Low Carbon Heat Opportunities

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Scottish Water Horizons
Scottish Water

Over 1.35 billion litres of water every day

over 5 million customers

2.5 million households

156,000 business premises

245 water treatment works

£1.2 billion turnover

more than 1800 waste water treatment works

Around 4,000 people

Over 60,000 miles of water pipes and sewers
Scottish Heat Targets

• 11% heat from renewable sources by 2020
• 80% of domestic heat supplied from low-carbon technologies by 2032
• 94% of non-domestic buildings’ heat supplied from low-carbon technologies by 2032

Achieving these targets will require:

• Step changes in energy provision
• Re-education of customers and suppliers
• Exemplar projects to inspire future schemes
Who are SW Horizons

100% wholly owned subsidiary of Scottish Water
Non regulated commercial activities
Conglomerate of diverse businesses
Over 921 million litres of waste water are produced in Scotland each day.

Over 50% of Scotland’s total energy use comes from heat.

Over 50% of Scotland’s greenhouse gases result from heat.

£2.6 billion spent each year in Scotland on heating and cooling.

Over 31,000 miles of sewers (distributed heat) across Scotland.

Over 50% of Scotland’s total greenhouse gases result from heat.
A Strategic Partnership

Scottish Water Horizons

SHARC Energy Systems
Capturing heat from waste water

SHARC system separates liquid and solid waste

Heat energy is transferred from waste water to clean water using a closed loop system

The heat pump increases the temperature of the warm, clean water

Energy depleted waste water is returned to the sewer cycle

Waste water goes in → Solid waste returns to sewer → Heat energy is transferred from waste water to clean water using a closed loop system → Warm water in → The heat pump increases the temperature of the warm, clean water → Heated clean water goes out

Commercial and domestic waste water out to sewer → After leaving the heat pump, the hot water is delivered to the end user

ENERGY CENTRE

SHARC → HEAT EXCHANGER → HEAT PUMP
Scottish Borders Campus
Generating heat from wastewater

1st of its kind in the UK

Proven Technology

Low cost and low risk heating solution

Reduced carbon impact

Low impact delivery

Supports renewable heat targets
Low Carbon Infrastructure Transition Programme

Funded through the ERDF and Scottish Government

43 projects submitted Phase 1 applications, 17 projects were invited through to Phase 2 of which 13 projects were funded

3 of the 13 projects that were funded include Heat from Wastewater technology
Regeneration Project on the East side of Glasgow

80 Hectares of reclaimed land being developed

SHARC technology being adopted to provide district systems for heating and cooling

As part of the project SHARC will base their Scottish operational office within the redevelopment site
Installation of a CHP and SHARC system on Stirling Wastewater Treatment Works

Biogas from site AD plant used in CHP

Power used in SHARC system and the Treatment Works

Heat sold to District Heating Network owned and operated by Stirling Council

Stirling District Heating
Bandwidth

Aqualibrium: Library and leisure centre in Campbeltown

Pickaquoy: Multi use community hub in Kirkwall

Kelvingrove: Iconic art gallery and museum in Glasgow’s West End

All sites utilising heat from wastewater technology to displace fossil fuel
Opportunities

NHS Properties

Social Landlords

Higher Education

Local Authority Properties

Leisure Facilities

Regeneration Projects

Hotels

Schools

New Developments
Scottish Water Horizons

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