The EU Raw Materials Act
WindEurope's contribution to the European Commission consultation

November 2022

Europe's new energy security strategy REPowerEU prioritises renewables, and wind energy, as key technologies delivering simultaneously energy security, economic recovery and the green transition. Wind energy covers 15% of Europe's electricity today but is set to grow to 43% by 2030 based on the European Commission's REPowerEU Action Plan. This means 510 GW of wind energy installations by 2030 up from 190 GW today. The European Commission wants wind energy to provide 50% of Europe's electricity in 2050. This entails 1,300 GW installed capacity by then at an average path of nearly 40 GW capacity per year.

Wind energy is a strategic sector for Europe's economy and industrial leadership. Nearly all wind turbines installed in Europe are manufactured in Europe. We export €8bn p.a. worth of equipment around the world. We employ 300,000 people and that should be 450,000 by 2030.

However, the European wind energy supply chain is currently facing challenges which are a drag to its global competitiveness and growth. These include sub-optimal EU market volumes for wind energy due to continuous permitting bottlenecks; lack of national auction schedules to provide visibility for investments in the supply chain; auctions for wind energy capacity that are still decided for the most part on price-only and don't reward investments in the supply chain. Adding to that global supply chains for raw materials such as steel, aluminium, copper and rare earths have faced disruptions due to the pandemic and the war in Ukraine and are susceptible to further geopolitical disturbances. Furthermore, continuous quotas and tariffs on materials we use in the production of wind turbines and other equipment are limiting the already scarce material supply and increasing costs for European manufacturing. In fact, a high number of the raw materials required are available from limited regions of the world.

The new EU Raw Materials Act can help address some of the challenges faced by the European wind supply chain and ensure it can deliver cost-competitively the objectives set by REPowerEU and the long-term European decarbonisation goals.

State of play on raw materials supply for wind energy

Manufacturing wind turbines and components requires stable, secure supply and cost-competitive supply of raw materials such as **concrete**, **iron**, and **steel** that make up more than 90% of the mass of a turbine, including the foundation. In addition, **aluminium, chromium, copper, manganese, molybdenum, nickel, and rare earth elements (e.g., neodymium, dysprosium, praseodymium)** are used in wind turbine components. The consumption of these materials is expected to increase in the coming decades in line with Europe's green and digital transition[1]. However, for most of these input materials the supply today is already under heavy constraint, in particular due to:

- Structural shortage of European supply: local raw material production is insufficient to meet alone the current and future demand across European economic sectors. Most of the material deposits and production sites lie outside of the continent. For some of the most essential materials, e.g. rare earths, the EU's import reliance for extraction and refinery is today at 100%. High import dependency exposes the industry to liabilities such as logistics

disruptions and price fluctuations from global commodity markets.

- EU's trade and trade defence policy is still not aligned with the EU energy and green transition objectives. The wind energy sector is today subject to quotas and tariffs for seven key raw materials and components required in the manufacturing of turbines and wind equipment. This is most evident in the case of the safeguard on **steel**. Steel represents over 75% of the mass of a turbine. The insufficient quotas reduce the material availability and room for choice for the industry. This leads to unnecessary cost increases. The EU should also actively address export restrictions imposed by third countries that are WTO-incompatible when they heavily impact access to essential raw materials in monopolistic markets.

To secure the competitiveness of the wind energy sector and deliver on the REPowerEU and Green Deal targets the industry needs to be able to procure materials based on three simultaneous factors: availability, quality and cost. So stable, continuous and cost-competitive supply of raw materials and rare earths is a priority to avoid uncertainty for project investments and pressure on competitiveness.

The wind industry priorities for the EU Raw Materials Act

For the **short-term**, the EU Raw Materials Act should:

- **Prioritise sectors like wind energy that are key for delivering the green and digital transition.** Renewables, and wind energy, are already identified as a key and strategic sector under the EU industrial strategy and, in the immediate term, are paramount for fulfilling the new EU energy security strategy REPowerEU and supporting Europe in getting itself out of fossil fuel dependence.

- **Cover all raw materials for wind technology**[2]. The EU strategy should also go beyond the primary materials and include semi-processed and composite materials of same strategic economic importance and shortage, namely glass fibres, carbon fibres, and their derived products.

- **Call for an alignment of EU energy, trade, and industrial policy for wind energy**, e.g. the existing approach on EU trade defence instruments versus their impact on green technologies and expansion targets.

- **Aim for trade diversification in supply chains**. The EU needs to increase cooperation and partnerships with third countries that have cost-competitive resources and ensure they adopt the highest social and environmental standards. For instance, the text of the Free Trade Agreement with Australia includes a new and auspicious specific chapter on raw materials. This and future strategic trade agreements negotiations could include provisions that give **priority/ preferential access** to key raw materials.

- **Channel EU and national public funding programs to support manufacturing capacity investments** in the EU e.g. via the national Recovery & Resilience Plans. The Act should aim to **kick start local capacity for separating and refining imported rare earths and for manufacturing permanent magnets**. Considering long lead times in establishing such

industrial base, investments decisions must be taken already today. In addition, the Commission should aim to incentivise the (re)-use of domestic waste streams.

- **Build upon already existing initiatives** such as the EU Industrial Forums and the European Raw Materials Alliance to monitor and manage the raw materials supply as well as collecting direct input from industry on technology and material developments.

- **Align the Act with other cross-sectorial legislation.** Long-term visibility is critical to wind energy supply chain planning in terms of e.g. investments in facilities and procurement flows. The Raw Materials Act should call on Member States to expediate the auction volumes translating the EU 2030 Energy & Climate targets, index auctions to inflation e.g. in raw material prices, apply non-price criteria in auctions to support the further development of a sustainable supply chain, and to assess the required supply chain and raw material needs this entails in the 'Competitiveness' chapter of the 2030 National Energy & Climate Plans due for revision in 2023.

For the **medium term**, the EU Raw Materials Act should aim to maximise investments in Research & Development (R&D) already now notably to:

- **Aim to incentivise further sustainability and circularity of materials** for wind energy to ensure the best societal and environmental impact of the energy transition. The necessary investments in recycling infrastructure need to be deployed already today for when most of the wind volumes will be available for recycling after 2030.

- **Reduce the use** of materials while keeping and/or increasing their efficiency.

- **Explore alternative technologies and substitutive materials** that are easier to access (e.g. permanent magnets that do not need rare earths) to ease pressures in the existing supply chains.

- **Identify Projects of Common Interest to develop a European permanent magnets industry** (from rare earths processed from China, Canada, Australia and others) and **prioritise national and EU funding into the exploration of substitution and recyclability options**.

- **Enhance and consolidate partnerships with public and private sectors in third countries on mutual cooperation in R&D**. Other countries, including USA, Japan, China, have already started taking important steps to develop solutions locally.

- **Assess the option of voluntary stockpiling of critical materials at national level as a buffer to future supply chain disruptions.** Such potential measure should however avoid any intrusion into commercially sensitive information and business strategies by private companies.

- **Assess the opportunities and challenges of increasing domestic raw material, semi-processes and composite materials production in the EU**.