



66kV 275kV 33kV 11kV 132kV 400kV

CASE STUDY
13750

Farleigh AD Plant

Anaerobic Digestion - AD 11kV



GRID CONNECTION 	11kV Grid Route 	CHP ENERGY 	6.0 MegaW
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Powersystems UK connect first Tamar Energy AD facility at Basingstoke to Grid

Powersystems were appointed as Tamar Energy's preferred partner in delivering the grid connection to the new Basingstoke AD facility, working under FLI Energy who were the EPC for the project.

The grid connection was circa 3km from a connection point onto SSE 11kV network, on the outskirts of Clivesden village. The route followed agricultural land owned by Farleigh Estates to the new AD plant at Farleigh Wallop. Due to the fast track nature of the connection it was agreed with SSE designers to fully duct the grid route which had significant time savings in respect of the excavation of trenches and laying of 11kV cables.

Joint bays were dug at 350m intervals along the grid route. One challenge was the crossing of Farleigh Lane and the adjacent copse which would have been impossible to dig through due to the number and proximity of trees, and due to the narrowness of the road. This would have resulted in a full road closure which would have had significant impact on residents in the area resulting in a detour via Basingstoke.

Working with our civil contractor, it was decided to employ the services of a specialist directional drilling contractor, which utilises trenchless drilling technology to core-drill and allow a sleeve duct to be pulled back through. Once this was done it was a very simple task of installing the cable section through this 75m duct and jointing to the grid route cables.



Tamar Energy:

Tamar Energy is a renewable energy company, whose aim is to build a network of around 40 anaerobic digestion plants in strategic locations around the UK by 2018. These facilities will generate 100MW of electricity – enough to power more than 200,000 homes.

Officially launched in 2012, Tamar Energy has an exclusive focus on using anaerobic digestion to transform organic waste into renewable energy. The process has the potential to power millions of UK homes, whilst also offering a sustainable, cost-effective organic waste treatment solution.

Renewable energy is produced from three main sources of feedstock – organic waste from the food processing industry, agricultural sources and 'post-consumer' organic waste, broken down into municipal, household waste and waste from industrial and commercial sources including hotels, supermarkets, prisons, schools and hospitals.



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At the substation Powersystems carried out the connection design works to include the substation buildings, 11kV switchgear and metering unit with NVD protection. The works were inspected and signed off by SSE projects engineer and final connection was made on schedule and within budget.

G59/2 testing and commissioning was carried out in early December and the facility is now generating green energy from food waste to the grid.



The results:

Three anaerobic digestion (AD) facilities from Tamar Energy with a combined capacity of 6 MW have completed construction and are entering the commissioning phase at locations across the UK.

Construction has progressed as planned and the three plants have received the “seeding” feedstock which signals that the final steps are underway in the commissioning process. The first wave of Tamar Energy’s network of AD plants is fully operational and accepting food, farm and other organic feedstock. Commissioning is typically a three month process that includes all safety checks and brings the plant up to fully operational levels.

Two of the sites are now supplying electricity to the National Grid. As well as the three plants now in commissioning and the Halstead AD facility in construction, Tamar Energy has a number of other sites in the advance stages of development, including sites in Bromley, Hoddesdon in Hertfordshire, Ramsbottom near Bury, and Evercrech in Somerset.

Powersystems UK Limited Badminton Road, Yate, Bristol BS37 5GG

T 01454 318000 **E** enquiries@powersystemsuk.com **W** powersystemsuk.co.uk

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