Second life for blades of Dutch wind farm “Irene Vorrink”.

Blades of wind farm Irene Vorrink will be recycled and turned into sports equipment, insulation materials or components for solar farms. Dutch wind farm Irene Vorrink is the first wind farm to be decommissioned after Vattenfall set new and ambitious targets to recycle all blade waste by 2030. Vattenfall has partnered with several projects to find circular solutions for the complex to recylce turbine blades.

Eva Philipp, Head of Environment and Sustainability Business Area Wind: “As the wind industry continues to grow to provide fossil-free energy across the globe, Vattenfall is committed to supporting a circular economy which reduces environmental impacts throughout the product lifecycle. ”

Wind turbines already have a recyclability rate of 90%. Most components of a wind turbine – the foundation, tower, components of the gear box and generator – are recyclable and are treated as such. But turbine blades represent a specific challenge, because of the composite materials they are made up of.

Currently, there are no large-scale sustainable solutions to address these challenges. That is why Vattenfall engages in research and testing of more advanced recycling technologies.

To recycle the blades of Irene Vorrink, two partners have been contracted who will process the blades and explore options for recycling: Norwegian Gjenkraft and the LIFE CarbonGreen consortium of partners. Educational institute ROCvA will receive two blades to use as training tool for future wind turbine mechanics.

In the coming weeks, the blades of Irene Vorrink will be decommissioned and brought to the port of Kampen, where they will be cut into pieces suitable for further transport and the intended recycling technology.

Norwegian Gjenkraft AS will use the blades to produce recycled fibers, synthetic oils and gas, which will be used to produce among others sports equipment like skis and snowboards or insulation materials. LIFE CarbonGreen is a research project that is looking into new ways to process the blades producing among other components for solar farms.

These plans are part of Vattenfalls ambition to phase out blade waste. By 2025, 50% of the blades should be recycled, by 2030 Vattenfall aims for a 100% recycling rate, and landfill is banned already from now on.

About Vattenfall
Vattenfall is a leading European energy company, which for more than 100 years has electrified industries, supplied energy to people’s homes and modernised our way of living through innovation and cooperation. We now want to make fossil-free living possible within one generation and the ambition of Vattenfall’s Business Area Wind is to accelerate fossil free living with the power of renewables and be a frontrunner in sustainability. That's why we are driving the transition to a sustainable energy system through initiatives in renewable production and climate smart energy solutions for our customers. We employ approximately 20,000 people and have operations mainly in Sweden, Germany, the

Netherlands, Denmark, and the UK. Vattenfall is owned by the Swedish state. For more information: group.vattenfall.com

About Gjenkraft AS

Our recycling technology is based on a variation of the pyrolysis process which enables us to recover glass and carbon fibres, synthetic fuels and carbon from the waste. The target market is the wind industry, mainly wind turbines blades, and other industries, i.e. boats, automotive, aviation, and construction. The innovative process of thermal treatment of composite waste designed by us is the answer to the market demand for sustainable waste treatment services. Our target customers are companies that adapt their waste management policy to EU and EEA regulations and circular economy policy. Thanks to our comprehensive approach we can secure added value for both upstream and downstream customers.

Web page: https://www.gjenkraft.com/

About LIFE CarbonGreen

The CarbonGreen project, co-funded under the LIFE20 ENV/NL/000200, is bringing a new solution able to transform secondary raw materials, like the wind turbine blades, into products or intermediates. The technology can process all kinds of material streams. In contrast to current methods the process only uses electricity and has no chemical consumption, other than some additives, ultimately producing basic valuable compounds. Finally, these CarbonGreen products can be recycled again, ensuring circularity and zero waste.

"Thanks to our innovations, we can support the wind industry in its ambitious goals towards a circular value chain" – says Mr. Ludwin Daal from Blue-Expert, the start-up that is coordinating the CarbonGreen Consortium. The process can create new high-value products like components for solar farms or activated carbon which can be used to purify our waters, air, and soil.

Web page: www.carbongreen.eu