

Project ID	DIP054		
Long Title	Integrated Transport Electricity Gas Research Laboratory		
Short Title	InTEGREL		
Keywords	Single Site; Urban; Multi-sector/Grid; Electricity; Heat; Transport; Solar PV; Wind; Hybrid RE Systems; Heat Pumps; CHP; Hydrogen; Nat. Gas; Smart Grids; Microgrids; District Heating; Electric & Hybrid Vehicles; Alternative Fuelled Vehicles;		
Location (Town, Region, Country)	Gateshead	Tyne and Wear	England
Latitude and Longitude	54.94N	1.73W	
OSGB code	NZ 171 604		
Status	Ongoing		
Start Date	2017		
End Date	Undefined		
Description	<p>The Integrated Transport Gas Electric Research Laboratory (InTEGREL) is based in Low Thornley, Gateshead. It is the UK's first multi-vector integrated energy systems research and demonstration facility investigating utility scale infrastructure.</p> <p>Newcastle University is working in partnership with Northern Gas Networks and Northern Powergrid to develop InTEGREL as a test bed for future energy solutions.</p> <p>Once fully developed, the site will include:</p> <ul style="list-style-type: none"> • Wind power • Solar photovoltaics • Natural gas • Hydrogen • Combined heat and power heating • Combined heat and power individual occupancy • Heat and power district heating • Electric power • Electric heating • Electric vehicle charging • Hydrogen powered vehicle charging <p>We are using the InTEGREL site to learn more about:</p> <ul style="list-style-type: none"> • The value of taking a whole systems approach to the energy system, looking at cost, carbon and resilience • Investigating the interactions between energy vectors at a network utility scale • How consumers switching between gas and electricity affects the energy system, for example: <ul style="list-style-type: none"> • In an all-electric energy system • Comparing ambient temperature with demands on a gas network system • Energy demand in a coupled, gas-electric 		

	system
Sectors	Domestic, non-domestic, transport
Funding Sources	Centre for Energy System Integration
Budget £	Undefined
Partners	University of Newcastle, Northern Gas Network, Northern Powergrid
Energy vectors	Electricity, Heat, Transport
Scale (lab/site/small /community/region/national)	Site
Technologies demonstrated	See 'Description'
Economic models demonstrated	
Other concepts demonstrated	Long-term demonstrator site
Industry engagement	
Consumer engagement	
Project Reports (incl. links)	
Datasets (incl. links)	
Website/social media	http://www.ncl.ac.uk/cesi/research/demo/integrel/
Information sources	As above