# HOWDON

## Howdon, UK

FACTSHEET

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**Plant capacity and expected performance:**

- 40,000 metric tonnes DS/year
- 3 x 6.300m³ digesters
- 8 reactor Cambi THP,
- 4,7 MW electricity + cogen steam
- Reduced energy for drying and transport
- High performance digestion

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Northumbrian Water Ltd (NWL) adpted in 2005 conversion to advanced digestion at 2 major sites that would treat about 80% of all NWL`s sludge. The first project was built at Brand Sands ( Middelsborough and Southern towns of NWL) in 2009 and is currently treating over 100 dry tonnes of sludge per day ( Equivalent to about 1 million population) using Cambi THP. Howdon is the sister project in the north of NWL and has similarities to the Brand Sands project including a capacity of 40 000 dry tonnes.

Currently indigenous and imported sludge is dewatered at Howdon and treated with quicklime for agricultural recycling. NWL have awarded Imtech Process Ltd the contract to bulid the new plant.

The project entails building new digesters with Cambi pre-treatment and combined heat and power for electricity and steam production. Cambi and Imtech have worked together on 2 projects in South of Wales for the Cardiff and Swansea area. Lessons learnt from those projects on how to best integrate Cambi THP into the advanced digestion project will be carried forward.

The main project comprises reception of sludge from areas in the north og NWL and blending with Newcastle sludge followed by pre-dewatering of the sludge to make cake of about 18% dry solids. This is fed into Cambi THP in 2 streams of 4 reactors that convert the sludge by the addition of steam to make hydrolysed ( pressure cooked) and sterilized digester feed at 10 % dry solids.

The biogas from the digester will be used to produce over 4 MWs of renewable electricity and waste heat recycled to steam for Cambi THP and other uses. Overall it has been estimated that the two projects with Cambi reduce NWLs carbon footprint by about 50 000 tonnes CO2 per year.

**The benefits of the Cambi process are:**

- Compact digestion plant, avoided investment in new digesters
- Reuse of existing dewatering assets.
- Reduction cake volume.
- Cost savings by reduction of enrgy consumption for drying.
- Cost savings from green electricity production.
- reduction of inter-site transport costs of sludge as raw cake.

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