

**Astra-Zeneca –
Biomass CHP Plant**



Type of project: FEED study with cost estimate.

Sector: Renewable energy

Client: Boulting Group

Location: Alderley Park, UK

Technology: Biomass fired steam boiler with extraction turbine and hot water system.

Capacity: 20,000 kg/h steam at 67 barg and 425 °C, producing 4MWth useful heat and 3.5 MWe power generation

Date: 2010

Overview: OSL provided process engineering services to Boulting Group for a biomass CHP plant FEED study for AstraZeneca. The plant is designed to use a mix of virgin and recovered wood chip in a WID compliant boiler. The steam raised powers an extraction condensing turbine, steam being extracted to raise hot water for use on site. A flue gas treatment system is required to meet the emission limits set by the Waste Incineration Directive. A technology and vendor review was carried out to evaluate suppliers of fluid bed or moving grate combustion technologies with the required capacity range. Fuel reception and materials handling options were developed as part of the scope.



Deliverables: Documents consistent with a FEED study including PFD, mass and energy balance, equipment list, P&IDs, equipment specifications, equipment datasheets, motor list, consumables list, schedule of effluents, wastes and emissions, tie-in schedule, utility requirements, plant layout, equipment cost estimate
Options for integration of condensate return form site. Design of hot water interface and outline control scheme.
Option studies for biomass storage and mechanical handling.

Status: Completed to programme