

# Sappi approves construction of demonstration plant for Xylitol and Furfural

Sappi has announced further progress in the development of its biorefinery capacity with the confirmation that it will construct a demonstration plant to further scale up its novel Xylex® technology for the production of Xylitol and Furfural. The plant will be located adjacent to the existing sugars and lignin extraction plant at Ngodwana Mill. It should be operational early in 2019. Pending successful results and further approvals it is anticipated that Sappi may construct commercial Xylitol and Furfural plants adjacent to our mills in the USA and South Africa.

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Commenting on the decision Sappi CEO Steve Binnie said: "We are very happy with the progress being made by our biorefinery team, as well as with the value we are deriving from the acquisition and integration last year of the key biorefining technologies and expert staff from Plaxica. Biomaterials and biochemicals are integral to Sappi's strategy of extracting maximum value from wood fibre, our natural and renewable resource. We have taken a significant step towards generating meaningful revenue from this new business segment."

Louis Kruyshaar, EVP for Sappi Biotech, explained: "Sappi's biorefinery plans are focused on building a sustainable, profitable business from the manufacture and sale of food ingredients, materials and chemical intermediates derived from C5 sugars produced as a co-product of our dissolving wood pulp production, and from the lignin produced in our global pulp production."

The combination of Sappi's operational excellence, the proposed co-location of the commercial plants at existing mill sites delivers strong integration synergies, and the cost advantages offered by Sappi's scale and the Xylex® technology mean Sappi will have a globally competitive cost base for sugars and xylitol and furfural production.

Turning to the products which the demonstration plant will provide a platform for, Kruyshaar said: "Xylitol is a high-value sweetener with exciting growth prospects - it is a low-calorie sweetener which has positive dental properties and produces insulin response, so is suitable for diabetics. Furfural is a versatile green industrial chemical derived from C5 sugars with a diverse range of derivatives."

A quick overview of the development of Sappi's sugars extraction capacity:

- In 2016 Sappi announced it would invest in demonstration capacity at its Ngodwana Mill in South Africa to extract hemicellulose sugars and lignin from its dissolving wood pulp (DWP) line for eventual beneficiation to higher value products.
- In 2017 this plant, built in partnership with Valmet, was commissioned. After operating for 12 months to demonstrate extraction of C5 sugars from DWP production, the plant has exceeded all efficiency targets for cost, cycle time and yield.
- Later in 2017 Sappi acquired the patented Xylex® technology for the hydrolysis and clean-up of these C5 sugars, as well as to produce a valuable lignin stream.
- In April 2018, Sappi sanctioned a scale-up demonstration plant for the Xylex® technology to be located alongside the existing sugars plant at Ngodwana Mill. The plant will be commissioned in the first calendar quarter of 2019.
- This plant will enable the demonstration of technologies for the production of Xylitol and Furfural.
- Following successful commissioning of the Xylitol process, Sappi's strategic intent is to enter the Xylitol value chain with a world-scale production plant.
- As regards Furfural, sugars extraction from our DWP assets combined with our Xylex® and Furfural capabilities will allow Sappi to pursue various partnerships in the furan chemical value chain. The furan markets are showing strong market pull for new investments due to growth as well as replacing older and smaller unsustainable assets.

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