Major green power win

Wilton UK

New biomass-fuelled boiler

We have been awarded a contract by SembCorp Utilities UK Limited, which is creating a new stand-alone biomass-fuelled power station at its Wilton International site on Teesside, northeast England. The project, known as 'Wilton 10', has a total investment cost of $114 million. It is one of the UK's largest biomass renewable energy projects.

"We are bringing together key strengths from within Foster Wheeler's global organisation. Our project execution strategy combines the experience of our Engineering and Construction Group's Teesside operation, which has an impressive project execution track record, with our Global Power Group's proven bubbling fluidised-bed biomass combustion technology to deliver a total solution to SembCorp to meet their business requirements."

Steve Davies
Chairman & CEO, FWEL

As the boiler contractor, we will design, engineer, construct and commission the complete boiler island, including the flue gas treatment system.

The plant will burn green and recycled wood and will be required to meet the emission limits of the EU's Large Combustion Plant Directive and Waste Incineration Directive. It will also be subject to a Best Available Techniques assessment which will be reviewed by the Environment Agency of the UK.

"We were impressed with Foster Wheeler's track record in fluidised-bed biomass combustion. By utilising their local office in Teesside, Foster Wheeler will be able to manage the execution of the project in close collaboration with SembCorp."

Tony Lewis
Project Director, SembCorp Utilities UK Limited

Courtesy: SembCorp Utilities UK Limited.

The power plant will burn around 300,000 tonnes of wood a year. This will come from a variety of sources, including specially grown energy crops, forestry logs, sawmill chips and recycled timber.

The boiler will be designed to achieve maximum efficiency using high steam conditions. The new plant will supply 30 MWe of electricity, enough to power around 30,000 homes. This will be in addition to the 197 MWe of electricity being supplied from the existing main power station.

The Wilton 10 project is in response to a government call, following the 1997 Kyoto Agreement, for more energy throughout the UK to be generated from renewable sources. Commercial operation of the plant is expected in the second quarter of 2007.

"The conversion of biomass to energy for heat and power is a long tradition in the Scandinavian pulp and paper industry.

"Since the 1970s, Foster Wheeler has supplied this industry with fluidised-bed boilers, gathering an immense experience base of different biomass fuels and demanding industrial requirements for reliability. We are pleased to be able to take advantage of this experience with the Foster Wheeler Finnish boiler delivery."

Tony Lewis
Project Director, SembCorp Utilities UK Limited

Seated (left to right): Steve Scott, manager, UK project operations, FWEL; Paul Gavens, managing director, SembCorp.
Standing (left to right): Jari Nokelainen, proposal manager, FWEOY; Julian Bourchier, senior process manager, SembCorp; Markku Kostamo, VP, commercial operation, FWEOY; Harry Simpson, senior purchasing manager, SembCorp; Stephen Hands, VP legal & commercial, SembCorp.

UK landmark biomass project

Ready for a heavy-lift challenge!

Reinforcement for a circular concrete wall which is the base of the fuel storage silo during site preparation.

We are currently working on a new biomass power plant, called Wilton 10, for SembCorp Utilities UK Limited, together with our colleagues from our Global Power Group.

Clean technology

The new plant, one of the UK's largest biomass projects, will burn recycled, green and short rotation coppice wood to produce 30 MWe of electricity, using a Foster Wheeler bubbling fluidised-bed (BFB) boiler. Our BFB technology is ideally suited to burning fuels with a high moisture content. This technology generates very low emissions: an important feature as this plant will have to meet very strict EU and UK emissions requirements.

Our Teesside operation, part of our Global Engineering and Construction Group, is located close to the site and is managing the construction of the boiler island.

Polish boiler

Boiler house preparation is progressing and the boiler, manufactured at our Global Power Group's Polish factory, was shipped to the UK in eight 15-metre-long sections. These sections are currently being pre-assembled.

Heavy lift challenge

Once assembled, the 185-tonne boiler will be transported from the temporary lay-down area to the construction site nearby, ready for the heavy lift. Any heavy lift requires meticulous planning, careful control and a real team effort, and the Wilton 10 lift will be no exception.

The new boiler will be installed through the roof of the existing 35-metre-high boiler house, raising the boiler over 60 metres before it is finally lowered on to its new support structure.

Lay-down area and boiler pre-assembly.