

## Stora Enso Sunila Mill Now Running LignoBoost Plant in Finland

Stora Enso's Sunila mill is now running the Valmet-supplied LignoBoost lignin separation plant. As the last part of the handover process, the lignin dryer, was taken over by the Stora Enso team on September 15. The LignoBoost plant is integrated with the pulp mill to separate and collect lignin from the black liquor.

This is a significant step in transforming the Sunila mill towards an innovative and customer focused biorefinery. The plant has been running since January 2015 and production has been ramped up during the year.

"Through the lignin extraction process, we have replaced a great amount of natural gas with the dried lignin produced in the new LignoBoost plant, and by doing that reduced our carbon dioxide emissions. We are developing this new product and working together with our customers to start external sales," says Sakari Eloranta, SVP, Operations and Investment Projects, Stora Enso Biomaterials.

"This is the second commercial scale LignoBoost plant in the world. We continue to develop this technology, as we see a great potential in utilizing lignin in various uses. Lignin powder can be used as raw material at the mill for firing or it can be converted into other materials and products. Lignin separation will at the same time improve the environmental performance of the mill," said Anders Larsson, director, Bio materials, Pulp and Energy business line, Valmet

LignoBoost is one of Valmet's biotechnology solutions that responds to the growing interest for utilizing bio-based raw materials. It is a patented method of extracting lignin from the kraft pulp process spent cooking chemicals (black liquor). By treating the black liquor with carbon-dioxide and a strong acid, the lignin is precipitated, which is then washed and dried. Lignin is an organic polymer and has a heating value similar to carbon. Lignin is the most common material in wood, after cellulose and hemi cellulose.

In addition to LignoBoost, Valmet has several bio initiatives including products such as bio coal, solutions for second generation ethanol, pyrolysis oil, and direct and indirect gasification of biomaterials.

Stora Enso Biomaterials offers a variety of pulp grades to meet the demands of paper, board, and tissue producers. The company's mission is to develop higher value added bio-based products that contribute positively to its customers by helping them reduce their environmental footprint.

The Sunila mill has an annual capacity of 370,000 ton of softwood pulp. The mill employs approximately 160 people.

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