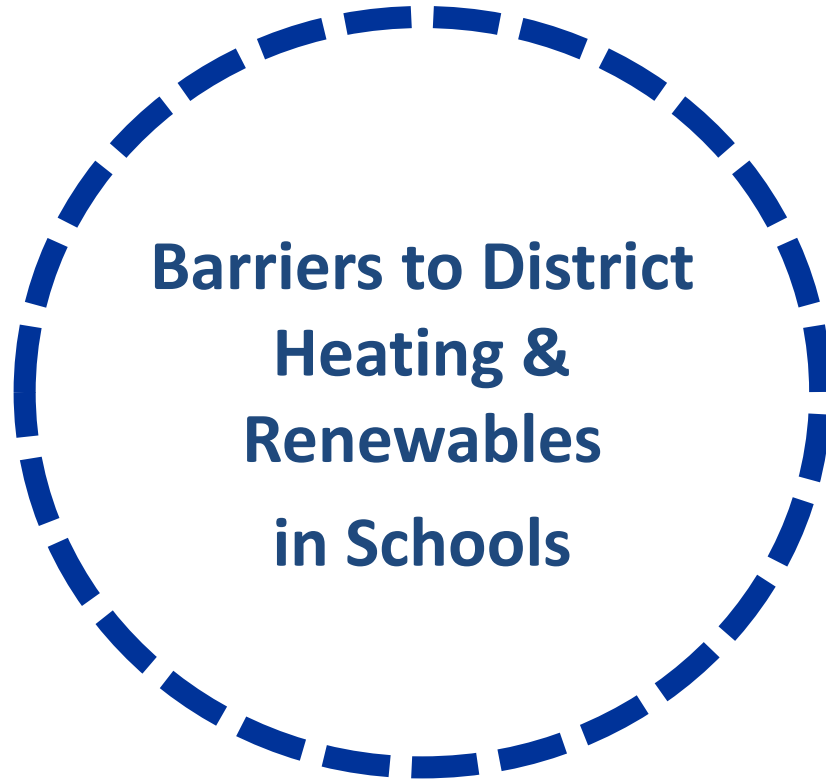


Barriers to District Heating & Renewables In Schools in Scotland

SCOTTISH
FUTURES
TRUST



Barriers to District Heating & Renewables in Schools

Jamie Goth
Scottish Futures Trust
Association for Public Service Excellence
26th April 2017

Context and Background

for District Heating & Renewables in Schools



Policy Drivers

Climate Change (Scotland) Act
Carbon Reduction Commitments
Reduce Energy Demand



Organisational Drivers

Reduce Costs
Lowers Exposure to Price Increases
Reduces Emissions
Upgrade Poor Infrastructure

Energy policy consultations: -

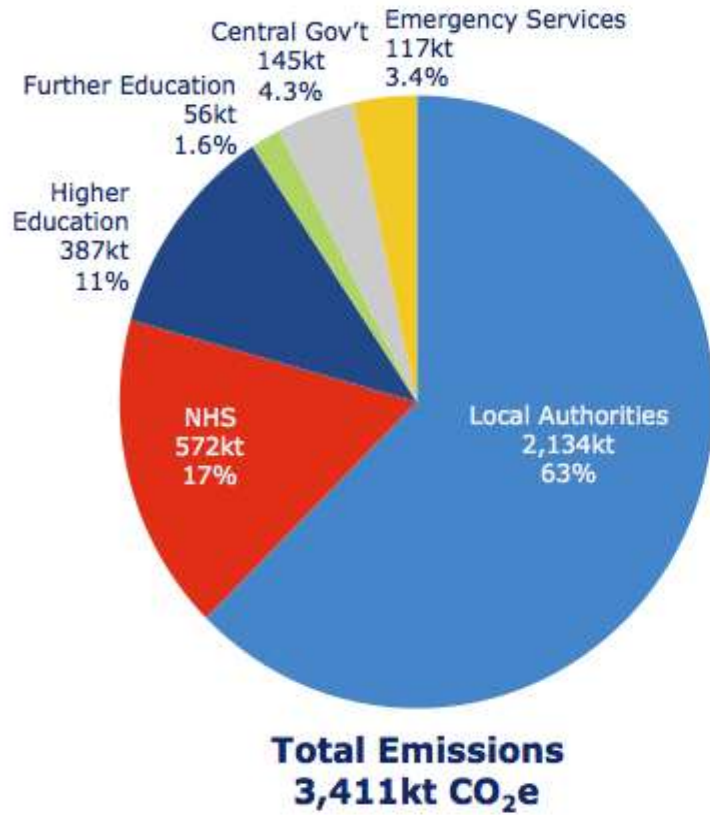
- [Scottish Energy Strategy](#)
- [Scottish Energy Efficiency Programme](#)
- [Heat and Energy Efficiency Strategies and Regulation of District Heating](#)
- [Draft Onshore Wind Policy Statement](#)



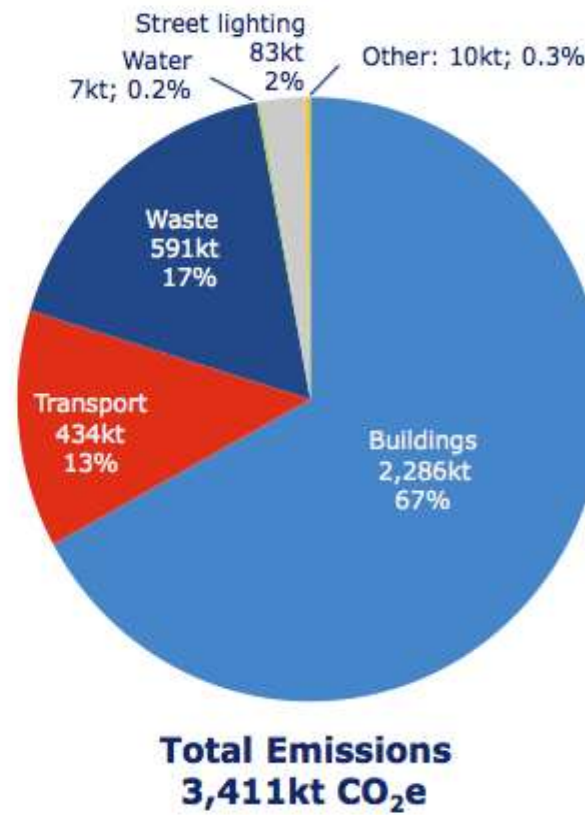
Public Sector Energy Use

Source: Carbon Management Plans, Carbon Trust, 2013

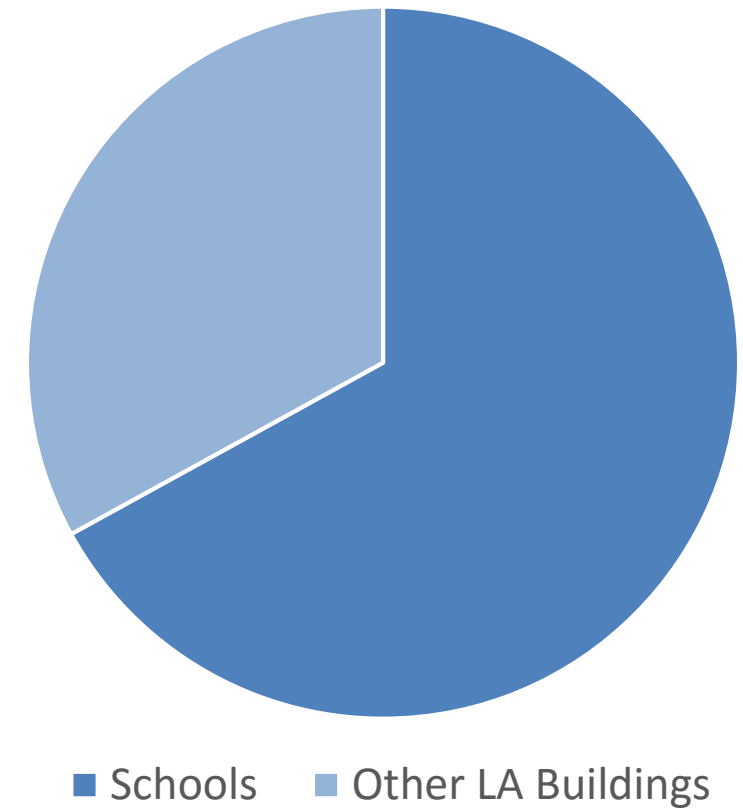
By Sector



By Source

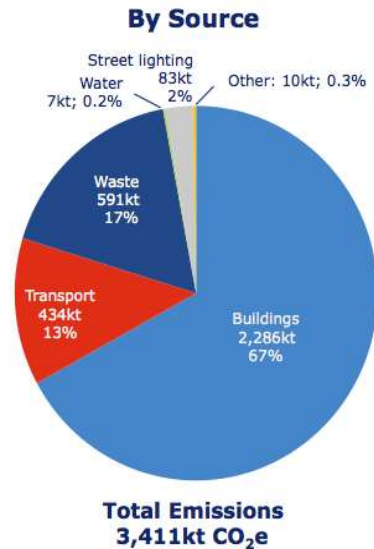
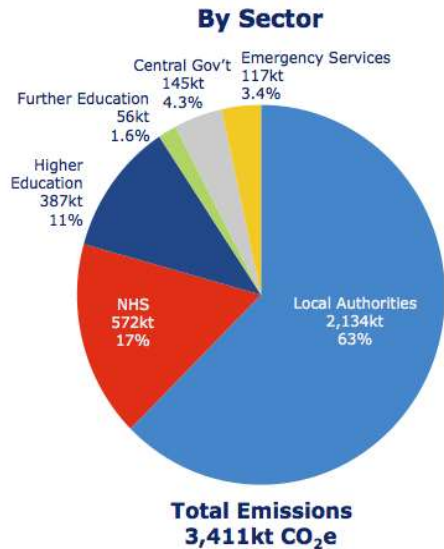


Approximate Breakdown of LA Building Energy Costs (%)

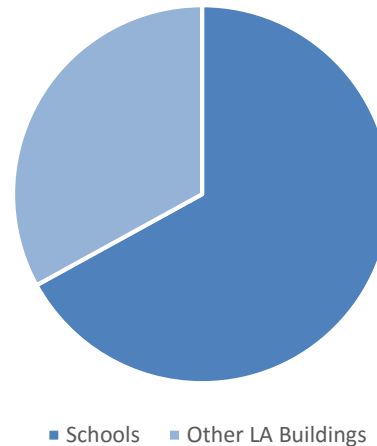


Public Sector Energy Use

Source: Carbon Management Plans, Carbon Trust, 2013



Approximate Breakdown of LA Building Energy Costs (%)



Schools in Scotland:-

- Biggest single source of public sector emissions
- ~25% of all public sector emissions
- ~40%+ of public sector building energy emissions

What are renewables in Schools?

Electricity

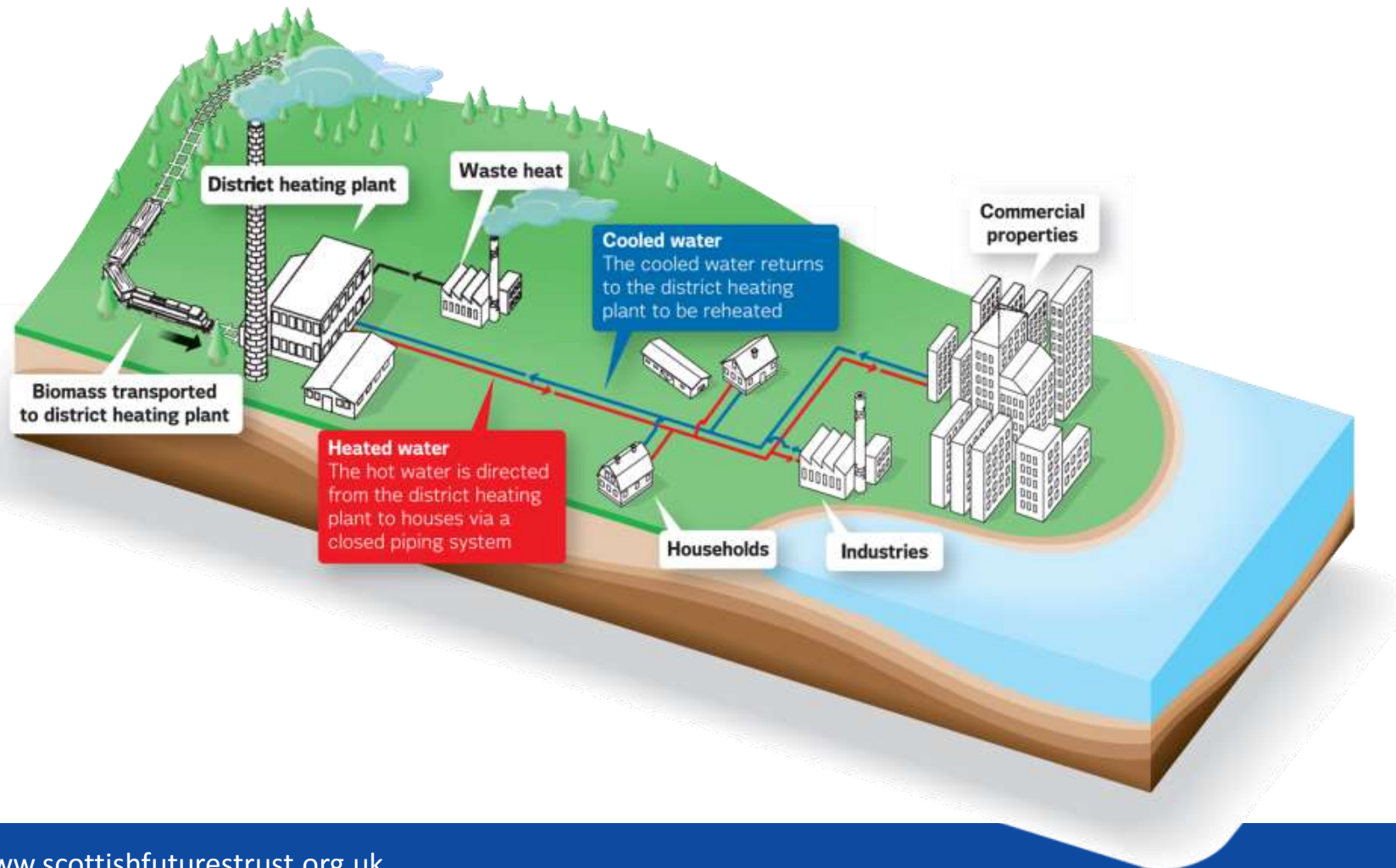
- Photovoltaic (PV)
- Wind
- Combined heat & power (biomass)
- Micro-Hydro

Heat

- Biomass
- Heat Pumps (air, ground or water)
- Solar thermal
- Wind to heat...



What is district heating?



What is district heating?

Drivers

- fuel poverty; jobs
- energy security; carbon

Targets

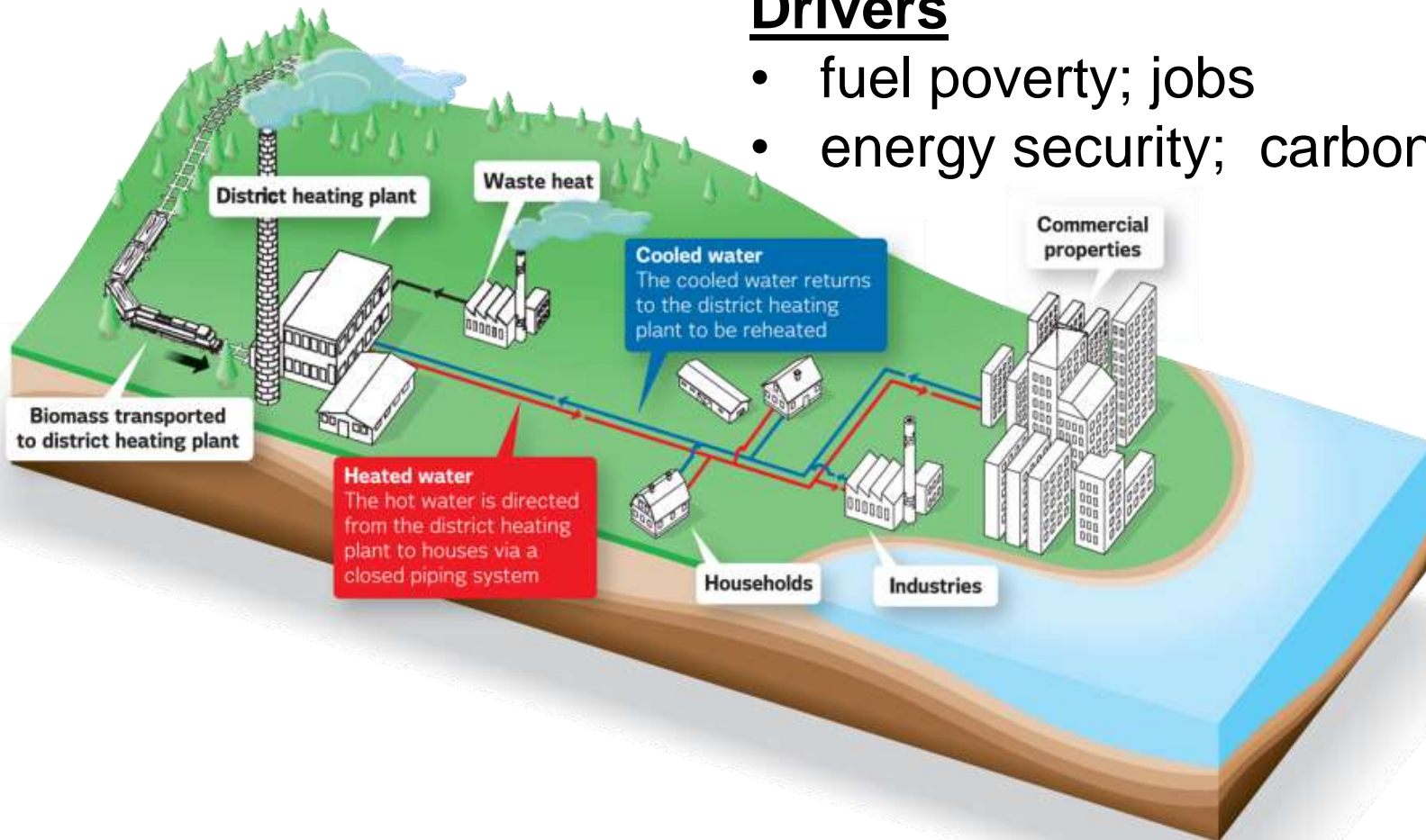
- Largely de-carbonised heat sector by 2050

2020

- 40,000 DH homes
- 1.5TWh of DH heat
- 11% renewables heat

2050

- Near zero carbon heat



Financial

- Lack of funding
- Lack of access to finance
- Lack of revenue
- Insufficient revenue incentivisation

Organisational

- Lack of internal resource
- Need for external collaboration
- Need for inter-departmental collaboration
- Attitude to Risk

Regulatory

- Planning
- Insufficient regulatory requirement
- Energy Performance Certificates

Infrastructure

- Security of fuel supply (biomass)
- Difficulty in securing grid connection permit

Potential Support for District Heating & Renewables In Schools in Scotland

- Grants / Loans
 - [District Heating Loan Fund](#)
 - [Community and Renewable Energy Scheme \(CARES\)](#)
 - [Innovative Local Energy Systems \(ILES\)](#)
 - Look out for further calls (e.g. SEEP / LCITP)
- Support
 - Non-Domestic Energy Efficiency Framework Support Unit (NDEEF SU)
 - [Heat map](#)
 - [District Heating Scotland](#) and Heat Network Partnership
 - [Research into barriers to deployment of district heating networks](#) (DECC 2013)
- Consultations
 - Scottish Energy Efficiency Programme (SEEP)
 - Heat and Energy Efficiency Strategies and Regulation of District Heating

Barriers to District Heating & Renewables In Schools in Scotland



- Schools are biggest LA energy users
- Great opportunities for district heating & renewables – but under-implemented
- SEEP is likely to set tighter targets
- Direction of travel is more district heating and renewables in schools