



## Project Review

### Nestlé Chile - Puelche Project

#### 10MW<sub>th</sub> Biomass Boiler

Client: Nestlé  
Location: Osorno, Chile

#### Background

Nestlé is a world leading food company with nearly 500 factories distributed in 86 countries and 283,000 employees worldwide. Nestlé began operations in Chile in 1934, making condensed milk and went on to establish a number of milk processing plants in the south of the country in the region of Osorno.

Nestlé constructed a new milk processing plant near Osorno, Chile to supply finished products to Central America and the Chilean market. A steam boiler plant was required for the factory operations for heating and sterilising.

Chile has an abundance of plantation forests for the pulp and paper industry, but limited indigenous reserves of fossil fuels. Together with Nestlé's commitment to high environmental standards, this required a clean burning, renewable fuel solution.

#### The Solution

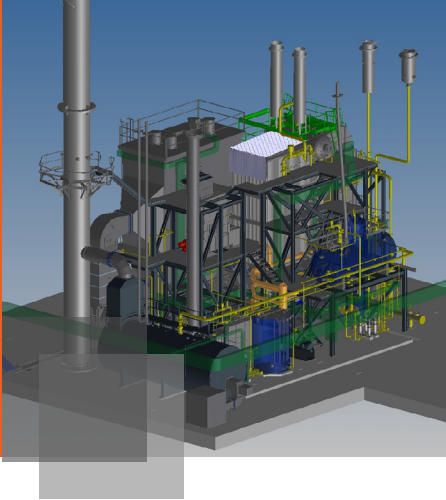
The contract scope included design and supply of a complete boilerhouse containing boiler plant components, supervision of erection, installation and commissioning on site.

We proposed a Babcock & Wilcox Towerpak® boiler fired on biomass featuring:

- Vibrating grate combustion system;
- Very high efficiency boiler with economiser and air heater;
- Condensate pre-heater for energy recovery;
- Particulate emission control using Electrostatic Precipitator; and
- 10 MW (15 t/h) back-up boiler fired on propane gas.

The biomass boiler was designed by RCR under license from Babcock & Wilcox Power Generation Group Inc, USA.



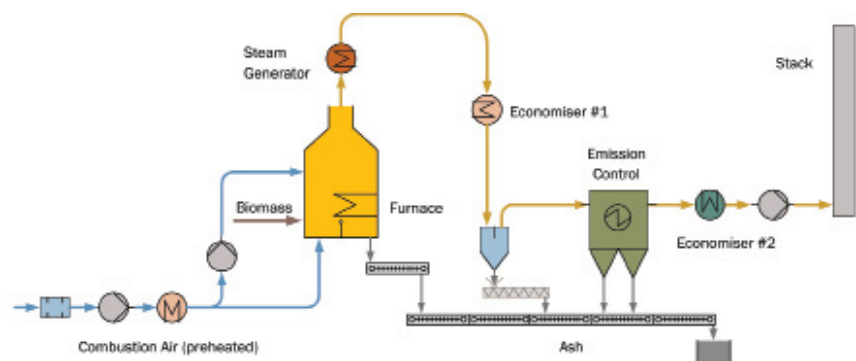


## Why Windsor Energy?

As a proven supplier of plant and services to Nestlé worldwide, Windsor Energy offered the following advantages:

- The ability to work internationally and integrate smoothly with local project partners.
- Proven supplier record with Nestlé Group and other large industrial clients.
- Innovative plant design for high efficiency and simple operation.
- Modular plant design optimised for safe and simple shipping and erection.
- Clean burning biomass combustion technology with very low emissions.

Project Name	Nestlé Osorno, Chile
Project Number	7041
Date Installed	2010
Boiler Type	B & W Towerpak® Boiler
Combustion System	Water Cooled Vibrating Grate
Thermal Capacity	10 MW
Fuel Source	Wood Biomass
Boiler Design Code	AS 1228
Steam Output	15000 kg/h
Steam Temperature	207°C (Saturated)
Design Pressure	2250 kPa
Operating Pressure	1700 kPa
Feedwater Temperature	105°C
Emissions Guarantee Particulates	< 35 mg/Nm <sup>3</sup>
Turn Down	4:1



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