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#1 Securing Critical Materials for Critical Sectors

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Key Takeaways

- Both the Netherlands and the European Union are highly dependent on a secure supply of critical raw materials and manufactured goods. Problematic given the fact that other countries, in particular China, control large market shares in these sectors.
- The energy-, transport- and digital technologies-sectors, and more specifically, wind turbines, photovoltaic solar power, geothermal, energy grid infrastructure, carbon capture & storage, electric vehicles and semiconductors, are all highly dependent on China, not only in terms of technology, but also in terms of components and raw materials.
- In the Netherlands and other Western countries, the industry has been securing critical supplies independently from governments, whereas China's long-term strategy deeply involves the government in industrial extraction and production of raw materials.

Recommendations

1. Develop a long-term national strategy that reflects the needs of industrial actors.
2. Support small/medium enterprises to collaborate on industrial objectives.
3. Conduct R&D for innovative waste collection, processing and re-using.
4. Invest in resource-abundant countries in order to diversify supply.
5. Encourage capacity-building in technical expertise for policymakers.

Interventions to be supported on the EU level

- Expand European Raw Materials Alliance
- Support application of R&D in waste processing and recycling
- Analyse EU stocks and waste flows to map potential of secondary CRM
- Invest in mining expertise within the Union
- Set standards for sustainable and responsible finance and mining practices
- Develop strategic international partnerships

Executive Summary

The Netherlands' geopolitical ambitions align with the European Union's long-term goals of climate neutrality and digital autonomy. The fulfilment of these goals depends on a secure supply of critical raw materials and manufactured goods, yet the Netherlands and the EU remain dependent on other countries for strategic value chains, including materials, components and products. China controls dominant market shares in critical raw materials and intermediary sectors, including rare earth elements needed for wind energy and electric vehicles. This report identifies strategies and policy instruments that the Netherlands, in collaboration with the EU, can apply to reduce import dependence on critical raw materials and associated technologies.

The report analyses dependencies in the energy, transport and digital sectors, including wind turbines, photovoltaic solar power, geothermal, energy grid infrastructure, carbon capture and storage, electric vehicles and semiconductors. Based on projected material demand and supply chain ownership, high dependence on China is identified for technologies, their components and raw materials.

To mitigate potential supply disruptions, the report examines strategies such as resource nationalism, diplomatic and industrial alliances, diversification of suppliers, standardization, R&D and circular economy approaches. These strategies are operationalized into policy interventions aimed at enhancing the resilience of industrial supply chains. While Western countries have largely relied on industry to secure supplies independently from governments, China has pursued a long-term strategy characterized by deep government involvement in industrial extraction, production and supply chain development, securing access to strategic resources abroad and strengthening its grip on complete value chains.

The report recommends that the Netherlands prioritize the development of a long-term national strategy reflecting the needs of industrial actors in securing supply chains. The government should take a leading role in securing critical materials and technologies, while prioritizing multilateral and multilevel policy coherence. Recommended strategies include R&D for innovative waste processing, advanced materials and substitution in support of the circular economy, as well as support for industrial alliances and sustainable international investments in mining and refining sectors. Resource diplomacy, technical capacity building and investment in human capital are also identified as essential.

Cooperation at EU level is considered pivotal in reducing dependence on non-EU players such as China. The report concludes that the Netherlands should strive not for complete autonomy, but for increased resilience through diversified and secure global supply chains capable of managing disruptions in a rapid, flexible and effective manner.