

Asia remains strongest growth market

The capacity increase of the global solid biomass to power market is rising the second year in a row. The drivers are the still dynamic Asian markets as well as the traditionally strong Brazilian market. While Europe will not reach growth rates of recent years anymore, new opportunities evolve from a changing heat market. For the forecast period 2021-2030, ecoprolog expects more than 1,500 plants with a combined capacity of about 23.2 GW_{el} to become operational worldwide.

ecoprolog is publishing the 12th edition of its annual Biomass to Power report. In 2021, the global biomass power plant asset increased by around 120 plants with a combined capacity of almost 2.9 GW_{el}. As in the last years, Asia is the strongest region with a capacity growth of 1.6 GW_{el} in 2021, followed by South and Central America and Europe.

About 1.1 GW_{el} of the additional capacity were installed in China and India alone. In both countries, we expect the growth rates to remain high due to the existing support schemes and the agricultural biomass potential.

In India, biomass to power also plays a role in the fight against the environmentally harmful open paddy straw burning. In this context, the co-incineration of biomass in coal-fired plants shall be supported. China plans to increase the competitiveness in its support scheme, which is why a less dynamic development can be expected in the years to come.

Additionally, Japan is a boom market, triggered by the attractive incentive scheme which was implemented in 2012. For the next five years, we expect a record capacity growth in the country. In the future, however, the market will undergo similar developments as the European market with a shift to smaller projects. Japan has a low biomass potential and depends on imports. In addition to the supply of agricultural biomass through Southeast-Asian countries, American pellet producers enter the market to meet the demand. At the same time, new sustainability criteria for biomass fuel will be implemented.

Brazil remains the only dynamic market in South and Central America. The country with the biggest biomass power plant asset worldwide, with a capacity of about 15.4 GW_{el}, has a strong sugar and ethanol industry, where most of the asset is located. While the renewable energy auctions were suspended in 2020 due to the Covid-19 pandemic, this was balanced by the auctions in 2021, where about 480 MW_{el} of additional biomass capacity were awarded – the highest value since 2014. Additionally, large-scale projects in the pulp industry are developed in Brazil and Chile as well.

In Europe, the strong growth rates of recent years, mostly attributable to large-scale projects in the Scandinavian countries and the UK, will not be reached anymore. In general, the trend towards more competitive support schemes for renewable energy and cascade use of biomass is ongoing in Europe. In line with the development, the European Commission aims to make sustainability criteria for biomass fuels in the European Union stricter.

However, new opportunities evolve on the continent through the changing heating market, both in the industrial and district heating segment. Biomass remains one of the most important options to replace heat generation from fossil fuels, even though new large-scale conversions are mostly a thing of the past. In Germany, several projects often based on wood waste are already underway. In Poland, we expect similar projects to evolve in the

future – the country has the second-biggest coal-fired plant asset in Europe after Germany. Furthermore, new conversion or replacement projects appear for instance in Portugal, Spain and France.

In the future, bioenergy could gain importance in the global decarbonisation pathways with the roll-out of new technologies such as hydrogen production or carbon capture and storage. Especially the bioenergy with carbon capture (BECCS) concept, under which biomass power plants create negative emissions, could become a positive market factor, for instance in regions like North America, where the biomass potential is generally high, but subsidies are not sufficient.

ecoprolog's "Biomass to Power" study is the leading standard reference in the industry for electricity generation from solid biomass. Find further information on the current 2021/2022 edition at: www.ecoprolog.com.

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