

Exclusive interview with **EMMA NEHRENHEIM**

President at
Northvolt Materials,
Northvolt Group, Sweden



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“Securing a paradigm shift in battery manufacturing through recycling”

ICM: Tell us about your career path before becoming President for Materials at Northvolt

Emma Nehrenheim: With my background in academia, I have contributed to a diverse array of research projects, ranging from biogas and wastewater treatment to high-energy materials, organics, and metals recycling, including work on explosives. I then transitioned into industry, where I could directly observe the impact of my research.

I joined Revolt, Northvolt's in-house recycling unit, a pioneering start-up in sustainable battery manufacturing founded in 2016. Revolt, despite having grown to over 250 employees, operating a 4 GWh recycling and production facility, still maintains its agile and innovative start-up spirit.

As President for Materials at Northvolt, I oversee the company's initiatives to establish a circular battery value chain, focusing on battery recycling the production of our own cathode active material and developing the company's raw material strategy.

ICM: What is different about the way Northvolt approaches battery recycling?

Emma Nehrenheim: Integrating battery recycling alongside the expansion of battery manufacturing capacity is central to our strategy for embedding sustainability into Europe's growing battery industry. While the ambition presents challenges, our drive to succeed is

unwavering—battery recycling offers a transformative opportunity to reshape the future of the battery industry.

The company is uniquely positioned to capitalize on significant challenges that we face, such as the global expansion of lithium-ion battery manufacturing and the growing demand for a sustainable metals supply chain. To do so, we currently have a strategy which is built on two key pillars: our in-house hydrometallurgical battery recycling technology, which allows us to recover materials that are conventionally lost in the recycling process, and a fossil-free energy supply.

We recycle all lithium and nickel-based battery technologies, and our plant, the largest battery recycling facility in Europe, benefits from a direct feed from the Norwegian hydropower network. We are also in the process of relocating our supply chain to take advantage of this unique power source, further contributing to our goal of achieving a carbon footprint of just 10kg CO₂e per kWh of cells produced by 2030.

ICM: What are your ambitions for Northvolt in the next few years?

Emma Nehrenheim: Our aim is to ensure that 50% of the materials used in our battery production come from recycled sources by 2030. Achieving this goal is certainly challenging, but if we are to make a meaningful contribution to the sustainable development of an innovative and competitive battery value chain in Europe, we must set ambitious objectives that drive innovation and creativity.

As the initial euphoria around the industry fades and more players enter the field, the industry is now maturing and entering the consolidation phase, as the sector evolves and scales its production activities. This is a normal progression in any industry and should not deter us from maintaining our momentum.

At Northvolt, we believe collaboration is key to overcoming these challenges, and we are actively seeking partnerships in several areas where we see potential for mutual benefit and cost-effective scaling of our operations.

I am confident that there is a strong business case for pursuing a circular economy in battery recycling. However, this endeavor must be both profitable and contribute to a sustainable future—for Northvolt and for the European battery recycling supply chain as a whole.