Project ID	DIP053		
Long Title	Integrated Energy Management Demonstrator		
Short Title	IEMD		
Keywords	Site; Rural; Non-domestic; Electricity; Heat; Solar PV; Wind; Microgrids; Demand Response;		
Location (Town, Region, Country)	Carnmenellis	Cornwall	England
Latitude and Longitude	50.17N	5.22W	
OSGB code	SW 697 351		
Status	Complete		
Start Date	2013		
End Date	2015		
Description	BRE has Framework 7 research projects KnoholEM and Performer that is researching how to improve energy efficiency in buildings via the use of intelligent energy management systems. These systems are using an engineering approach that is enabled by a dynamic (near-real time self-updatable) building ontology. Artificial Neural Networks are used as a cost function for the optimisation algorithm (Genetic Algorithm) to generate the energy saving rules. BRE is also delivering the FP7 Resilient project that is developing algorithms for city districts and buildings to determine when energy form renewable sources should be stored, used directly by buildings/infrastructure or put in to the grid depending on cost and carbon savings. The project in Cornwall is using the research outcomes from KnoholEM, Performer and Resilient to deliver a practical and affordable solution for non-domestic buildings and small groups of buildings within a site to reduce energy consumption of the buildings and manage renewable energy usage across the site.		
Sectors	Non-domestic		
Funding Sources	Internal		
Budget £	Undefined		
Partners	BRE Trust		
Energy vectors	Electricity, Heat		
Scale (lab/site/ small/community/region/national)	Site		
Technologies demonstrated	Smart controls, demand response devices, solar PV, microgrids, wind, biomass boiler		
Economic models demonstrated	Private wire microgrid		
Other concepts demonstrated	Demand response, generation-demand matching		
Industry engagement			
Consumer engagement			

Project Reports (incl. links)	https://www.bre.co.uk/page.jsp?id=1346
Datasets (incl. links)	
Website/social media	
Information sources	As above