

Project ID	DIP046		
Long Title	H-Disnet (Integration with existing district energy network and with smart grid)		
Short Title	H-Disnet		
Keywords	Lab; Non-domestic; Electricity; Heat; Solar PV; Solar Thermal; Heat Pumps; Waste Heat Recovery; Thermal Storage; Smart Grids; Microgrids; District Heating; Demand Response;		
Location (Town, Region, Country)	Newcastle		England
Latitude and Longitude	54.98N		1.61W
OSGB code	NZ 248 652		
Status	Complete		
Start Date	2016		
End Date	2019		
Description	<p>An intelligent hybrid thermo-chemical network laboratory-scale demonstrator is under development in hardware at the Swan Centre, Newcastle University.</p> <p>This network will include virtual coupling to thermal sources such as</p> <ul style="list-style-type: none"> • an established district heating system and gas network • waste or residual heat sources • a renewable energy combined heat and power system • installed solar thermal and solar photovoltaic panels • heat pumps and integrated energy storage technology <p>The network will be used to simulate potential real-world application for hybrid network. The demonstrator will replicate the typical load profiles from:</p> <ul style="list-style-type: none"> • residential high energy users such as supermarkets, gyms, swimming pools • process industry • return line from a conventional district heating network <p>In-combination as a network, the challenges of integration, supply and demand management will be considered and overcome, this will enabled through the adoption and development of smart-control algorithms and integrated storage.</p>		
Sectors	Non-domestic		
Funding Sources	Horizon2020		
Budget £	£500,000		
Partners	University of Newcastle		
Energy vectors	Electricity, Heat		
Scale (lab/site/	Lab		

small/community/region/national)	
Technologies demonstrated	Smart controls, waste heat recovery, thermal storage, heat pumps, solar PV, CHP, heat network, solar thermal
Economic models demonstrated	Private wire microgrid
Other concepts demonstrated	Demand response, generation-demand matching
Industry engagement	
Consumer engagement	
Project Reports (incl. links)	https://www.h-disnet.eu/media-x/media
Datasets (incl. links)	
Website/social media	https://www.h-disnet.eu/demonstrators/uk-demonstrator
Information sources	https://cordis.europa.eu/project/rcn/202664_en.html