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Biomass to Power: Europe with strong capacity growth, market slump in China

The global market for the generation of electricity from solid biomass continues to grow. Japan is developing into the strongest market in Asia. In Europe, growth is being driven by demand for heating. Until 2032, ecoprolog expects more than 1,200 plants with a total capacity of more than 19.1 GW_{el} to go into operation worldwide.

ecoprolog publishes the 14th edition of its annual study on solid biomass power generation. In 2023, the global asset of biomass power plants grew by around 90 plants with a total capacity of more than 2.7 GW_{el}. At just under 950 MW_{el}, capacity growth in Europe was almost on a par with the leading region of Asia.

In Europe, the influence of heat demand for industry and district heating as a determining factor for new projects continues to grow. This is also and especially the case in Germany, where increased project activity can be observed despite an already large plant portfolio. The comparatively high growth in Europe last year is primarily due to the commissioning of major projects in Finland and the United Kingdom. Outside of individual projects in industry, such large-scale projects are no longer being developed in Europe. Spain is an exception to a certain extent, as projects in the size category of around 50 MW_{el} are being developed here with the help of subsidies from separate biomass auctions.

In Asia, ecoprolog expects Japan to become the most important market for new developments in the region. On the one hand, the country has the largest project pipeline in the world, built up through (formerly) generous subsidies. On the other hand, the reduction of subsidies in China has led to a market slump in the country. Whether and to what extent the Chinese market can recover also depends on further political decisions. However, ecoprolog does not expect the market to come to a complete standstill, not least due to the high availability of biomass.

In Central and South America, Brazil remains a strong market due to the ethanol and sugar industry. It is unclear whether the existing biomass potential will also be utilised to a greater extent in other countries in the region in the future. One example is Argentina, a country with high biomass potential, where biomass auctions were held in 2023 for the first time since 2019. At the same time, the country is currently facing an uncertain political future.

In the coming years, carbon capture and storage or utilisation at biomass power plants (Bioenergy with Carbon Capture and Storage, BECCS) may represent an opportunity for electricity generation from solid biomass. In the future, negative emissions could generate revenue from CO₂ removal certificates. The USA is leading the way here, where various large-scale projects with BECCS are being discussed. In addition, BECCS is to be promoted as part of the new biomass strategy in the United Kingdom for the provision of base load electricity.

ecoprolog's "Biomass to Power" study is the industry's leading standard work on the conversion of solid biomass into electricity. Further information on the current 2023/2024 edition is available at www.ecoprolog.com.

As a recognised industry insider, ecoprolog supports domestic and foreign clients in implementation-oriented management issues with a political, technical or economic background in environmental and energy technology. The company is active in strategy consulting as well as market and competition analyses and multi-client studies.

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