RIVERSIDE

Tess Valley, UK

FACTSHEET

CAMBI® - recycling energy

Plant capacity and expected performance:

- 40,000 metric tonnes DS/year
- 4 x 5,100 m³ digesters transport
- 8-reactor Cambi THP
- 4.8 MW electricity + cogen steam
- Pasteurized product
- Reduced energy for drying and transport
- Significantly reduced carbon emissions
- High performance digestion
- Half the original cake volume

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The Cambi THP will increase existing digester capacity 2-3 times by pre-treating most of the secondary sludge from both Riverside and Beckton STWs, producing 4 MW of renewable electricity, a high dry solids pasteurized (Class A) cake for agriculture, and alleviating pressure on the existing incinerator plant at Beckton STW. The Cambi 8-reactor plant will process about 40,000 tonnes dry solids/year of mostly secondary sludge before digestion in 4 x 5000 m3 digesters, followed by belt-press dewatering.

Currently TW pump raw sludge from Riverside to Beckton STW for incineration in conjunction with the Beckton sludge. Beckton is the largest STW in TW (serving 3.3 million PE) and discharges to the tidal Thames. Pressure to treat sewage to higher standards at Beckton has led to a higher quantity of secondary sludge which does not dewater well. This has led to under-capacity at Beckton's existing fluidised bed incinerator plant as there is too much water in the sludge.

The main project comprises of reception of secondary sludge from Beckton through the reversed pipeline and blending with indigenous sludge followed by pre-dewatering of the sludge to make a cake of about 18% dry solids. This is fed into Cambi's THP in 2 streams of each 4 reactors that convert the sludge by the addition of steam to make a disintegrated and sterilized digester feed at about 10% dry solids. The digester mixing will be refurbished as part of the main project and the digested sludge fed to new dewatering belt presses. The final biosolids will be used in agriculture. The biogas will be used to produce about 4 MWs of renewable electricity and waste heat recycled to steam for Cambi TH and other uses.

The benefits of the Cambi process are:

- **Compact digestion plant**
- **Reuse of existing dewatering assets**
- **Reduction in volume of cake to half of before situation**
- **Cost savings in reduction of energy consumption for drying**
- **Cost savings from green electricity production**
- **Reduction of carbon footprint by 50.000 tonnes CO2**
- **Reduction of inter-site transport costs of sludge as raw cake**
- **Flexibility of Cambi cake of dried product – both Class A products**

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