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Biomass to Energy: 2025 emerges as a strong year with over 3 GW of capacity added worldwide

The global market for Biomass to Energy (BtE) remains attractive. 2025 saw the strongest expansion since 2018 – despite a slump in China, which had previously dominated the global market for years. Most new capacity was added in Asia, while Europe remains the leading region for investments into the business. These are key findings of the 16th edition of ecoprog's annual study on the global BtE market.

Overall, ecoprog estimates that around 180 new BtE plants were installed in 2025. The global plant asset thus rises to more than 5,800 BtE plants with a combined electricity generation capacity of 94.7 GW_{el}. Asia has the largest portfolio with more than 38 GW_{el}, followed by Europe with around 24 GW_{el}. By 2034, ecoprog forecasts an increase to around 6,800 BtE plants worldwide, with a total capacity of almost 109 GW_{el}.

Biomass to Energy therefore remains an attractive market, even after China's slump. In 2025, only around 10 plants with a combined capacity of 200 MW_{el} went into operation in China, compared to around 60 plants totalling 2.3 GW_{el} in 2021. China's market slump can primarily be attributed to market saturation and reduced subsidies. In contrast, the Japanese market remains strong, with large-scale projects still being announced and implemented. Examples include the 50 MW_{el} plants in Tomakomai and Gobō, both completed in 2025. Over the next ten years, ecoprog expects Japan to add more than 3 GW_{el}, although development is likely to slow down beyond 2030. Nevertheless, the Asian BtE market remains dynamic as more countries expand BtE. For Vietnam, for example, ecoprog expects an expansion of around 800 MW_{el} in the coming decade.

Europe also remains a key BtE market. High investment volumes are driven by ongoing new projects, some of which large in scale, as well as an extensive maintenance and modernisation market. In Spain, for example, EUR 250 million is being invested in Solvay's project in Torrelavega. In Poland, the Częstochowa plant is being converted from coal to biomass for around EUR 100 million.

At the same time, Europe's BtE market is shifting. Sustainability requirements are becoming more stringent under the EU's RED III. Support for biomass power is decreasing, while there is more focus on biomass-based heat. Europe's future BtE development will be increasingly tied to decarbonising heat for industry and district heating. This will open up new opportunities in the market. In France, for example, the heating market is developing dynamically; the French heat fund had a volume of around EUR 800 million in both 2024 and 2025.

In North America, the US remains an important BtE market, despite an uncertain policy environment. Large-scale coal conversions and replacements, as well as BECCS (Bioenergy with Carbon Capture and Storage) projects, will drive development. The BtE market in South America will continue to be dominated by Brazil. Around 3 GW_{el} are forecasted to be added in Brazil in the next decade, driven by the country's strong sugar & ethanol and pulp & paper industries.

ecoprog's *Biomass to Energy* study is the industry's leading reference work on the use of solid biomass for energy generation. Further information on the current edition, *Biomass to Energy 2025/2026*, is available at www.ecoprog.com.

As a recognised industry insider, ecoprog supports domestic and international clients with strategy and implementation-oriented consulting in environmental and energy technologies. This includes market and competition analyses, due diligence, and multi-client studies.

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