

Accelerating the Heating and Cooling Transition



Joint Call 2021 Kick-off meeting of granted projects

Project presentation pitch

17 November 2021



Galleries to Calories (G2C)

Laying the foundation of the Heat GeoBattery

Using abandoned flooded coal mines to store and transport waste heat



Intro

- David Townsend
 - Founder & CEO, TownRock Energy – G2C Project Manager & Commercialisation Lead
- Consortium
 - Town Rock Energy, Scotland - Industry lead
 - University of Edinburgh, Scotland - Academic lead, Prof. Christopher McDermott
 - University of Strathclyde, Scotland - Academic partner
 - Sandown Limited, Scotland, - Legal
 - Scene Connect, Scotland, - Environmental & social
 - Lawrence Berkeley National Laboratory, USA - Academic partner
 - Idaho National Laboratory, USA, - Academic partner
 - University College Dublin, Ireland, - Academic partner

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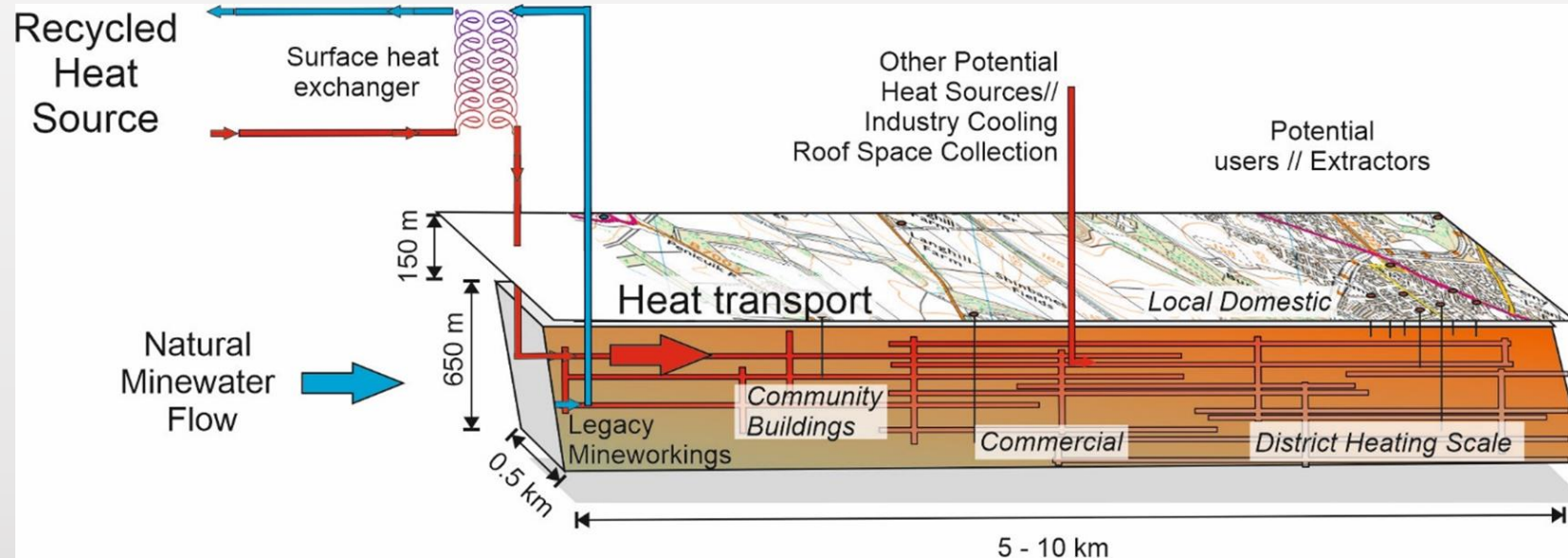
Challenge you are tackling

- We are tackling two problems:
 - Shallow geothermal resources have limited sustainability for heat provision
 - Waste heat from data centres and other industry almost always disposed into atmosphere
- Owners and operators of shallow geothermal projects and waste heat producers
- Pain points include:
 - Uncertainty in sustainable heat supply over shallow geothermal project lifetime, especially in dense urban areas with multiple shallow geothermal projects
 - Disposing of waste heat from data centres and other sources only adds cost, with missed revenue opportunities from repurposing of waste heat
- Flooded coal mines extend under urban areas with heating and cooling customers

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Solution to be provided

- G2C explores the entire project feasibility of connecting heat customers with waste heat producers using abandoned flooded coal mines for heat storage and transport



- Adding waste heat to flooded mines, charging them up as a Heat GeoBattery, increases their capacity and longevity to provide heat to a greater number of customers