

Highlight Extract from Outline Business Case (OBC)

The OBC followed the structure of HM Treasury's Green Book model in comprising five separate cases – the Strategic, Economic, Commercial, Financial and Management cases – which described in detail: the rationale for the scheme; options considered and the preferred solution; its potential as an investment opportunity, and; its wider environmental, economic and social benefits.

Please note: this Cabinet Paper has requested approval to procure and proceed with a Full Business Case in accordance with HM Treasury Green Book guidelines which, in conjunction with the proposed partner, will build on the information provided in the extract highlights of the OBC below.

Strategic Case – How will PIRI benefit Peterborough

Carbon Abatement

A significant volume of natural gas use will be displaced for the connections to the proposed PIRI district heating network, which includes a range of Council buildings, other public sector buildings, and industrial facilities in Fengate. By supplying heat to customers from low-carbon sources, an estimated **188,000 tonnes of carbon** emissions will be abated over the PIRI scheme's lifetime, or approximately **4,700 tonnes carbon emissions abated per year** on average (over 40 years). This represents a **90% reduction in carbon emissions** versus the BAU natural gas heating systems.

This means that for Council buildings connected to the PIRI district heating network, carbon emissions over the scheme's lifetime will be reduced from ca. 75,000 tonnes to ca. 6,500 tonnes, or a ca. 91% reduction.

Beyond heating, the electricity supplied from the PIRI scheme is generated from low-carbon sources whereas grid electricity is still partly fossil fuelled. PIRI will also put in place the enabling infrastructure for reducing reliance on fossil fuel based transport in Peterborough

Air quality improvements

The use of low-carbon energy in the PIRI scheme will result in major reductions in natural gas use, with direct benefits for local air quality. Alongside carbon dioxide, burning gas produces significant amounts of harmful nitrogen oxides. The energy to be generated by the PIRI scheme contributes significantly less to local adverse air quality effects than under "business as usual".

Internal combustion engines are another key contributor to adverse air quality in cities, generating nitrogen oxides and particulate matter that can lead to poor health for residents. Electrifying transport is a highly effective means to reduce poor local air quality, and the PIRI scheme provides the platform to realise this transition for Peterborough.

Enabling infrastructure

The PIRI scheme will not only deliver cleaner, greener energy in the short-term, but will also establish the "enabling infrastructure" for future energy decarbonisation and air quality improvements in Peterborough. Once cables, pipes, centralised energy hubs and other infrastructure are installed for the initial phases, there are numerous opportunities to expand the extents of the energy networks, allowing more customers to be connected and further low and zero-carbon energy sources to feed into the system.

Establishing Peterborough as a leader in innovation

PIRI was conceived of not only to deliver low-carbon energy for Peterborough, but also to demonstrate the Council's thought leadership and innovation in developing projects that deliver benefits to local and wider society.

Job creation and wider economic impact

PIRI will result in job creation and stimulation of the local economy throughout the project's development and lifetime, from design right through to operation.

Wider economic value

Indirectly, the establishment of a local energy system will help to retain spending on energy by residents, businesses and the public sector within the local economy and attract new organisations to Peterborough through lower cost, lower carbon and more resilient energy supply.

Attracting business to Peterborough

PIRI is anticipated to match or even lower energy bills for connected customers, as well as offering reduced exposure to volatile natural gas prices. This will be potentially attractive to businesses deciding on where to locate or expand in future years.

Economic Case

The Economic Case provides evidence of how the preferred PIRI scheme design has been selected, covering its technical, economic and social viability, and how this translates into an attractive investment opportunity that delivers on climate change mitigation alongside wider benefits for the city of Peterborough.

The analysis undertaken resulted in a balanced view on the best solution to take forward for developed technical design and economic forecasting. Economic appraisals were performed in accordance with HM Treasury Green Book guidelines.

A number of possible scheme designs were assessed for their ability to deliver on the Council success factors, developed with key stakeholders in Planning and Development, Environment, Finance and Highways, and their performance in terms of financial and other quantifiable returns. After this detailed techno-economic appraisal a highly attractive preferred scheme design was identified which was demonstrated to meet or exceed all objectives.

This final scheme design is shown to give a projected IRR of **8.39%** over 40-years and a net present social value (NPSV) of **£62.7M** during its operation. This figure comprises both net income and other quantifiable benefits from air quality improvement and carbon emissions reductions, and does not include benefits such as job creation during the construction phase. It is projected to save up to **197,000 tonnes** of carbon dioxide over its lifetime, representing an almost **93%** reduction over business-as-usual for the buildings connected to the PIRI scheme. These are pre-tax, pre-grant nominal figures and projections of financial performance are even more favourable once these financial elements are taken into account, with an IRR of **12.47%** and an NPV at 40 years of **£146.4m**.

The final PIRI scheme design is a highly innovative forward-looking investment opportunity which is shown to be financially attractive, technically robust and delivers a wide range of economic, social and environmental benefits to Peterborough, its citizens and to the country as a whole. Highly innovative,

also means potentially higher risk, therefore we have and will continue to undertake significant work on risks, sensitivities and scenarios.

Commercial Case

The Commercial Case addresses the key issues involved in successfully implementing investment, procurement, stakeholder management and delivery of the PIRI scheme. Details of the options for investment are discussed, the advantages, disadvantages and constraints which may apply, and a recommendation on how to proceed.

These elements are included in the body of the main report, and which outline the Council's preferred commercialisation route together with the procurement process to be undertaken

Financial Case

The financial business case within the OBC was built on a Council owned, operated and funded model which was the most straightforward model. However following review of the Council's various options by the legal and techno/commercial advisors a partnership route to delivery is being recommended. The full business case will be built on this delivery model.

This section of the OBC outlined the key financial requirements for the PIRI scheme as well as the base heat, revenue and operating cost assumptions. It also details the income and expenditure expectations, budget planning, financial risks and key sensitivities. The scheme includes both a district heating and private wire network which caters to twenty off-takers, all of which are connected to the private wire and seventeen of which are connected to the district heating.

This Financial Case considers the financial viability of the scheme, focusing on a Council-owned PIRI scheme, however the fundamentals of this case will remain the same regardless of the delivery model.

The analysis includes:

- Financial requirements and resources including project capital costs and sources of funds
- Heat Inputs
- Private Wire Inputs
- Revenue Inputs including fixed and variable heat revenues and private wire revenues
- Operating cost inputs
- Tax Inputs
- Forecast income and expenditure
- Budget Arrangements and business planning
- Savings vs BAU
- Financial Risk including business rate sensitivity and alternative replacement cost profile

Management Case

The Council currently has retained consultants advising on the technical, legal and financial aspects of the PIRI scheme, together with project management support through the aspects of the scheme's design and development that are funded by BEIS's sub-department HNDU.

The Council will need similar resources to develop the proposition further through commercialisation, and a new procurement round will be required to facilitate this. Procurement for the HNDU stages were via the CCS HELGA framework, which provided wide coverage across a range of potential applicants and a developed framework, and delivered an expedient method to procure consultant partners. It is anticipated that this route would be taken again.

Final details of all the project management and delivery arrangements for PIRI will necessarily only be available for the full business case, once the delivery structure and ownership of the scheme is approved.