

## **Perth City River Tay Heat Pump and District Heating Network**

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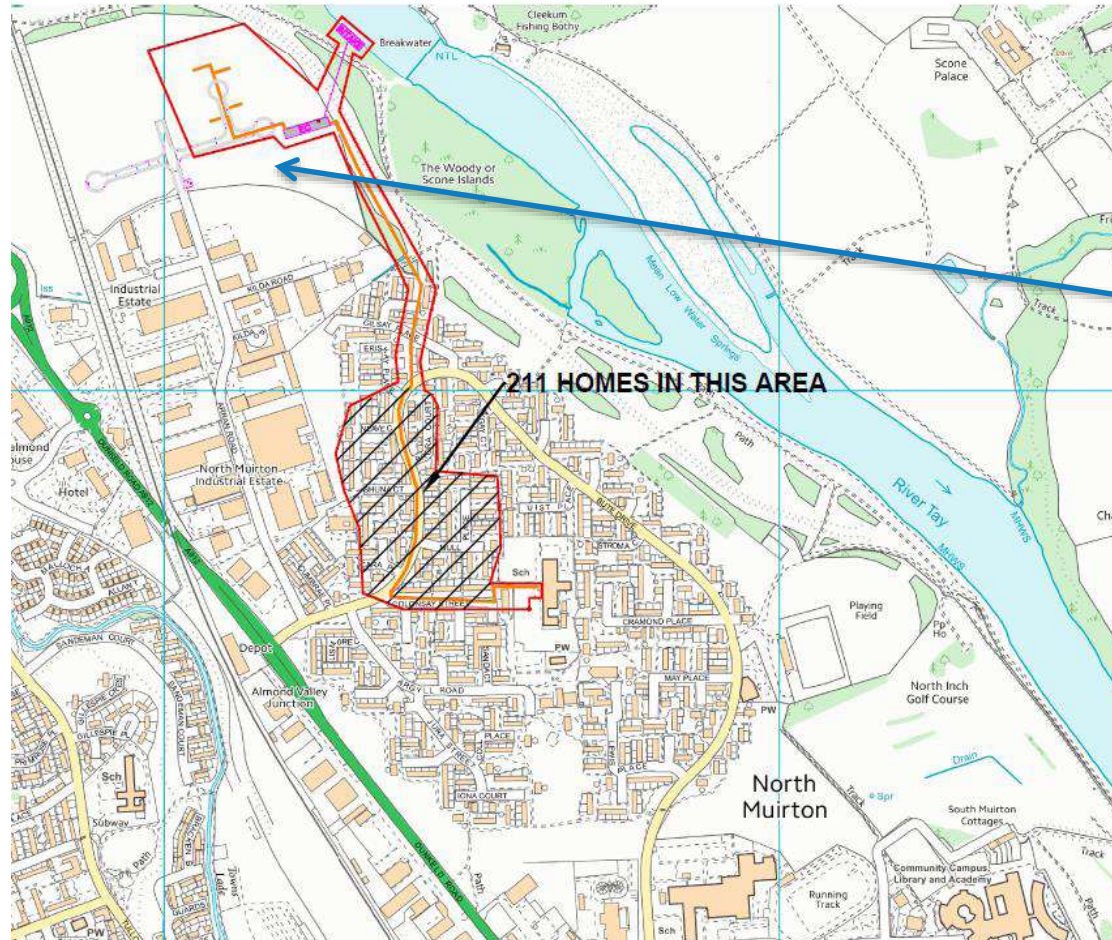
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## Perth City River Tay Heat Pump and District Heating Network

- Use water heat pumps to capture renewable energy from the ecologically sensitive River Tay without harming wildlife, and create a District Heating Network to supply affordable heat to business plots, social housing and Council's buildings (Day care home, Primary School).
  - This will help to boost local enterprise, reduce fuel poverty and reduce carbon dioxide emissions from heating.
  - An innovative, replicable and transformational project which will help to establish Perth City and the Tay Eco-Valley as a leading Eco-innovation living lab in the UK and Europe.
  - Solar Farm to produce electricity and be distributed through a private network
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## River Tay Heat Pump and District Heating Network Scheme Phase 1



Solar Farm



## River Tay Heat Pump and District Heating Network



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## River Tay Heat Pump and District Heating Network

### Benefits

- It will reduce fuel poverty in one of the most deprived areas in Scotland by reducing bills and control tariff - £200 per year from electric heating and £100 per year from gas heating for tenants.
  - It will reduce carbon emission
  - It will attract businesses to Food and Drink Park allowing them to access cheaper heat and electricity from renewable energy, boost their green credentials and promote resource efficiency in Food and Drink sector through innovation hub
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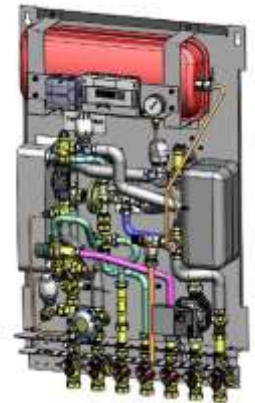
## River Tay Heat Pump and District Heating Network

Some figures:

- Edinburgh Centre for Carbon Innovation (£25,000) and LECF funding (£25,000) (phase 1) helped us to move from feasibility to business case: business model, financing, planning and technical assessment. PKC is financing further development costs.
- 2MW Water Heat Pump to provide 4MWh heat load and cooling
- 3.2km pipe network
- Total Energy Centre/Innovation Hub and network costs: £9.95m
  - £1.4m from Council's Commercial Property Investment Programme, £0.2m from Council's Housing Improvement Programme and £0.1 from commercial users
  - £4.5m from borrowing to be paid from heat sales and Renewable Heat Incentive over 20 years
  - Gap: around £4m. LECF/Low Carbon Infrastructure Transition Programme/Tay Cities Deal



## River Tay Heat Pump and District Heating Network Technologies



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## River Tay Heat Pump and District Heating Network Solar farm

### Timeline & Progress

- Solar Farm: completed
  - Energy Centre/Innovation Hub and network:
    - Finance in place by March 2017
    - Development work completed by December 2017
    - Construction to start Spring 2018
    - Completion by Spring/Summer 2019.
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## River Tay Heat Pump and District Heating Network Challenges

- Creation of a legal entity to operate network and distribute heat after construction – New area for Local Authority
  - Financing capital – network has to be subsidised, but external funding timescale not always aligned to project timescale (e.g. LECF)
  - Financing revenue – operations have to be viable
  - Timescales and construction challenges
  - Expertise – Participation in Heat Network Partnership/Stratego Project
  - Bringing different agendas together to be truly transformational
- QUESTIONS ?
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