# Energy storage for electric vehicles helsinki

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Helsinki-headquartered Virta in April declared it has raised 30 million euros in funding for broadening the reach of its electric vehicle charging platform, providing yet another sign of the growing momentum and expectations for electric transport.

The excitement surrounding electric transport and renewable energy often overshadows the fact that the core business quite literally driving them - batteries - is also experiencing an uptick economically and environmentally. The growth of electric traffic and renewable energy has prompted predictions that the value of the European battery market will reach 250 billion euros by 2025.

Finland in January became one of the first countries in the world to unveil a national battery strategy, devised to establish itself as a competitive, competent and sustainable player in the global market.

Founded on the availability and processing of raw materials such as cobalt, nickel, lithium and graphite, production and research of battery materials and recycling, and expertise in digitalisation and electrification, the strategy sets the country up to assume a significant role in building a complete value chain for batteries, viewed Minister of Economic Affairs Mika Lintil?.

"We are eager to build dialogue with other countries on halving transport emissions by 2030 and, in connection to this goal, on developing a sustainable battery industry. Responsible operations, traceability, safety and carbon neutrality are guiding principles for the Finnish battery sector - from minerals to recycling."

Expertise in battery recycling is expected to be in particularly high demand, as increasingly cost-efficient methods, strict environmental regulation and ambitious sustainability targets make recycling an appealing option for cell manufacturers striving to supplement the supply of virgin materials.

While estimates suggest only about five per cent of lithium-ion batteries are currently recycled worldwide, the market is projected to grow sharply in the coming years. Europe alone could have over 130 000 tonnes of lithium-ion batteries to recycle in 2030, over two-thirds the amount available for recycling worldwide today, according to Hans-Eric Melin, director of Circular Energy Storage, a London-based consultancy specialising in lithium-ion battery life-cycle management.

"The main goal of all our research is to find ways to return, in an economically viable way, as big a proportion as possible of the battery materials to battery production. It"s important to understand both the primary process as well as the secondary process in order to fully optimise the refining chain," noted Mari Lundstr?m, professor at Aalto University.

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Fortum, a Finnish majority state-owned energy company, is shaking up the value chain for industrial and electric vehicle batteries with a low-carbon dioxide recycling solution capable of utilising up to 80 per cent of batteries, thus ensuring cobalt, lithium, nickel and other scarce metals are returned to circulation from end-of-life products.

"The growing need for batteries consumes enormous amounts of rare metals. If we run out of these scarce metals, we can bid farewell to further electrification and the increasing use of renewable energy sources," told Tero Holl?nder, head of battery business at Fortum.

Fortum reported earlier this month that its effort to support the industrial deployment of a comprehensive battery recycling service concept has been recognised with a grant of almost 1.9 million euros under an innovation project funded by the European Commission. The grant was presented by Business Finland.

One use case for end-of-life batteries probed by the company is energy storage. Fortum in April stated it will begin piloting a battery solution developed with Comsys and Volvo Cars at its hydropower plant in Landafors, Sweden. The solution utilises batteries that no longer have the necessary capacity to function in plug-in hybrid cars as energy storage in a bid to extend the life of the batteries and hydropower turbines.