

Eco Impact Checklist

Title of report: Further heat network expansion and utilisation of the floating harbour to provide zero carbon heat				
Report author: Paul Barker				
Anticipated date of key decision: 03/03/2020				
<p>Summary of proposals: This report seeks approval to progress further heat networks that build on the delivery of heat networks either already operating or under construction:</p> <p>1. Phase 1 of the Temple heat network which will supply low carbon heat to new developments being built in the Temple and St Philips areas of the city. The network will make use of the waste heat supplied from the new Temple Quarter campus cooling demands.</p> <p>2. Phase 1 of the Bedminster heat network. which will initially supply low carbon heat to new developments being built in this area of the city as well as existing buildings including Bristol South Pool. An energy centre is being proposed either adjacent to or within the free space available in the Pool building that will utilise heat from the adjacent main sewer as well as potential waste heat from the former mine workings in the area.</p> <p>3. Phase 1 of the Frome Gateway.</p>				
Will the proposal impact on...	Yes/ No	+ive or -ive	If Yes...	
			Briefly describe impact	Briefly describe Mitigation measures
Emission of Climate Changing Gases?	Yes	+ive	<p>Heat networks can provide higher efficiencies and better pollution control than localised boilers. The Temple heat network will use waste heat from University campus datacentres, and a water source heat pump from the River Avon. There are also businesses in the St Philips area that produce significant waste heat (including three breweries) that may provide further opportunities for waste heat recovery.</p> <p>The Bedminster heat network will use sewer heat recovery.</p>	

			<p>The Frome Gateway heat network will use sewer and mine working heat recovery. There are also opportunities for recovering heat from warm air in the Frome culvert, and waste heat from a brewery.</p> <p>These heat networks will supply predominantly low carbon heat from waste heat recovery and renewable heat from other sources using heat pumps.</p>	
		-ive	Short term construction impacts, including potentially increasing traffic congestion.	See mitigation in the 'consumption of non-renewable resources' section.
Bristol's resilience to the effects of climate change?	Yes	+ive	Diversified energy supply increases resilience. The Bristol heat network must also be able to supply low or zero carbon heat to connected buildings at a cost equivalent to or lower than mains gas which helps reduce fuel poverty in the city.	Develop as diverse a portfolio of heat sources as possible, to maximise resilience.
		-ive	Some parts of the Temple and Frome Gateway heat networks areas are in flood risk zones.	Flood resilience may need to be built in to energy centres and other infrastructure.
Consumption of non-renewable resources?	Yes	+ive	In the medium and long term, the Bristol Heat network will be supplied from zero	

			will have air quality impacts through contractor travel and traffic disruption.	necessary road works will reduce construction disruption and reduce the impacts of congestion and air quality. If the contractor employs local people, travel needs may be reduced.
Wildlife and habitats?	Yes	-ive	Construction work and building energy centres may damage habitats and affect wildlife.	<p>Ensure areas of construction do not affect any existing wildlife if being constructed in green spaces. Engage with BCC ecology officer to do an ecology survey. The urban environment means any impact is likely to be small.</p> <p>There is a need to comply with environmental permitting law, and any specific environmental legal and regulatory requirements concerning particular works in or near watercourses. These will include:</p> <ol style="list-style-type: none"> 1. An abstraction licence will be needed if more than 20 cubic metres of water will be pumped out of the Floating Harbour per day. 2. A Flood Risk Activity permit will be needed to carry out works near the bank. 3. A Water Discharge Activity permit will be needed if any of the abstracted water will be returned to the watercourse, regardless of whether it was used for heating or cooling. <p>https://www.gov.uk/guidance/open-loop-heat-pump-systems-permits-</p>

				<p>consents-and-licences#standard-rules-water-discharge-permits-for-surface-water-systems.</p> <p>Maintaining navigable waters, avoiding submerged obstacles, avoiding the disturbance of any contaminated river bed, and managing silting and invasive species causing clogging of intakes may be necessary for some works.</p>
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Consulted with:

Summary of impacts and Mitigation - to go into the main Cabinet/ Council Report

The significant impacts of this proposal are:

- A reduction in greenhouse gas emissions (subject to number of connections)
- More resilience to heat supply in the city by using a diverse range of heat sources.
- Low carbon heat supply which will aid with achieving carbon neutrality
- Possible highways disruption during installation, leading to a temporary increase traffic congestion
- Waste from removal of existing plant and equipment
- Resources for the manufacture and installation of new plant and equipment.
- Works on or near water.

The proposals include the following measures to mitigate the impacts: Where possible, carry out works as part of BCC capital projects, ensure contractors are well managed and comply with relevant environmental legislation (such as waste legislation).

The net effects of the proposals are positive.

Checklist completed by:

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