

# U S VIRGIN ISLANDS STORA ENSO BATTERY



Will Stora Enso and Northvolt create sustainable batteries? Stora Enso and Northvolt will create sustainable batteries using renewable wood from Nordic forests. Credit: (C) Northvolt. Swedish battery manufacturer Northvolt has signed a joint development agreement with Stora Enso to develop wood-based batteries.



What is Stora Enso & Northvolt? Stora Enso and Northvolt are joining forces to create sustainable batteries using lignin-based hard carbon produced with renewable wood from the Nordic forests. The aim is to develop the world's first industrialised battery featuring an anode sourced entirely from European raw materials, lowering both the carbon footprint and the cost.



How much lignin does Stora Enso produce a year? The annual lignin production capacity is 50,000 tonnes and the Group is also evaluating its first industrial production of Lignode at the Sunila site through a feasibility study. Stora Enso and Northvolt are joining forces to create sustainable batteries using lignin-based hard carbon produced with Nordic wood.



What is Stora Enso? At Stora Enso, we believe that everything that is made from fossil-based materials today can be made from a tree tomorrow. As another proof of this, we produce bio-based carbon called Lignode(R) by Stora Enso, used for sustainable electrification. Our aim is to meet the demands of the global battery market by developing renewable alternatives.



What is lignin-based hard carbon (lignode(R) by Stora Enso)? Our lignin-based hard carbon, Lignode(R) by Stora Enso, will secure the strategic European supply of anode raw material, serving the sustainable battery needs for applications from mobility to stationary energy storage, says Johanna Hagelberg, Executive Vice President for Biomaterials at Stora Enso.

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How many employees does Stora Enso have? Stora Enso has approximately 22,000 employees and our sales in 2021 were EUR 10.2 billion. Stora Enso shares are listed on Nasdaq Helsinki Oy (STEAV, STERV) and Nasdaq Stockholm AB (STE A, STE R). In addition, the shares are traded in the USA as ADRs (SEOAY). [storaenso.com](http://storaenso.com)



Northvolt and Stora Enso have entered into a Joint Development Agreement to create a sustainable battery using lignin-based hard carbon produced with renewable wood from Nordic ???



Cupforma Special??? by Stora Enso Cupforma Special is an excellent paperboard for enjoying ice cream and other foods, whether at home or on the go. Lightweight yet strong, Cupforma Special's renewable raw material and lower weight mean that it puts less of a burden on the environment than plastic cups, while also saving on transport costs.



AvantForte samples - order yours now. The production of our new AvantForte kraftliner has begun, and the A4 sample sheets are now available. If you wish to receive samples of this innovative packaging material and join the forerunners ???



Lignode(R) by Stora Enso. Lignode(R) by Stora Enso is a hard carbon that is a bio-based alternative to graphite made from lignin intended for the battery market. Lignin is an existing side stream in the production of cellulose fiber, therefore its production doesn't require any additional harvesting.

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Stora Enso Packaging Baltics has mills in Estonia, Latvia and Lithuania that produce corrugated board sheets and packaging, from both virgin and recycled fibre. Corrugated board packaging solutions are produced using both in-line and die-cut production processes in up to six-colour flexo printing. Key facts. Stora Enso Division: Packaging Solutions



Renewable projects developer OX2 has agreed to acquire the project rights for a 170MW wind farm in Sweden from Stora Enso. Located in Ovan?ker, G?vleborg County, the H?lsingeskogen wind farm will feature 37 ???



The aim is to develop the world's first industrialized battery featuring anode sourced entirely from European raw materials, lowering both the carbon footprint and the cost. The joint battery development with Northvolt ???



Stora Enso k?ytti innovaatioihin sek? tutkimus- ja kehitysty?h?n 146 (141) miljoonaa euroa eli noin 1,7 % liikevaihdostaan. Lis?ksi olemme perustaneet ketter?sti hy?dynnett?vi? sis?isi? korvamerkittyj? rahastoja, joiden varoja voidaan kohdistaa lupaaviin projekteihin. Immateriaalioikeuksien merkitys strategiamme



About Stora Enso. Part of the global bioeconomy, Stora Enso is a leading provider of renewable products in packaging, biomaterials, wooden construction and paper, and one of the largest private forest owners in the world. We believe that everything that is made from fossil-based materials today can be made from a tree tomorrow.



Stora Enso and Arauco have completed the acquisition of the majority of Grupo ENCE 's operations in Uruguay announced on 18 May 2009. The joint acquisition on a 50/50 basis includes approximately 130,000 hectares of owned land and plantations, 6,000 hectares of leased lands and other

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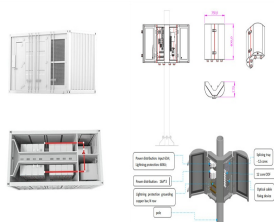
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operations owned by Grupo ENCE in the central and ???

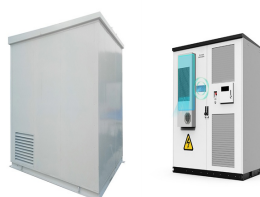
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Lignode (R) by Stora Enso is a sustainable hard carbon derived from lignin, a product from the manufacturing of pulp, to be used as an anode material in both lithium-ion and sodium-ion batteries. It serves as a more sustainable alternative to current incumbent anode solutions. In addition to its sustainability benefits, lignin makes up 20-30% of a tree, which ???



Krais highlights the importance of collaboration between Stora Enso, brand owners, and consumers in achieving sustainable packaging goals. Stora Enso works closely with brand owners to educate consumers about the benefits of sustainable packaging and ensure clear communication on recyclability. The company offers expertise in various areas such as:



Biomass developer Stora Enso, along with other partners, will invest \$18m in New Zealand-based biomaterials producer CarbonScape for its biographite technology.. According to a press statement from CarbonScape ???



Swedish battery manufacturer Northvolt has signed a joint development agreement with Stora Enso to develop wood-based batteries. According to a company statement, the batteries will feature an anode created ???



Stora Enso and Northvolt are joining forces to create sustainable batteries using lignin-based hard carbon produced with renewable wood from the Nordic forests. The aim is to develop the world's first ???

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Let's build in wood, for future generations. There is an urgent need for more schools???at least 15 000 in Europe alone. To find a fast and sustainable solution, we developed an easy-to-build school kit made of wood.



Altris, a Swedish Sodium-ion Battery developer, and Stora Enso, a Finnish pulp and paper maker, have teamed up. They aim to adapt Stora Enso's hard carbon material, Lignode, as an anode material in Altris' Sodium ???



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Performa Agile by Stora Enso is a coated liner especially designed for high-end consumer packaging. It protects your products and gives them a high quality finish. Stronger packaging made from 100% virgin fibre. Large packaging usually protects delicate products such as consumer electronics ??? TV"s, computers and other appliances



Here's where Stora Enso's new kraftliner differs from the rest: AvantForte WhiteTop has 3 layers that are all enforced using 100% virgin fibers only. This advanced Tri-Ply??? technology guarantees superior compression strength, bending stiffness and humidity performance ??? the ability to withstand natural elements and other tough conditions.



The commercialisation of Stora Enso's lignin-based innovations is progressing. In October 2022, we signed a Letter of Intent with Beyonder, a Norwegian energy storage technology company. The Letter of Intent covers optimisation of properties and commercial deliveries of

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lignin-based anode material for batteries after industrial-scale production has started.



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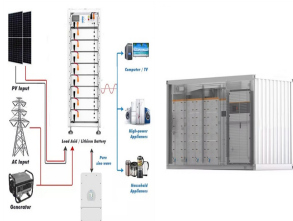
Sustainable forest and plantation management is essential for Stora Enso in securing long-term availability of wood ??? our most important renewable raw material. Stora Enso is one of the largest private forest owners in the world, with forest assets valued at EUR 8.7 billion (forest land and biological assets) in 2023.



I would also like to receive news and updates, e.g. email newsletters and industry insights from Stora Enso. I consent to Stora Enso using my personal data for providing me more information. Your consent is voluntary. You may withdraw your consent at any time by unsubscribing using the unsubscribe link in every email or contacting Stora Enso as



Stora Enso uses dry lignin to manufacture Lignode and aims to create a European supply chain for the lithium-ion battery industry. Our target is to offer the most sustainable and lowest-impact anode material available, to ???



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Stora Enso, a global maker of renewable solutions for packaging, paper and biomaterials, opened a new dry-forming production unit in Sweden. "The dedication of our team and the collaboration with PulPac and other suppliers has enabled us to scale up this innovative technology to meet



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the continuously growing demand for high-quality and

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As construction materials used in the world today account for 11% of the global CO<sub>2</sub> emissions, there is a need to shift from non-renewable construction materials like steel and concrete to renewable, low carbon and circular building materials, such as wood. It is important to look at the lifecycle impact of a building and new building concepts that can support green cities and ???



??? Right now, global EV battery manufacturing is a crucial part of the EV value chain. Up to 95% of anode materials are produced in China, but the growing demand requires us to find a European solution, Kivi states. The solution: Stora Enso's Lignode(R): a battery material made from trees



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