



## Project information

Project name	<b>12MW CHP for Sawmill Cluster (concept)</b>
Country	Nigeria
Project background	The main objective of the project is to utilize biomass residues to cogenerate electricity, which is the primary energy input in the saw milling processes, and steam at the sawmill cluster. The steam will be utilized for drying milled wood at the site and for a cool storage facility. The CHP facility will also provide a reliable off-grid power supply to a community that is currently underserved with power.
Project type	Renewable energy/ biomass
Project scope	Biomass-fired combined heat and power with vacuum absorption chiller. Preliminary technical specification of a backpressure steam turbine system: (i) 35.4 tonnes/hr of wet woodwaste will be available as fuel for generating steam in a boiler. The woodwaste has an average moisture content of about 30%, an average density of about 290 kg/m <sup>3</sup> , and a lower heating value of about 12.16 MJ/kg. (ii) Boiler Characteristics include: thermal efficiency — 80%; Output — steam at 25 barg pressure and temperature 300 °C ; generating a total of 80.3 tonnes/hr of steam; (iii) Turbine Characteristics: Back-pressure Steam Turbine; inlet steam pressure of 25 barg; steam extraction—52.6 ton/hr at 8 barg; outlet steam to condenser — 27.7 tonnes/hr at 0.2 barg and at 104 °C; generating 12 MW of electrical power; (iv) 52.3 tonnes/hr of extracted 8-barg steam will be utilized for wood drying in a kiln, while 0.3 tonnes/hr of the 8-barg steam will be utilized in the VAC system.
Emission reductions	<b>Estimate:</b> 80,000 tCO <sub>2</sub> /yr
Funding method	A mix of project finance (debt) and equity (through special purpose company)
Project period	Carbon credits 3 x 7 years
Project details	<p>Under the project, a 12MWe combined heat and power (CHP) plant will be installed at the sawmill cluster site. The CHP plant will be fired using biomass residues from the sawmill cluster. Electricity generated at the plant will replace the current supply of power from the grid, which is very unreliable, and from inefficient and polluting stand-by diesel generators.</p> <p>The project will provide considerable benefit to the local community by improving access to electricity. Excess electricity will replace the current unreliable supply of electricity from the grid and from standby diesel generators, for lighting and other electrical appliances in residential dwellings in the area. Many residential dwellers in the area also utilize kerosene for lighting either wholly, where they are not connected to the grid, or partly as a substitute when grid supply fails.</p> <p><b>Data needs to be updated!</b></p>



## Contact details

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