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Northvolt's struggles: a cautionary tale for the EU Clean Industrial Deal

In designing a new industrial policy, the European Commission should reflect on the troubles of the Swedish battery maker

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The crisis at Northvolt, a Swedish battery maker that in November filed for Chapter 11 protection against creditors in the United States, is a warning for the European Union over the future direction of its industrial policy. After its founding in 2017, Northvolt – a partner in the flagship EU industrial policy initiative the European Battery Alliance – became a symbol of the EU's clean-tech ambitions and its goal of creating a competitive, homegrown battery value chain. The company's spectacular unravelling highlights in particular that the classic failures of state interventionism must be avoided. Lessons from Northvolt should be taken into account in the EU Clean Industrial Deal, to be proposed in February.

Northvolt aimed to capture 25 percent of Europe's battery market by 2030 and it was given substantial public and private backing to do so[1]. Institutional support in various forms came from the European Investment Bank (EIB), the EU and the German government. This public backing attracted major private investors, including Volkswagen, which became Northvolt's largest shareholder in 2019 with a 21 percent stake, followed by Goldman Sachs with a 19 percent stake. A $5 billion loan secured by the company from the EIB, the Nordic Investment Bank, and 23 commercial lenders to finance the expansion of its plant in Skellefteå, Sweden, remains the largest green loan ever raised in Europe[2].

Northvolt's expansion plans included gigafactories in Sweden and Germany, a plant in Canada and energy storage and recycling facilities in Poland. With $55 billion in secured orders, including substantial pre-orders from Volkswagen, BMW and other

carmakers, Northvolt appeared well-positioned to become a market leader in Europe's clean-tech revolution.

Cracks began to emerge however when the Skellefteå plant struggled to meet production targets, delivering less than 1 percent of its 16 GWh capacity in 2023[3]. Know-how shortfalls became evident in the company's heavy reliance on imports of Chinese cathode material and Chinese machinery, which would often require Chinese personnel to operate it[4]. Northvolt ultimately lost orders[5] and failed to secure new funding, leading to the Chapter 11 filing[6]. Northvolt's financial distress has sent shockwaves through Europe's clean-tech landscape, with Germany exposed to a potential €620 million loss[7].

Europe's vulnerabilities

The turmoil highlights systemic vulnerabilities for clean-tech in Europe: the persistent reliance on foreign suppliers for critical inputs, the challenge of managing the rapid scaling-up of manufacturing capacity and the difficulty of competing with established players in Asia.

It is important to recognise that while Northvolt was the first to reach commercial production, it is not the only European player in the battery sector. Others include Verkor[8] backed by Renault, ACC[9] supported by Stellantis, and PowerCo, on which Volkswagen has partnered with China's Gotion[10]. Northvolt's difficulties risk sparking a wave of pessimism throughout the European battery supply chain, casting doubt on its overall viability. This sentiment risks triggering a ripple effect of investor hesitation, which could undermine the confidence necessary for the remaining ventures to thrive and impeding Europe's collective clean-tech momentum at a critical juncture.

More broadly, clean industrial policy will be at the core of the EU policy agenda in the next five years. The European Commission has said it will propose in late February 2025 a Clean Industrial Deal that would combine horizontal policy measures aimed at creating a more conducive environment for clean-tech manufacturing and industrial decarbonisation investment, with vertical policy interventions targeting the development of specific sectors that are deemed strategic. In preparing the Clean Industrial Deal, the Commission should reflect on the lessons of the Northvolt experience.

Three lessons from Northvolt for the Clean Industrial Deal

First, Europe needs to reconcile its clean-tech ambitions with the realities of innovation. Building a competitive high-tech industry requires resilience and acceptance of risks. Northvolt's story underscores the need for a culture that embraces experimentation and understands that setbacks are part of the process. Northvolt's setbacks are part of the natural risks of innovation and not a verdict on the viability of Europe's overall clean-tech goals.

In particular, to mitigate systemic risks and limit taxpayer exposure, the EU should foster a diversified ecosystem of ventures, rather than relying on 'champions'. Supporting multiple innovative players is the way to build resilience, ensuring that the inevitable failures in the innovation cycle do not derail Europe's broader industrial strategy.

Second, the EU approach to foreign competitors should be assessed carefully, with the possible development of a strategy that we would define as 'derisking by embracing'. Europe should not focus on cultivating domestic champions in sectors in which Chinese, Korean or Japanese firms dominate in terms of both production costs and technological innovation. In relation to batteries, it is evident that Chinese firms dominate the global market, producing cheap but innovative cells.

Rather than shutting out foreign expertise, Europe should seek to build strategic partnerships with Chinese and other Asian firms, leveraging their knowledge and manufacturing efficiency, while offering market access in return. Of course, such partnerships should be governed by a solid regulatory framework to ensure European security interests – starting with cybersecurity. A 'location over ownership' approach – with production within Europe, regardless of ownership – could provide a pragmatic path towards Europe's triple objectives of decarbonisation, competitiveness and resilience.

Third, vertical industrial policies sometimes fail and the approach cannot be fixed completely even by implementing our first two recommendations. European policymakers need to better match ambition with execution and should know that

subsidising companies without strong framework conditions for them to thrive is a recipe for failure.

The failure to deliver on clean-tech projects such as Northvolt reflects a broader weakness in scaling-up clean technologies from innovation to large-scale production[11]. Europe has excelled at funding research and piloting innovative projects but its approach often lacks clear incentives and the focus on measurable outcomes that is needed to support full-scale deployment. The right framework conditions for clean-tech investment – including difficult items such as lower energy prices and developing skills and capital markets – are fundamental prerequisites to achieve real progress.

The fact that the EU approved German assistance for Northvolt even when production scalability problems were emerging should also be a cautionary tale for the European Commission. Threats by companies seeking backing that they will leave Europe and move investment to the US might be correlated with operational problems. The threat to Europe's position in clean tech owes mainly to a lack of a comprehensive industrial strategy equivalent to those of other major regions (Draghi, 2024). The US Inflation Reduction Act, which ties support directly to production milestones (such as generating a kilowatt-hour of battery capacity or a kilogramme of green hydrogen), and China's state-directed industrial policies have created environments in which clean-tech ventures can thrive at scale. Europe now needs to design its own industrial policy approach, which should be granular and sector-specific.

A well-calibrated clean industrial policy must be dynamic, adaptable and rooted in realistic assessments of Europe's comparative advantages. If these are lacking, partnering with foreign players – 'derisking by embracing' – is advisable. More than focusing on winning a global clean-tech race, the EU should focus on achieving its decarbonisation, competitiveness and resilience goals in the smartest and most-efficient manner possible.

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Endnotes

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