

Press Release

AES: branching out with energy plant and biomass optimisation in the timber sector

15 February 2024

Large timber and paper companies have led the way when it comes to generating their own power using steam turbines. Today, the timber sector can not only generate its own power using internally-generated by-products - but can also create a whole new income stream from this biomass. This is according to Dennis Williams, Commercial Director at leading operations and maintenance (O & M) service provider to the steam and boiler sector, Associated Energy Services (AES).

The right roots

The timber industry contributes up to 5 percent of national gross domestic product, and has an extremely complex value chain. AES has worked closely with sawmills and related downstream businesses for many years.

“One can rest assured that somewhere in the value chain, thermal energy is required to condition or soften wood chips – or even dry them,” Williams points out. Therefore, the timber sector needs to ensure that its energy plant is efficient, reliable and resilient in the face of growing input costs and broader economic pressures.

While working alongside a number of tissue manufacturers, a kraft paper producer and a large board manufacturer, AES has helped improve boiler efficiency, steam quality and boiler reliability; and by cleaning up and reducing emissions through its operations and maintenance service implementation, including energy plant upgrades and project management.

Throughout all, safety and asset care are priorities. As many plants within the timber sector are old, Williams emphasises that pressure vessel (boiler) safety is crucial. AES’s ISO 45001 certification - including the management and legal compliance of boilers - is therefore particularly important. Similarly, the company’s ISO 9001, ISO 14001 and ISO 45001 certifications in energy plant operations and maintenance set AES apart from competitors, who either have no ISO or only manufacturing compliance. This is very key within the timber sector, as AES is often responsible for the operation and maintenance of clients’ energy plants on sites in remote locations.

A large part of AES's competency and value offering to its clients also lies in on-site boiler and energy plant staff training and management, made all the more challenging by low literacy levels on some sites.

"We have been privileged to really make a difference by facilitating literacy training where required, thereby unlocking further career path growth – and quality of life - for those participating," Williams enthuses.

Branching out

Over the past decade, Williams reports that AES has witnessed much realignment within the timber value chain: "We are now engaging with companies looking to invest in new plant and equipment, providing them with more efficient energy and water utilisation throughputs and economies of scale – currently key operational and economic considerations."

He also points out that AES considers what clients plan to do with the biomass generated - and how to manage the quantities thereof. "We try to find a solution using as little of this vital resource as possible, enabling our client to on-sell the rest. Getting the right balance is imperative," he explains.

Closely related to this is AES helping to source greener fuel sources – such as timber biomass - for clients in other sectors wanting to offset the use of fossil fuels by using biomass to fire their boilers.

However, there are challenges. High fuel costs mean transport of biomass from rural sawmills is expensive. Distances travelled could also inadvertently increase users' carbon footprint in the name of sustainability, Williams warns.

"Furthermore, as timber biomass has a low calorific value, the actual content per mass is low and bulky: loaded onto a 30 ton vehicle, it might only yield 11 tons of fuel. If loaded with coal, there will be 25 to 26 tons of material with a far higher calorific value – potentially double – depending on how much moisture is in the wood biomass," he explains.

Another challenge is the cost of biomass – a key deciding factor for new plant investment: "It all comes down to economics. The originator wants to sell it for the best possible price. So, while the burning of biomass rather than the burning of coal is preferable, our client may not be able to pay the price that the timber mill wants."

Future growth

For AES, the timber sector is currently very fluid: "Many timber residue producers with spare biomass are trying to figure out what this new marketplace means for them. If they are not using

the material themselves, they want to maximise what they can do with it. If AES wants to purchase it to convert into a fuel source for thermal energy, we need a 10-year agreement to secure the funding for a new biomass steam plant,” he notes.

He continues: “The coal, gas and liquid fuels market is very established. We know the parameters and how the economics work. However, in the biomass space, it is a bit of a ‘Wild West’ scenario, because companies are deciding what works best in this volatile, dynamic marketplace.

“In summary, whether AES is optimising operations and maintenance - or innovating around the use of biomass as a greener fuel source – we are confident that the timber sector provides a real ‘plantation’ of opportunity to assist plant owners in ‘seeing the wood for the trees’ – and processing this as optimally and successfully as possible,” Williams concludes.

Ends

(885 words)

Note to Editors:

AES is a pioneering, innovative, reliable and experienced steam and boiler operations and maintenance (O & M) service provider. The company has been in existence for over 25 years and is widely regarded as the leading O & M provider in steam and boiler operations and maintenance service in South Africa. Target industry sectors include power generation, chemical, plastics and rubber, timber, pulp and paper, textiles, food and beverage, dairy, poultry and mining.

AES’s purpose is to assist industrial plants to optimise their energy production processes, and achieve energy usage best practices, through the following offerings: the mitigation of risk and the reduction of plant downtime; the procurement of efficient fuel combustion; assistance with the care of assets over the plant’s lifetime; diversification of the plant’s energy resources; improvement in site operations; and a reduction in carbon footprint.

AES subscribes to the highest ethics and operates according to high safety standards, process excellence and product and service innovation, exhibiting a commitment to quality, technology advancement and the development of human capital. AES invests heavily in training and the promotion of talented people on an equal opportunity basis into the industrial operations environment. The company believes that making a positive difference to communities and the environment is the best way to ensure that everyone benefits from good work.

AES is ISO 9001, 14001 and 45001-certified, ensuring that the company maintains a focus on achieving, benchmarking and optimising its processes and activities.

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