Project ID	DIP075		
Long Title	Pilsworth Liquid Air Energy Storage		
Short Title			
Keywords	Single Site; Multi-sector/Grid; Electricity; Heat; Bioenergy; Indirect Electric Storage; Power Quality & Grid Integration;		
Location (Town, Region, Country)	Pilsworth	Greater Manchester	England
Latitude and Longitude	53.58N	2.27W	
OSGB code	SD 822 089		
Status	Complete		
Start Date	2014		
End Date	2018		
Description	Air turns to liquid when cooled down to -196°C (-320˚F), and can then be stored very efficiently in insulated, low-pressure vessels. Exposure to ambient temperatures causes rapid re-gasification and a 700-fold expansion in volume, which is then used to drive a turbine and create electricity without combustion. Our large scale, long-duration technology can be built from 10MW to 200MW+ power output, with a storage capacity of 40MWh to more than 2000MWh+. This is high-powered energy storage with true long duration: the capabilities of pumped hydro storage (PHS), without the geographical limitations. In addition to providing energy storage, the LAES plant converts low-grade waste heat from the GE Jenbacher landfill gas engines to power. Operation started in April 2018 at Pilsworth Landfill facility in Bury, Greater Manchester. The plant demonstrates how LAES can provide a number of balancing services, including Short Term Operating Reserve (STOR) and supporting the grid during winter peaks.		
Sectors	Multi-sector/Grid		
Funding Sources	DECC		
Budget £	£8 million		
Partners	Highview Power, Viridor, BEIS, University of Birmingham, University of Brighton		
Energy vectors	Electricity		
Scale (lab/site/ small/community/region/national)	Site		
Technologies demonstrated	Waste heat recovery, thermal storage to power		
Economic models demonstrated	Grid services		
Other concepts demonstrated	Grid constraint mitigation		
Industry engagement			

Consumer engagement	
Project Reports (incl. links)	https://warwick.ac.uk/fac/sci/eng/research/grouplist/electricalpower/images/newsnevents/hies2017/presentations/hies2017_highview.pdf
Datasets (incl. links)	
Website/social media	https://www.highviewpower.com/
Information sources	