PIRI's aim is to bring together energy generation, demand and storage to unlock efficiencies not deliverable through traditional energy systems, serving as a blueprint for other cities.

The initial two phases of PIRI will facilitate the supply of the low carbon heat and electricity to commercial and industrial customers in areas of Fengate and the City Centre. These customers were identified as part of the feasibility work completed in 2022. During the first two phases of the project the heat and electricity generated from the Peterborough Energy Recovery Facility (PERF) will be transported via a network of buried, co-located pipes and cables to those off-takers (Customers) who have entered into supply agreements for the provision of heat and electricity from the PIRI network. The project has the potential over time to expand into at least seven delivery phases which will require additional power sources to be explored and developed.

Background: The PIRI project effectively started in 2019 when a Heat Mapping and Masterplan study was carried out to look at the viability of a Heat Network within the city. The final report, which was completed in July 2019, illustrated that a heat network would be viable and would provide significant benefits, aligning to the council's decarbonisation commitments.

Following the Heat Mapping and Masterplan Study the council successfully secured funding from Innovate UK (via BEIS) and Private Investment to launch the PIRI project in April 2020. The project was specifically designed to deliver a Techno-Economic Feasibility (TEF) and Detailed Project Development (DPD) along with an Outline Business Case (OBC).

This second phase of the project was delivered by a consortium of experts from the local authority, the energy industry and academia. The programme consisted of six different work packages (WP) as illustrated in figure one below.

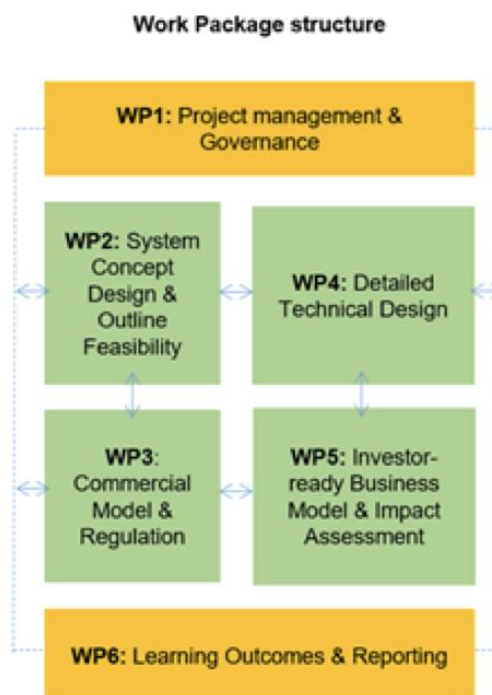


Figure one: Work Package Structure

Each work package delivered key components to determine how PIRI could provide low-cost and low-carbon energy within Peterborough, bringing together energy demand and supply using a joined up local energy system to create a better place to live and work. The project set out to

achieve this by understanding the advantages of integrating both the technical and commercial aspects to create a smart, responsive, low-carbon, energy infrastructure that would support the city's future growth in the most sustainable way and provide a foundation for developing replicable, city scale design solutions for the benefit of other local authorities.

At this stage of the project PIRI set out to design a replicable integrated smart city energy system comprising a heat network, Smart Embedded Electricity Network, EV charging network and overarching control scheme (Energy as a Service platform) to create a step change in the transition to zero carbon. Crucially, this involved developing the optimum technical solutions for integrating the energy vectors (illustrated in figure two) ensuring:

1. Local demand is met with local generation and uses the most efficient balance of heat and electricity sources within one system.
2. Increase deployment of renewable and distributed energy generation connecting to and benefitting from a smart embedded electricity network.
3. An increased number of electric vehicles charge points by viewing them as assets and not demand liabilities.
4. Maximised carbon savings by offsetting fossil fuel grid electricity
5. A better understanding of peak energy demands and encouraging diversity of energy consumption at different times of the day.

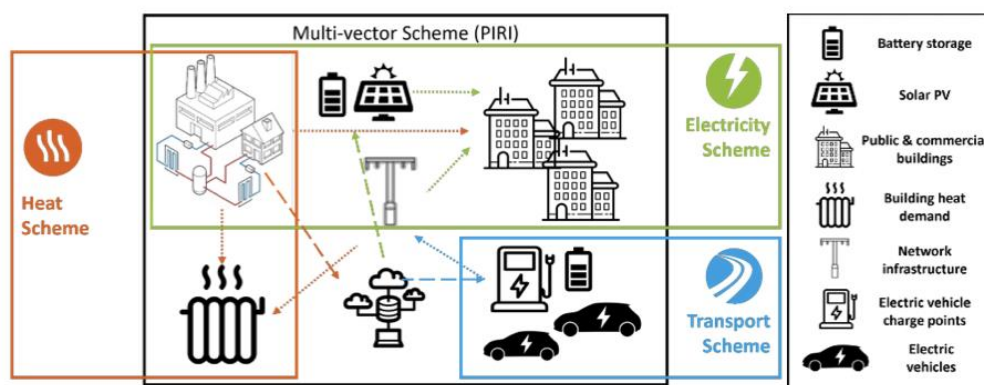


Figure two: Optimum technical solutions

This phase of the PIRI project successfully completed in June 2022, with the publication of the Techno-Economic Feasibility (TEF) and Detailed Project Development (DPD) Design for the multi-vector energy system across heat, power and mobility.

- 4.2 **Current Phase including anticipated timeline:** Upon completion of the TEF/DPD phase, the project successfully applied for Round 1 grant funding from the Green Heat Networks Fund (GHNF), successfully receiving £906,300 for the Commercialisation of the PIRI scheme and a separate amount of £13.5m towards delivery. The funding will be released to the authority over the financial years 22/23, 23/24, 24/25.

There are four main activities to this stage which are detailed in the sections that follow.

- 4.2.1 **Energy Centre:** PIRI requires a dedicated Energy Centre, which will accommodate the distribution equipment, controls and load balancing infrastructure, enabling the heat and non-heat vectors to interact to facilitate the delivery of an integrated energy vector scheme.

The location of this centre is key to the success of the project and the council is currently exploring several potential sites. Some of these sites are located on council property and some on land owned by other organisations.

- 4.2.2 **Full Business Case (FBC):** As part of the TEF/DPD phase of the project an outline business case was produced, and this formed the basis of the approval by Green Heat Network Fund for the award of the funding for this next stage.

A procurement process is currently underway to appoint a suitably experienced advisor to

produce a full business case who we anticipate appointing in February 2024. Initially the first draft of the FBC will be used to evaluate the responses received in the procurement process of the delivery partner (as outline in section 4.2.3 below). Both the council and the proposed partner will then provide input to produce the final full business case for consideration by Cabinet at the end of 2024.

4.2.3 **Procurement of a potential Delivery Partner:** Cabinet approved the recommended Partnership route for the delivery of PIRI which ensures that -

- The council is not obliged to take on more debt to provide direct capital investment. This recognises the contribution already made by the council by way of the energy provided by the council's energy recovery Facility (ERF) and the grant funding secured from the Green Heat Network Fund.
- The council is able to maintain an active role in the governance of the PIRI project whilst not requiring it to take on full delivery and supply obligations.
- To enable a return to be received from the project, enabling the council to receive a reduced but predictable return in lieu of supply and demand side risks.

Partnerships can vary in structure, and it is too early to settle on the final form of the partnership. A Cabinet report at the end of 2024 will seek approval for the proposed partner and the commercial structure along with the supporting full business case.

A Soft Market Test for delivery of the project was held in the summer of 2023 and nine responses were received from firms operating in this area which all expressed a strong interest in pursuing delivery options for council.

The council is currently exploring the appropriate compliant route to select the delivery partner. In addition, separate procurement processes will also be undertaken for the provision of legal and technical support services relating to the project.

It is expected the procurement process will begin in January 2024 and is estimated to take nine months to reach final discussions with a preferred partner. The Cabinet Report recommending the delivery partner will be presented at the end of 2024.

4.3 **Potential Offtakers:** Throughout this period stakeholder engagement will continue to secure suitable customers who are necessary for the overall viability of the project.

The council has been actively engaging in discussions with potential offtakers of the energy and this will continue throughout the next year. With the development of the FBC and procurement of a potential delivery partner in 2024, discussions with offtakers will develop in detail and commitment achieved in principle regarding the terms and conditions of supply. Provisional contractual agreements will be sought for all stakeholders, both energy off takers and providers using internal and specialist input as required.

4.4 **Cross Party Working Group:** Due to the complex nature of this project, it is proposed that the council should establish a cross party working group to inform and guide the progress of the project and to enable in-depth discussions on proposed activities to take place.

It is proposed this group will be established by a Cabinet Member Decision Notice (CMDN) which will include the Terms of Reference of the group along with the proposed schedule of meeting dates and membership proportionality

5. CORPORATE PRIORITIES

5.1 The PIRI project links to the council's Corporate Priorities:

The Economy & Inclusive Growth -

- Environment - A district heating system will contribute to the council's net zero commitment.

- Homes and Workplaces – Peterborough will be more attractive to new businesses as purchasing their energy supply from PIRI will enable them to achieve their own net zero targets.
- Jobs and Money – the PIRI project will promote sustainable growth in Peterborough and establish Peterborough as leaders in innovation.

Our Places & Communities -

- Health and Wellbeing – Air quality will be improved through reduced use of fossil fuel combustion in buildings.
- Educations and Skills for All – The development of a district heating system will create employment opportunities and will develop workforce skills and development opportunities.

Sustainable Future City Council -

- PIRI will deliver a more cost-effective energy supply for its buildings by moving away from the high price volatility of fossil fuels.
- By entering into the recommended commercial arrangement, the council will be able to exercise a degree of control over the project and receive a share of the returns.

Carbon Impact Assessment -

- This Scrutiny Report is to note the approved commercialisation phase of the PIRI project. The work approved by Cabinet will have minimal impact on carbon emissions of the City, which will be incurred if advisors travel to the city for meetings in petrol or diesel cars.

6. CONSULTATION

- 6.1 Extensive engagement has taken place with potential offtakers and industry partners in earlier phases of the project.

External legal and techno/commercial advisors have been engaged for this project. Further consultation will be undertaken as necessary in future stages of the project in line with the C council's standard processes.

- 6.2 Cabinet considered the report OCT16/CAB/47 and approved the recommendations on 16 October 2023. The Financial Sustainability Working Group (FSWG) also considered the report on 25 October 2023.

7. ANTICIPATED OUTCOMES OR IMPACT

- 7.1 It is anticipated that the Scrutiny Committee will consider the content of the report and note the progress made since the Cabinet Report on the PIRI project and support the establishment of an informal cross party working group.

8. REASON FOR THE RECOMMENDATION

- 8.1 To inform the Climate Change and Environment Committee on progress of the PIRI project and to seek support for the establishment of a cross party working group.

9. ALTERNATIVE OPTIONS CONSIDERED

- 9.1 This report is for noting only therefore there were no alternatives considered.

10. IMPLICATIONS

Financial Implications

- 10.1 There are no financial implications in relation to this report.

Legal Implications

- 10.2 There are no legal implications in relation to this report.

Equalities Implications

- 10.3 There are no equalities impacts arising from this report.

11. BACKGROUND DOCUMENTS

Used to prepare this report, in accordance with the Local Government (Access to Information) Act 1985

- 11.1 Cabinet Report OCT23/CAB/47:
<https://democracy.peterborough.gov.uk/documents/s50879/Item%206.%20Peterborough%20Integrated%20Renewables%20Infrastructure%20PIRI.pdf>
- 11.2 More background detail on PIRI can be located at www.pirienergy.co.uk.

12. APPENDICES

- 12.1 None.