FUTURE HEATING STRATEGIES

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Solution Circles

CITY

High heat density & stressed utilities

SUBURBS

Range of Solutions

Low heat density & limited utilities

RURAL
HIGH HEAT DENSITY
CITY
MAYBE DISTRICT
HEATING?
HEAT NETWORKS
RURAL – MAYBE HEAT PUMPS

- Ground
- Ground water
- Surface water
- Air Source
The gas grid - reports of my death have been greatly exaggerated

Natural Gas Grid of the Future
Power from the Wind, Sun and Biomass

NATURAL GAS from conventional sources

Input of BIO NATURAL GAS

Input of hydrogen from wind power and solar energy
Grid carbon intensity 2015 was 367 g/kWh
10 YEARS TO PREPARE
for a low carbon transition

Eliminating emissions from buildings is more cost-effective than making deeper cuts in other sectors

£100 bn
likely cost of comprehensively retrofitting seven million homes

2,500
Consumers
involved in ETI research around heating use and needs

Between 2025 and 2050 - 26 million homes will require new low carbon installations

20,000
homes per week
the equivalent of 10 Milton Keynes each year

Few consumers are presently engaged to change their heating systems to combat emission reductions

Time
Effort
Money
our consumer research highlights people want better control of time, effort and money

There are two principal pathways for decarbonising domestic space and water heating

Carbon abatement costs increase around

30%
if electric heat systems are not used in any transition

Next decade is critical

10 Years
in preparing for transition as rapid implementation is required from 2025 to meet 2050 targets

90%
of the UK’s housing stock will still be in use in 2050

20%
contribution of household heating to national carbon emissions

Energy Technologies Institute - Smart Systems and Heat- Decarbonising Heat for UK Homes
Old housing stock

Peaky demand
UNDERFLOOR HEATING

Operate at low temperature and with good comfort

Ideal for condensing boilers and Heat Pumps

Lower temperatures for longer
THERMAL STORAGE - to smooth demand

Olympic Park
Consumers!

Reports of my boiler’s death have been greatly exaggerated
NEW FANGLED RUBBISH

WHAT'S WRONG WITH 200 YEARS OF TRADITION?

Heating Installers
Source side loop (Kingston)

Load side loop [Heat Network] (Drammen)
Drammen
Drammen

SCoP = 3.0
Kingston Heights

A river runs through it!
An ambient loop!

Kingston Heights
FUTURE HEATING

Will be a mix of technologies across the solution circles

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