

Press release | 4 October 2022 | Vantaa Energy | Remeo | Berner

Activated Biochar Plant planned by Vantaa Energy would open new value chain for recycling chain of materials and produce carbon-neutral heat and activated biochar

Vantaa Energy is planning to build an Activated Biochar Plant that enables even more environment friendly heat production by processing non-recyclable wood with a non-combustion-based method. The carbon-dioxide emissions of heat production in the metropolitan region will fall by up to 60,000 tonnes a year. As the end product of the process will be produced both carbon-neutral heat into Vantaa Energy's heating network and bio-based activated biochar for areas of use in communities and industry, for example in the cleaning processes of waters and gases in industry. The Activated Biochar Plant project creates a new circular economy business model that gathers together the operators of the value chain to solve the utilisation of non-recyclable wood as a secondary raw material. The plant is part of Vantaa Energy's Carbon Negative 2030 project entity.

Vantaa Energy is planning to build an Activated Biochar Plant that would produce activated biochar and carbon-neutral heat from recovered secondary raw materials. The raw material used in the Activated Biochar Plant is non-recyclable wood which is currently utilised by burning into energy. Non-recyclable wood waste is processed in an oxygen-free pyrolysis process producing bio-based activated biochar and process heat as an end product.

The production of activated biochar would significantly increase the recycling rate of non-recyclable wood waste. The carbon-neutral heat produced by the plant would be recovered into Vantaa Energy's heating network providing energy that is produced in an environment friendly way. Activated biochar is used in a number of areas, for example in the cleaning processes of industrial and community waters and gases.

The Activated Biochar Plant would produce about 8,000 tonnes of activated biochar a year using about 60,000 tonnes of non-recyclable wood waste as raw material. The non-combustion-based heat produced in the plant would reduce carbon dioxide emissions in the metropolitan region by up to 60,000 tonnes a year. The commissioning of the plant is scheduled for 2027.

Vantaa Energy's partners in the project development are the environmental management company Remeo and the conglomerate Berner. The Activated Biochar Plant would enable more environment friendly heat production for Vantaa Energy, a sustainable solution for recycling of customers' non-recyclable wood waste for Remeo and new business in the sale and distribution of activated biochar in Finland and in the export market for Berner.



Finnish Remeo is known for its innovative materials recycling solutions. In this project Remeo is the main partner in delivering the non-recyclable wood material for the process. In this project it has been crucially important for Remeo to seek a sustainable solution in utilising otherwise non-recyclable recovered wood. The Activated Biochar Plant is the next step in the recycling of wood waste. The plant reflects positively for Remeo's customers, the producers of waste materials, as the plant will contribute to the improvement of the recycling rate and helps to meet the 70% recycling rate required by the legislation.

Berner has experience in similar partnerships with other companies with the Berner Industries business unit being responsible for the sale, distribution and marketing of the product in Finland and overseas. There are also potential customers for activated biochar already in Berner's current clientele in several different countries.

- It is great to co-operate with leading companies in the sector and to see that circular economy is taking huge leaps forward. It is also extremely important to find other alternatives to utilise non-recyclable wood than combustion, summarises Kalle Patomeri, Production Director of City Energy at Vantaa Energy Ltd.

- Remeo's mission is to reduce Finland's CO2 emissions. Remeo does this by promoting circular economy with solutions that can help Finnish businesses to reduce their carbon footprint. Non-recyclable wood is the most significant major waste fraction that does not have an industrial-scale recycling solution yet. With the Activated Biochar Plant project we have specifically sought a solution for this problem. The project is closely aligned with Remeo's strategic aim to develop circular economy solutions and to be a leading producer of recycled materials. The project on bio-carbonisation of wood enables a significant increase in the recycling rate of construction sites and other wood waste producers. It is a right step in the utilisation of non-recyclable wood, says Remeo's Business Director Mauri Lielähti.

- We are extremely happy to have the opportunity of being a partner in this project that strongly promotes sustainable development. Sustainability is one of Berner's strategic focuses and we aim to increase the share of circular economy in our turnover. The project also further supports our internationalisation endeavours, says Mika Pirhonen, Director of Berner Industries business unit.

Further information

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Vantaa Energy

Vantaa Energy is one of Finland's largest city energy companies. We produce heat, electricity and energy-efficiency services. We enable a smooth everyday life for our customers with climate-friendly, constantly developing services.

The energy sector plays a significant role in the mitigation of climate change. We want to be part of the solution. We are a growing circular economy energy company that invests in finding carbon-neutral energy solutions. We will phase out the use of fossil fuels by 2026 and continue our progress towards carbon negativity in 2030.
www.vantaanenergia.fi

Remeo

Remeo is a Finnish environmental management company. Remeo develops and invests in new circular economy solutions for recovering the waste of yesterday for use as the raw materials of tomorrow. Circular economy plays a key role in fighting climate change, and Remeo's mission is to reduce Finland's CO2 emissions by increasing the recycling rate. Turning waste into recycled materials is the most critical and challenging phase in the value chain, for which Remeo offers the best solutions in the market. In 2021, Remeo's turnover totalled EUR 92 million. Remeo operates throughout Finland and employs more than 400 professionals in circular economy.
www.remeo.fi

Berner

Established in 1883, Berner Ltd is a growing and internationally expanding Finnish family company with four business areas. Its high-quality domestic and international products are part of the everyday lives of Finnish people. In 2021, our Group's turnover totalled EUR 417.7 million, and we have more than 800 employees. Our headquarters, research and development units and production plants are located in Finland, and our subsidiaries are in Sweden, Norway, Denmark and the Baltics. Berner has a long track record of operating responsibly, and sustainability is at the heart of everything we do, i.e. protecting tomorrow – we work to ensure well-being and good living for all of us, also 100 years from now. #protectingtommorrow.
www.berner.fi

