

PERTH AND KINROSS COUNCIL

Strategic Policy and Resources Committee

20 April 2016

**River Tay Heat Pump and Network and Solar Farm Projects
Progress Report**

Report by The Director (Environment)

The purpose of this report is to provide details on the progress of the River Tay Heat Pump and Network and solar farm projects to be deployed at North Muirton as part of the Tay Eco-Valley initiative. It recommends exploring a financial financial package using borrowing to top-up funding from the Local Energy Challenge Fund, Commercial Property Investment Programme and Housing Improvement Programme.

1. BACKGROUND / MAIN ISSUES

- 1.1 A feasibility study was completed in March 2015 assessing the potential for a river source heat pump and district heating scheme covering North Muirton/Muirton and connecting to the Perth Food & Drink Park, 1700 residential properties and 8 Council buildings including North Muirton Primary School, Perth Grammar School and North Inch Community Campus. The main benefits of the project (and similar projects) will be to provide affordable and renewable heat and power to residences, businesses and to Council buildings.
- 1.2 The project will be used as a model for the roll-out of other projects in Perth and Kinross and Scotland. The scale of the project (12 Mega Watts - MW demand at peak time) is equivalent to best practice projects developed across Europe. Initial contacts with stakeholders and energy market operators indicate a need to develop a project of significant scale in the UK using water heat pump technology This project will achieve that.
- 1.3 This innovative, replicable and transformational project will become one of the demonstrators of the wider Tay Eco-Valley initiative helping to establish Perth and the Tay Eco-Valley as a leading Eco-innovation living lab in the UK. It will contribute to the Scotland Agenda for Cities which aims to develop large-scale urban opportunities for low carbon heat
- 1.4 With a 3.5% rate of return, the wider project has a marginal economic viability. Wider social and economic benefits will however be achieved, including boosting local enterprise, reducing fuel poverty and reducing carbon dioxide emissions from heating. The entire scheme, with an estimated cost of £17m, will therefore require public sector funding, potentially through prudential borrowing, to construct a district heating network (e.g. 15 kms of pipes and individual heat units).

- 1.5 In July 2015, £20K was secured from the Local Energy Challenge Fund (phase 1 feasibility), matched by an additional £5k from Perth and Kinross Council to develop a more detailed business case. Following feedback from local and national stakeholders, and learning from experience from other countries such as Denmark, the overall scheme of £17m was broken down into phases starting with a phase 1 scheme for which a detailed business case has been developed. The detailed business case has been used to submit an application to the Local Energy Challenge Fund (phase 2) and the Council have successfully secured £2m towards the heat pipe network costs subject to final negotiations and due diligence.
- 1.6 In addition, an opportunity was also realised to create a solar farm at the Food & Drink Park using part of a plot which is more difficult to commercialise due to its location and shape.
- 1.7 Both projects complement each other, supporting investment in the Perth Food & Drink Park, in Perth and in the Clean and Renewables sector.

2. PROPOSAL

- 2.1 The River Tay Heat Pump and District (phase 1) project will use water heat pumps to capture renewable energy from the ecologically sensitive River Tay without harming wildlife. This will create a District Heating Network to supply affordable heat to 4 business plots, 211 social houses, North Muirton Primary School and possibly other public buildings.
- 2.2 The project costs are estimated at £8.2m broken down as follows:
- Energy Centre/Innovation Hub building and pumps (2MW) to be located within plot 9 at the Perth Food & Drink Park. It is also proposed that the building hosts an innovation Hub for the food and drink sector facilitating sharing of services/facilities (e.g. reception, offices, meeting rooms) and the promotion of resource efficiency in the food and drink sector. The costs are estimated at £4.5m.
 - Heat network (2.3kms of pipe and related infrastructure) and individual heat interface units. The following buildings will be linked to the network: 4 plots including 5 small business units at the Food and Drink Park, 211 residences and North Muirton Primary School. The costs are estimated at £2.3m.
 - Development costs including contingency, planning and professional fees including project management. The costs are estimated at £1.4m.

2.3 It is proposed to finance the scheme as follows:

- £2m from Local Energy Challenge Fund (secured in principle subject to due diligence and final negotiations) towards the cost of the heat pipe network.
- £1.4m from the Commercial Property Investment Programme (CPIP) towards the cost of the energy centre and innovation hub.
- £0.2m from the Central Heating Renewal Programme (Housing & Community Care) towards residential individual heat interface units
- £0.1m from commercial customers towards commercial heat interface units.
- £4.5m from prudential borrowing to be repaid from heat sales and Renewable Heat Incentive over 20 years towards the energy centre and other development costs.

2.4 The project will deliver the following benefits:

- Reduced fuel poverty by reducing total bills by £46,700 annually. Individual households will benefit by £200 per year from electric heating and £100 per year from gas heating.
- Reduced carbon emissions by 450 tonnes CO₂ per year.
- Help attract businesses to the Food & Drink Park, allowing them to access cheaper heat and electricity from renewable energy, boost their green credentials and promote resource efficiency in the food and drink sector through the innovation hub.

2.5 If all consents, finance and tenders are in place by December 2016, it is estimated that the construction phase will start in Spring 2017 and be completed by March 2018. In order to reduce risk in relation to potential environmental impact, a fresh water mussel survey was carried out and concluded that the locations of the water abstraction and rejection points and the associated construction works will not have a detrimental impact. A strategy to achieve all consents within the timescale has been developed.

2.6 It is envisaged that a design, build and operate tender would be used to construct and operate the project infrastructure either as one contract or as two contracts (Energy Centre/River Interface and Heat pipe network). A procurement strategy has been developed. During the construction phase, the Council will be the contracting authority. It is envisaged that a legal entity be established which could act as an Energy Service Company (ESCo) to take over the project when the project is commissioned (April 2018). The preferred option would be to develop a public-led model such as those developed in Aberdeen or Denmark which would ensure control of tariffs and therefore ensure that the main benefits of affordable heat are realised. Such a legal entity would also have the potential to develop and manage other energy projects using other technologies such as biomass, solar or hydrogen.

- 2.7 It is proposed that a specific Project Board is established to oversee the construction phase. Given the magnitude of the Project and its complexity, a dedicated Project Manager with relevant experience will be recruited and be supported by a Project Team and specialist advisers. Project Management costs have been built in the overall construction budget. Taking into account the timescale, the main infrastructure will be located at the Food & Drink Park, and funding of £1.4m is to be allocated through the CPIP, the CPIP Project Manager will lead the project until a dedicated Project Manager is recruited. The Project Board and team will liaise with key stakeholder groups including main beneficiaries such as tenants. There could also be an opportunity to develop an educational awareness project with North Muirton Primary School or local secondary schools, as part of the curriculum development.
- 2.8 It is proposed to explore these funding options and report back to the next meeting.
- 2.9 In parallel, an opportunity to develop a solar farm (300 panels – 75 KW) at the Food & Drink Park has emerged which could provide green and affordable power to business units, including those to be built by the Council. Due to the time limited nature of the opportunity linked to the incentive regime and to meet the commissioning target date of 31 March 2016, the Depute Chief Executive Environment (Sustainability, Strategic & Entrepreneurial Development) agreed to progress the project in line with the Council's financial regulations with funding from the CPIP.
- 2.10 The solar farm has been built at a cost of £95K. It will produce electricity which will be distributed through a private network. The farm will jointly work with the heat pump proposal. It is estimated that it could generate income of around 10K per year over 20 years to support maintenance and operational costs at the Park.

3. CONCLUSION AND RECOMMENDATIONS

- 3.1 The River Tay Heat Pump and Network and solar farm projects are nationally important, innovative and transformational projects which will help to boost enterprise, reduce fuel poverty and reduce carbon emission. This supports the Perth City Plan's ambitions for the City and Scotland Agenda for Cities aiming to develop large-scale urban opportunities for low carbon heat.
- 3.2 It is recommended that the Strategic Policy and Resources Committee:
- (i) Notes the development of the solar farm at Perth Food & Drink Park
 - (ii) Supports the development of the River Tay Heat Pump and District Heating Network project
 - (iii) Asks the Director (Environment) to finalise negotiations with the Energy Saving Trust and, if satisfactory, accept the offer of a Local Energy Challenge Fund grant of £2m towards the project
 - (iv) Agrees that the options be explored for the future borrowing of £4.5m towards the project and report back to the next Committee.

- (v) Requests a further report to this Committee on the project governance arrangements and the creation of a legal entity to operate the project when commissioned.

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Approved

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Barbara Renton	Director (Environment)	31 March 2016

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1. IMPLICATIONS, ASSESSMENTS, CONSULTATION AND COMMUNICATION

Strategic Implications	Yes / None
Community Plan / Single Outcome Agreement	Yes
Corporate Plan	Yes
Resource Implications	
Financial	Yes
Workforce	No
Asset Management (land, property, IST)	Yes
Assessments	
Equality Impact Assessment	Yes
Strategic Environmental Assessment	Yes
Sustainability (community, economic, environmental)	Yes
Legal and Governance	Yes
Risk	Yes
Consultation	
Internal	Yes
External	None
Communication	
Communications Plan	Yes

1. Strategic Implications

Community Plan / Single Outcome Agreement

- 1.1 The Community Plan/Single Outcome Agreement 2013 – 2023 lays out five outcomes focussed strategic objectives which provide clear strategic direction, inform decisions at a corporate and service level and shape resources allocation. They are as follows:
- (i) Giving every child the best start in life
 - (ii) Developing educated, responsible and informed citizens
 - (iii) Promoting a prosperous, inclusive and sustainable economy
 - (iv) Supporting people to lead independent, healthy and active lives
 - (v) Creating a safe and sustainable place for future generations
- 1.2 This report relates to objective (iii) by supporting business growth at Food and Drink Park and strengthening clean and renewables sector as well as attracting investments. It also relates to objective (iv) by decreasing carbon footprint and reducing fuel cost in affordable housing.

Corporate Plan

- 1.3 The Council's Corporate Plan 2013 – 2018 lays out five outcome focussed strategic objectives which provide clear strategic direction, inform decisions at a corporate and service level and shape resources allocation. They are as follows:
- (i) Giving every child the best start in life;
 - (ii) Developing educated, responsible and informed citizens;
 - (iii) Promoting a prosperous, inclusive and sustainable economy;
 - (iv) Supporting people to lead independent, healthy and active lives; and
 - (v) Creating a safe and sustainable place for future generations.
- 1.4 This report relates to objective (iii) by supporting business growth at Food and Drink Park and strengthening clean and renewables sector as well as attracting investments. It also relates to objective (iv) by decreasing carbon footprint and reducing fuel cost in affordable housing.

2. Resource Implications

Financial

- 2.1 Capital – £1.4m funding towards the Energy Centre building and the £95K for the mini solar farm are already contained in the proposed CIP. £0.2m towards the individual heat units are contained in the Central Heating Renewal Programme. Appropriate approval will be sought to secure prudential borrowing of £4.5m.
- 2.2 Revenue – Staff costs, development, maintenance and operational costs of the River Tay Heat Pump and district project and of the mini solar farm project will be contained within each project and funded from project generated income.

Workforce

- 2.3 It is proposed to recruit a dedicated Project Manager to deliver the Project. There are no workforce implications from the report.

Asset Management (land, property, IT)

- 2.4 Both projects will create new Council's assets which would be managed through contracted services funded from income generated by each project.

3. Assessments

Equality Impact Assessment

- 3.1 Under the Equality Act 2010, the Council is required to eliminate discrimination, advance equality of opportunity, and foster good relations between equality groups. Carrying out Equality Impact Assessments for plans and policies allows the Council to demonstrate that it is meeting these duties.
- 3.2 The information contained within this report has been considered under the Corporate Equalities Impact Assessment process (EqIA) and has been assessed as **not relevant** for the purposes of EqIA.

Strategic Environmental Assessment

- 3.3 The Environmental Assessment (Scotland) Act 2005 places a duty on the Council to identify and assess the environmental consequences of its proposals.
- 3.4 The information contained within this report has been considered under the Act. Pre-screening has identified that the PPS will not need an Environmental Impact Assessment.

Sustainability

- 3.5 Under the provisions of the Local Government in Scotland Act 2003 the Council has to discharge its duties in a way which contributes to the achievement of sustainable development. In terms of the Climate Change Act, the Council has a general duty to demonstrate its commitment to sustainability and the community, environmental and economic impacts of its actions.
- 3.6 The information contained within this report has been considered under the Act. The proposals will enhance socio economic and economic development opportunities to the benefit of businesses and local communities as well as environmental enhancement.

Legal and Governance

- 3.7 The Head of Legal and Governance Services has been consulted on these proposals. There are legal implications relating to entering into an agreement with the Energy Saving Trust for Local Energy Challenge Fund. There are also legal implications in creating a legal entity to operate the scheme when commissioned as well as legal implications from procurement and contractual arrangements with contractors and suppliers.

Risk

- 3.8 There are two key risks associated with the proposed programme.
- (i) Risks associated with Project consents. This risk will be managed through a strategy and pro-active engagement with Development Planning, SEPA and SNH as well as other stakeholders.
 - (ii) Risks associated with the Design and Procurement of infrastructure and buildings. This risk will be managed by The Environment Service Senior Management Team and Project Board. A Development Surveyor and a Project Manager will be dedicated to progress the project and to take an active role in mitigating that risk and reporting regularly to the Head of Planning and Development. A procurement strategy will be developed.
 - (iii) Risks associated with finance. This risk will be mitigated through close engagement with Finance team.
 - (iv) Risks associated with beneficiaries. This risk will be mitigated through engagement plan with stakeholders and in particular tenants via Housing and Community Care Services.

4. Consultation

Internal

- 4.1 The Director (Education and Children Services), the Director (Social Work), the Head of Democratic Services, the Head of Finance and the Head of Legal and Governance Services have been consulted in the preparation of this report.

5. Communication

- 5.1 The projects will be promoted as part of the Tay Eco-Valley Initiative through Invest in Perth and opportunities explored to highlight key stages through local and national media. A communication and engagement plan will be developed to engage with beneficiaries such as tenants.

2. BACKGROUND PAPERS

- 2.1 No background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information) were relied on to any material extent in preparing the above report.

3. APPENDICES

- 3.1 None.

