



NIGG BAY

Aberdeen, Scotland

FACTSHEET



Plant capacity and expected performance:

- 16.500 tonnes DS/year
- 2 x 4000 m³ digesters
- 1 MWe + steam cogen
- 4-reactor Cambi THP
- Final product: > 32% DS
- Digester loading: Twice the conventional
- < 20,000 Pasteurized product for grassland

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NIGG BAY, ABERDEEN

Nigg Bay WWTP was built and commissioned for Scottish Water in 2001 as a green field site by Aberdeen Environmental Services, a consortium which comprises Yorkshire Water Projects, Balfour Beatty and Earth Tech Engineering.

The plant treats the sewage from a population of about 350,000 and imported raw sludge for the remainder of the Grampian region (about 250,000 population).

Overall the sludge plant is designed to treat 16,500 dry tonnes per year. The sludge treatment centre dewateres the local sludge and some imports and receives sludge cake from three medium size plants.

The sludge cake is stored in a joint 300m³ silo and fed into a 4-reactor Cambi THP system.

After digestion in two 4,000m³ digesters the sludge is dewatered in belt presses to about 32% DS and, following a short period of conditioning in the storage shed, is recycled to agriculture at about 35% DS.

In Nov. 2007 Cambi signed a contract to increase the design throughput by addition of improved cooling and recirculation for the digester as well as replacing the existing thermal oxidiser with a new process gas compressor.

The benefits of the Cambi process are:

- No dryer was required allowing automatic operations, using a single shift
- Digester sizing is 50% of a conventional digestion system
- Ability to receive and treat a variety of imported sludge
- Net energy production of 1MW electricity
- Simple product to stack and store at about 35% DS
- Good grassland product
- Low volume of product (~20,000 tons per year)
- By far the lowest whole life cost



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