

Tây Sơn Biomass achieves pellet quality, OEE and throughput targets for critical long-term power-generation contract



CAPTION

ANDRITZ BioMax Pellet Mills bring quality, repeatability and credibility to new greenfield woody biomass processing site in Vietnam

THE CHALLENGE

- Greenfield biomass processing plant
- Long term high-volume off-take contract to satisfy
- Maximised, high-efficient throughput
- High pellet quality levels

THE SOLUTION

- 2 x wet grinders
- 2 x fine grinders
- 2 x BioMax pellet mills (soon to be 3)
- Dies tailored to local raw material needs

THE RESULT

- Continuous high-capacity output and pellet quality
- Lower energy consumption
- Low maintenance and high reliability

INTRODUCTION

Formed in 2019, with its HQ in Ho Chi Minh City, Vietnam, Tây Sơn Biomass (TSB Group) is one of the world's leading wood pellet producers.

Managing over 160,000 hectares of sustainable forest in 2026 – expecting to grow up to 400,000 hectares by 2030 – it employs 2,000 people in more than 40 offices, 20 projects and production plants and several warehouses throughout the region.

Thanks to significant investment, Vietnam has become one of the top wood-pelleting exporting countries in the APAC region, with an annual production capacity of more than seven million tons. The global demand for biomass pellets is expected to continue to as countries, industries, and households round the world seek to further reduce and offset carbon emissions, driving sustained and elevating demand for biomass-based renewable energy solutions.

TSB has a history of investing in high-performance biomass pellet mills, not just to increase capacity and output, but also to create and leverage the additional efficiencies delivered by market leading solutions, such as those from ANDRITZ.

Customer Story
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Its most recent greenfield woody biomass processing plant features BioMax pellet mills from ANDRITZ Feed and Biofuel, setting a new benchmark for modern pelletizing operations.

CHALLENGE

“We have a long-term off-take contract with a Japanese power-generation company,” explains Bui Tuan Anh (Andy), CEO of the TSB Group. “And to maintain an off-take contract like this – which will run for many years – you must deliver optimised high-quality pellet products in regular high-volume shipments.”

“There are not many companies that can satisfy long-term offtake contracts at this level of supply, and these volume and quality levels can only be achieved if you invest in the right sort of equipment. In many cases our customers also ask us what sort of technology we are using and who our machine suppliers are, so we must be confident when imparting this information. After all, the end-product quality and our customers’ satisfaction are directly influenced by the equipment we implement in our biomass process plants.

“We need machines – from highly regarded and well-recognised suppliers – that offer us the throughput and quality levels we require, while also being sustainable themselves, in terms of the energy-input/product-output ratio. And these quality considerations are now gaining extra importance as we begin exporting to Europe, where the need for EN Plus A1 and A2 ratings is also influencing our choice of machine suppliers.”

SOLUTION

For the new plant at the company’s greenfield Tây Sơn Biomass facility, TSB has invested in new, state-

of-the-art pelletising lines, at the heart of which are wet grinders, fine grinders and BioMax* pellet mills, all supplied from ANDRITZ Feed and Biofuel.

In operation, chipped raw materials go through the two sets of grinders, with drying stages in between, before being fed in the BioMax pellet mills. The entire process must be very closely controlled and integrated, in order to maintain optimal output and quality levels. Any changes in raw material and infeed composition must be catered for, to ensure maximum quality.

RESULTS

“Other suppliers were offering outputs of between six and seven tons per hour,” Andy explains, “but the BioMax pellet mill from ANDRITZ has proven to give us 11 to 12 tons per hour. What is more, ANDRITZ is able to tailor the dies to suit the local raw materials, as it has done for us at other sites across Vietnam over the years.”





The unique design of the BioMax Pellet Mill makes it robust and easy to maintain, while delivering high output at low operating costs. Made specifically for processing biomass, BioMax mills are designed for pelleting materials that require very high force while also taking on a high-volume of materials that traditional pellet mills cannot handle.

“We currently have two BioMax pellet mills, but will be looking to add a third,” Andy tells us. “And we know this will be a straightforward deployment; due to the close cooperation we had from all parties during the initial install and commissioning. ANDRITZ

engineers were on site for the whole process, and we were operational much quicker than to this close involvement.

“Going forwards, we know we will hit our operational objectives, but we are also confident of the lifespan of the machines and dies, due to ongoing and long-term support and availability of ware and spare parts. We are also hitting sustainability goals due to the higher production combined with the lower energy consumption making the whole process far more efficient.

“As with other project in the TSB group, ANDRITZ has proved to us to be a very reliable supplier of high-quality machinery,” Andy concludes, “which is why we also seek its involvement in future plant solutions, including a new paper mill which is currently under development.”

Andy is a professionally trained mechanical engineer who graduated at Auckland University of Technology in New Zealand. He brings extensive experience in machinery manufacturing and project management, having contributed to major projects around the world.



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