



Integration of Low Temperature Networks with Heat Pumps and Thermal Storage technologies to maximise waste and ambient heat utilisation in low or zero-carbon heating and cooling solutions.

LoT-NET Webinar

Ángeles Rivero Pacho - 23rd June 2020



Low Temperature Heat Recovery and Distribution Network Technologies

WP2.1 – Distribution medium, method





Thermochemical district networks:

New technology for district networks that provide heating and cooling in one **heat loss-free** network.

The innovation is the use of **thermochemical fluids** as transport medium (concentrated salt solutions).

The chemical potential is used to generate useful heat or cold from ambient heat at the place and time of demand.

Advantages:

- Less investment (no insulation, smaller pipe diameters)
- Longer distances

H₂O / LiCl

H₂O / Lil

H₂O / LiBr

CH₃OH / LiBr

Bonus project!

SMART 🗖



- Ensure that buildings and systems are highly energy efficient → enhanced system performance reducing carbon emissions.
- Through reporting and analysis tools provide benchmarks for future capital projects.
- Improving occupants needs: comfort, health, indoor air quality and safety.

Baseline each building:

- Description of building and services, heating/cooling source, fabric, etc.
- Energy performance (kWh/m², CO₂ emissions)
- Controls level
- Degree of space utilisation





34% WMG DAC 3% **RILEY COURT** 6% PHYTOBIOLOGY MSB 7% IDL 7% IIPSI M&S 3% IMC **12%** 15% 154 - Claycroft 1 Heat: Cumulative Energy 01/01/2019 - 01/01/2020 (by day) العرابة والقطار برجاله بدريه Mar May Jun Jul Aug Sep Oct Dec Feb Apr Nov Jar Date

CLAYCROFT

AMMC

WMG MEC_{2%}

7%

SMART **D**



Heating - 5th November 2019 - Smart Square



Total: 714.600 MWh Average: 1.952 MWh / Day

Jan

MWh

4%

LOT-NET



Thanks for your attention!

