

Japan Exploits Local Forestry Sector to Step up Woody Biomass Power Generation¹

New and Renewable Energy Group
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Biomass power generation using biological fuels has expanded in Japan, supported by the feed-in-tariff system launched in 2012. Particularly, large projects have been announced one after another for woody biomass power generation that can protect forests and invigorate forestry.

In early August, Japan Pulp and Paper Co. said it would build a 14-megawatt woody biomass power plant costing some 6.5 billion yen in Noda Village, Iwate Prefecture, from April 2016². The local Noda forestry cooperative and other forestry business operators in Iwate Prefecture will provide woods. As well as unused woods, tree barks will be utilized for wood chips to invigorate local forestry.

Also in early August, major textile maker Kurabo Industries Ltd. said it would start woody biomass power generation at its factory site in Anan City, Tokushima Prefecture³. Investing 3 billion yen, the company will construct a 6.2 MW power plant at the site for commercial operation starting in April 2016. All wood chips as the plant's fuel will be provided by a local company engaged in wood trade.

In June, Electric Power Development Co., also known as J-Power, reportedly launched a 24-hour production system at a woody biomass fuel plant (in Kobayashi City, Miyazaki Prefecture) under its joint venture with Miyazaki Prefecture's forestry cooperative to expand woody biomass fuel output in the prefecture by 50% from the previous fiscal year. The company vowed to raise biomass's share of fuels for its thermal power plants and support local forestry promotion.

Woody biomass power generation has the following advantages: (1) abundant domestic forest resources can be used to invigorate forestry, (2) mainly timber from forest thinning and lumber residues are used in a manner to help protect forests, and (3) it is easy to develop cooperation with other primary industry sectors such as agriculture and fisheries. A woody biomass resources distribution map, made by the New Energy and Industrial Technology Development Organization

¹ The Institute of Energy Economics, Japan, has produced this report based on news reports and its own viewpoints and analysis under a contract awarded by the Ministry of Economy, Trade and Industry for the international energy use rationalization measures project (overseas energy conservation survey).

² <http://www.kamipa.co.jp/news/release/337>

³ http://www.kurabo.co.jp/news/newsrelease/20140731_1323.html

(NEDO)⁴, indicates abundant unused wood resources including timber from forest thinning over a wide range of regions other than metropolitan areas. In these non-metropolitan regions, the procurement of timber from forest thinning and the production of wood chips for power generation are expected to promote the invigoration of local industries and employment.

There is a fine example of cooperation with primary industry sectors. In July, major energy distributor Eneres Co. said it would embark on the construction of a woody biomass power plant in Saeki City, Oita Prefecture⁵. Its project has three components -- fuel chip production using timber from forest thinning in the city and wood waste from saw mills, biomass power generation with fuel chips, and eel farming using residual heat from power generation. In this way, the company plans to combine local primary industry sectors such as forestry, fisheries and agriculture with power generation. The Saeki biomass power generation project represents the first project under the plan.

Meanwhile, woody biomass power generation in Japan has many challenges. One challenge is that the amount of timber from forest thinning available on the market is rather limited and that it may be difficult to procure fuel. Another is that many of the woody biomass power generation projects fail to cover cogeneration, wasting energy. Some people complain that the FIT system is inconvenient. Feed-in tariffs considerably differ for unused timber from forest thinning, wood waste from saw mills and recycled wood, while requirements for written certificates for origin of wood and for processing wood into chips have made relevant procedures cumbersome⁶. FIT system revisions and deregulation may be required to address these challenges in the future.

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⁴ <http://app1.infoc.nedo.go.jp/biomass/biomas/jpg/COOutKK25.html>

⁵ <http://www.eneres.co.jp/pr/20140724.html>

⁶ Certificates for all steps must be prepared. If unused wood is procured at a high cost and appropriate certificates fail to be prepared, it may be deemed as recycled wood subject to the feed-in tariff.