

Project ID	DIP076		
Long Title	Owen Square Community Energy Project		
Short Title	CHOICES		
Keywords	Small-scale; Urban; Non-domestic; Electricity; Heat; Solar PV; Heat Pumps; Thermal Storage; Seasonal Storage; Microgrid; District Heating; Alternative Suppliers & Tariffs;		
Location (Town, Region, Country)	Bristol		England
Latitude and Longitude	51.46N		2.56W
OSGB code	ST 610 738		
Status	Complete		
Start Date	2014		
End Date	2016		
Description	<p>The CHOICES project is studying whether the grid impact of ground source heat pumps can be reduced economically by storing air-sourced summer heat in borehole arrays for use in winter ('active recharge').</p> <p>Such an approach improves the overall efficiency of air-sourcing of heat by using direct, on-site PV generated electricity. The improved efficiency of the heat pumps in the winter months (resulting from the higher ground temperatures) reduces the grid impact - higher efficiency means lower grid draw.</p> <p>The project team constructed a pilot CHOICES Energy Centre in Owen Square Park in Bristol that comprises an air-source heat capture system and ground source heat pumps rated at 140kW. Two buildings were connected to the district heat network - the Easton Community Centre (ECC) 'main' building and the ECC 'annex'. A 'private wires' system was built to source surplus PV from a 43kWp array creating a pricing differential between summer day electricity costing 4.85p/kWh and winter grid-sourced electricity costing 8.4p/kWh.</p>		
Sectors	Non-domestic		
Funding Sources	DECC Heat Network SBRI		
Budget £	£700,000		
Partners	Clean Energy Prospector, Eunomia, ICAX, University of Bath		
Energy vectors	Electricity, Heat		
Scale (lab/small/community/region/national)	Small		
Technologies demonstrated	Seasonal thermal storage, heat pumps, solar PV		
Economic models demonstrated	Private wire microgrid		
Other concepts demonstrated			
Industry engagement	Industry partners		

Consumer engagement	
Project Reports (incl. links)	https://www.owensquare.coop/choices Borehole energy paper. https://ieeexplore.ieee.org/abstract/document/7741352/
Datasets (incl. links)	
Website/social media	https://www.owensquare.coop/
Information sources	https://www.gov.uk/government/news/heat-network-innovation-competition