Net-Zero Industry Act

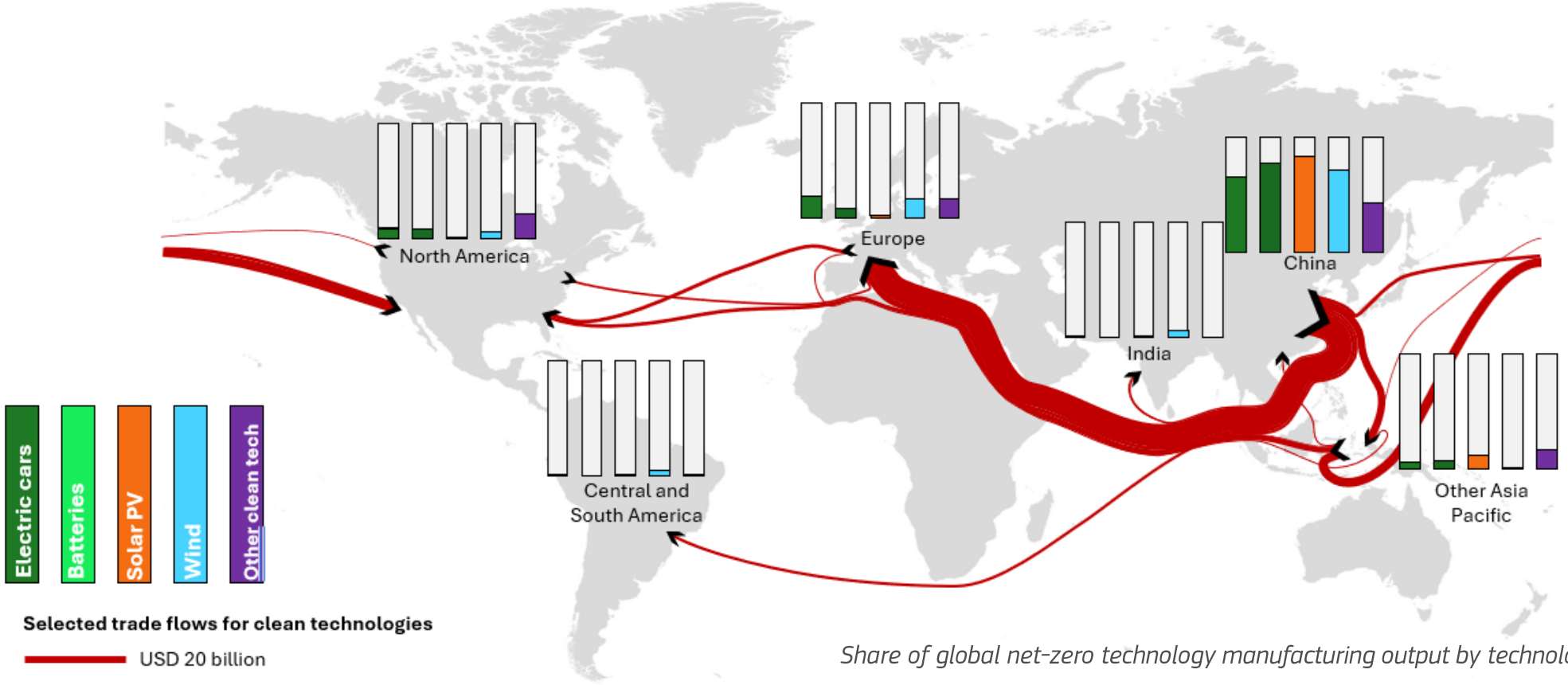
Data strategies for monitoring and implementing the Net-Zero Industry Act

Jacopo Tattini

DG GROW, European Commission

Building Resilient and Robust Clean Energy Supply Chains,
27 November 2025

Status of net-zero technology value chains



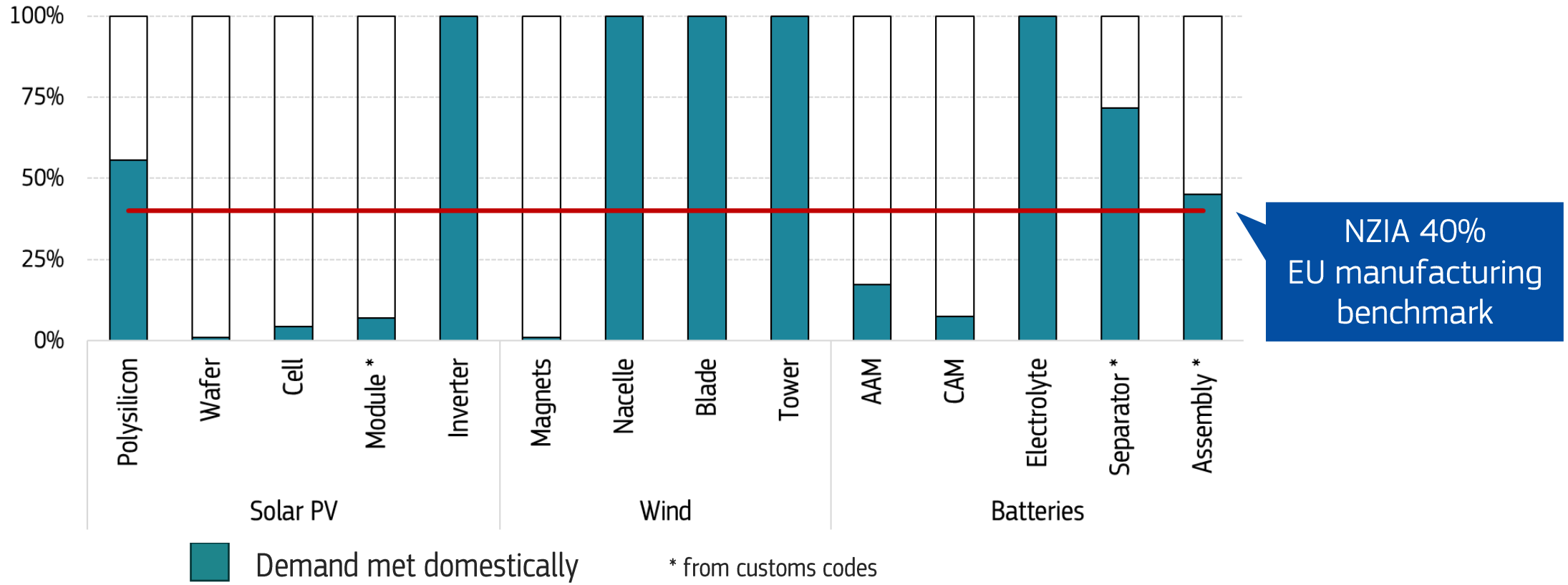
Share of global net-zero technology manufacturing output by technology, IEA 2023

The EU strategic dependency remains in place

European Commission

General objective of Net-Zero Industry Act

“Establishing a regulatory framework to ensure the Union’s access to a secure and sustainable supply of net-zero technologies including by scaling up the manufacturing capacity of net-zero technologies and their supply chains”.



NZIA scope

- Solar technologies, including: solar photovoltaic, solar thermal electric and solar thermal technologies;
- onshore wind and offshore renewable technologies;
- battery and energy storage technologies;
- renewable energy technologies, not covered under the previous categories;
- heat pumps and geothermal energy technologies;
- hydrogen technologies, including electrolysers and fuel cells;
- sustainable biogas and biomethane technologies;
- carbon capture and storage technologies;
- electricity grid technologies, including electric charging technologies for transportation and technologies to digitalise the grid;
- nuclear fission energy technologies, including nuclear fuel cycle technologies;
- Sustainable alternative fuels technologies;
- hydropower technologies;
- energy system-related energy efficiency technologies, including heat grid technologies;
- renewable fuels of non-biological origin technologies;
- biotech climate and energy solutions;
- transformative industrial technologies for decarbonisation not covered under the previous categories;
- CO2 transport and utilization technologies;
- wind propulsion and electric propulsion technologies for transportation;
- nuclear technologies not covered under previous categories.

NZIA measures

Enabling conditions for net-zero manufacturing

Streamline **permitting** processes (single point of contact, legally binding time-limits)	**Strategic projects** (priority status, shorter permitting time-limits)	**Acceleration valleys** (areas to promote creation of net-zero industry clusters)

Access to markets

Public procurement: Environmental sustainability, resilience contribution	**Renewable energy auctions**: Non-price criteria as pre-qualification and award	**Other forms of public intervention**: Resilience and sustainability contribution

Skills Net-Zero Academies	Governance and monitoring	Innovation Regulatory sandboxes	Carbon capture and storage market

European Commission

Resilience contribution

Public procurement

- **Resilience contribution applied if there is a third-country dependency** in EU supply of net-zero technologies' final products or main specific components.
- No more than 50% of the overall value procured for that final product and main specific components can originate from the third-country concerned.
- Resilience contribution is not applied to countries that are GPA signatories and in case of disproportionate cost difference.

Renewable energy auctions

- **Resilience contribution applied if there is a third-country dependency** in EU supply of net-zero technologies' final products or main specific components.
- Final product and X main specific components cannot originate from the third country-concerned.
- Resilience applied to at least 30% of the volume auctioned every year and in case of cost difference above 15% per auction.

Other forms of public intervention

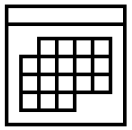
- Resilience contribution applied based on the proportion of the technology originating from a third country that accounts for more than 50% of the EU supply.

Communication on ‘shares of Union supply’

To assess the shares of Union supply from top third-country supplier to identify **net-zero technologies to which resilience contribution has to be applied.**

Shares of Union supply are calculated whenever possible using data from:

- **Combined Nomenclature (CN) codes** for import and export statistics - COMEXT database
- **PRODCOM codes** for production statistics - PRODCOM database.



Annually-updated information:

- Preliminary informal data provided in Quarter 3
- Publication of Communication with official data in Quarter 1 of the subsequent year (Communication constitutes the official information for triggering resilience contribution)

European Commission

Main data needs for monitoring and implementing the NZIA

1) **Manufacturing capacity data** – for the NZIA benchmark

CHAPTER VIII

MONITORING

Article 42

Monitoring

1. The Commission shall monitor on an ongoing basis:

(a) the Union's progress with respect to the Union's objectives referred to in Article 1, in particular the supply risks of net-zero technologies that would distort competition or fragment the internal market, and the related impact of this Regulation;

(b) the Union's progress in meeting the benchmarks referred to in Article 5, taking into account constraints and opportunities on the global market;

(c) the value or volume of imports into its territory and exports outside of the Union's territory of net-zero technologies;

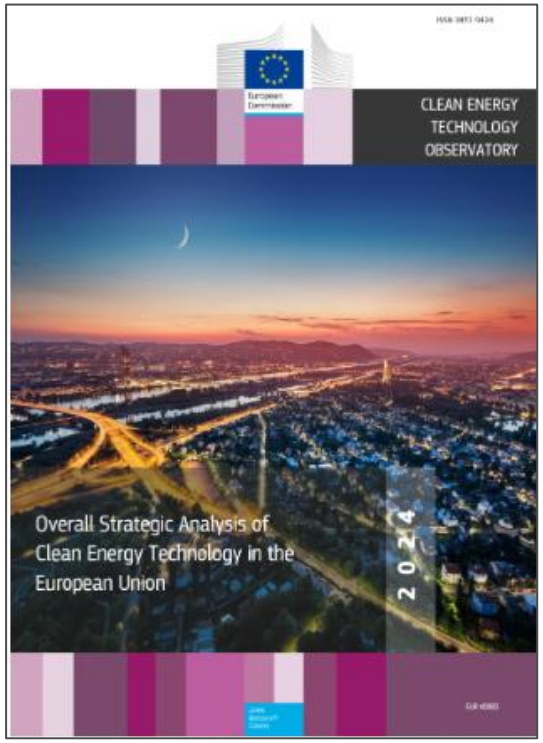
(d) the progress with respect to the Union level objective of CO_2 injection capacity referred to in Article 20 and to the related CO_2 transport infrastructure as well as the related CO_2 capture activities.

2) **Trade statistics and production statistics** – for the NZIA resilience contribution

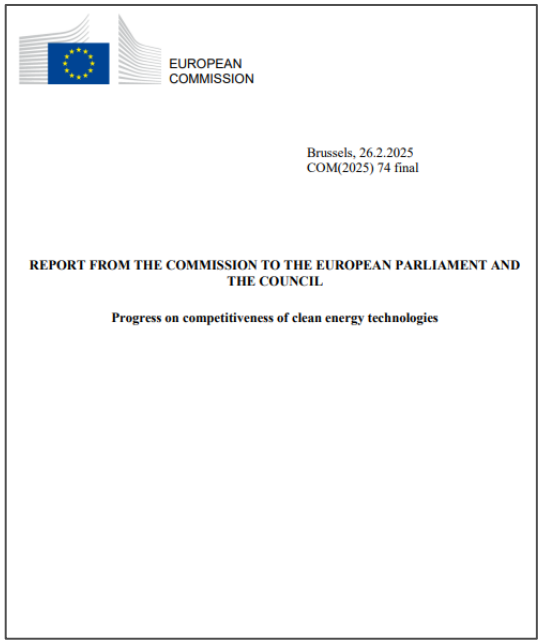
Manufacturing capacity – Data collection

DG ENER's contractor study

Clean Energy Technology Observatory



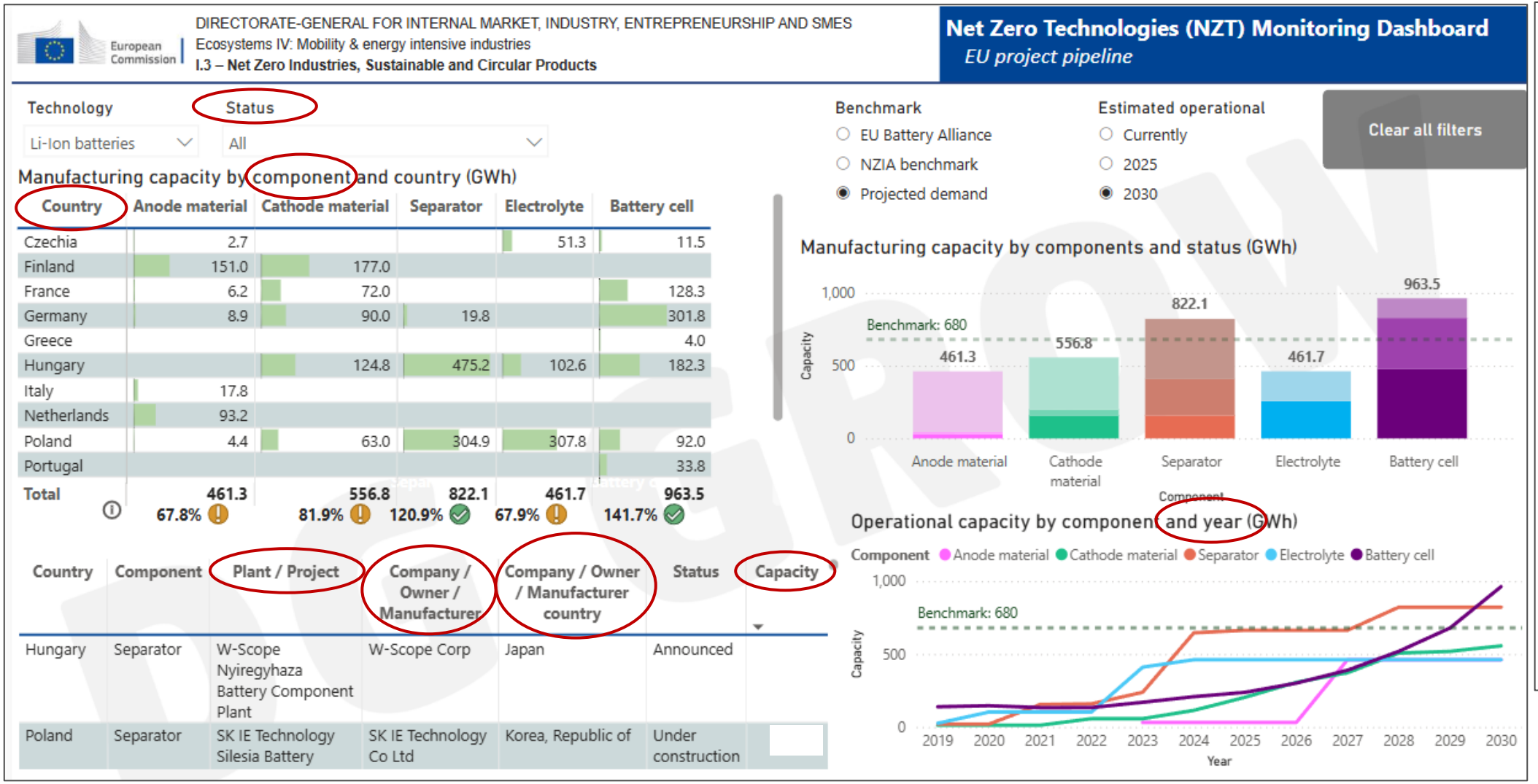
Competitiveness progress report



DG CLIMA's contractor study

European Commission

Manufacturing capacity – Metrics needed



Metrics:

- Technology
- Component
- Country
- Plant name
- Company name
- Capacity
- Status
- Entry into operation
- End of operation

Manufacturing capacity - Scope

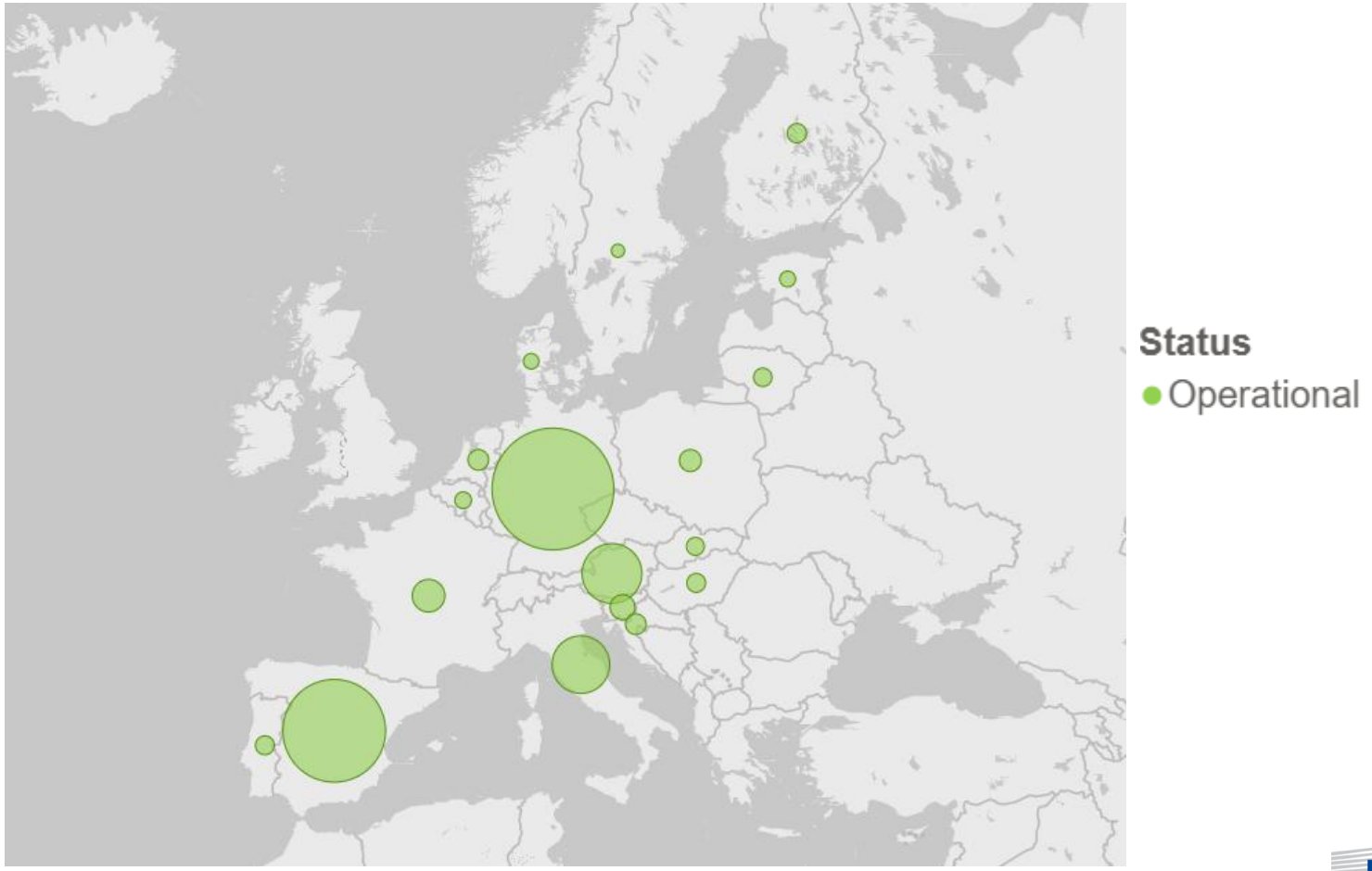
- solar technologies, including: solar photovoltaic, solar thermal electric and solar thermal technologies;
- onshore wind and offshore renewable technologies;
- battery and energy storage technologies;
- renewable energy technologies, not covered under the previous categories;
- heat pumps and geothermal energy technologies;
- hydrogen technologies, including electrolysers and fuel cells;
- sustainable biogas and biomethane technologies;
- carbon capture and storage technologies;
- electricity grid technologies, including electric charging technologies for transportation and technologies to digitalise the grid;
- nuclear fission energy technologies, including nuclear fuel cycle technologies;
- sustainable alternative fuels technologies;
- hydropower technologies;
- energy system-related energy efficiency technologies, including heat grid technologies;
- renewable fuels of non-biological origin technologies;
- biotech climate and energy solutions;
- transformative industrial technologies for decarbonisation not covered under the previous categories;
- CO_2 transport and utilization technologies;
- wind propulsion and electric propulsion technologies for transportation;
- nuclear technologies not covered under previous categories.

Data available | Data identified | Data not identified

European Commission

Manufacturing capacity – Some results

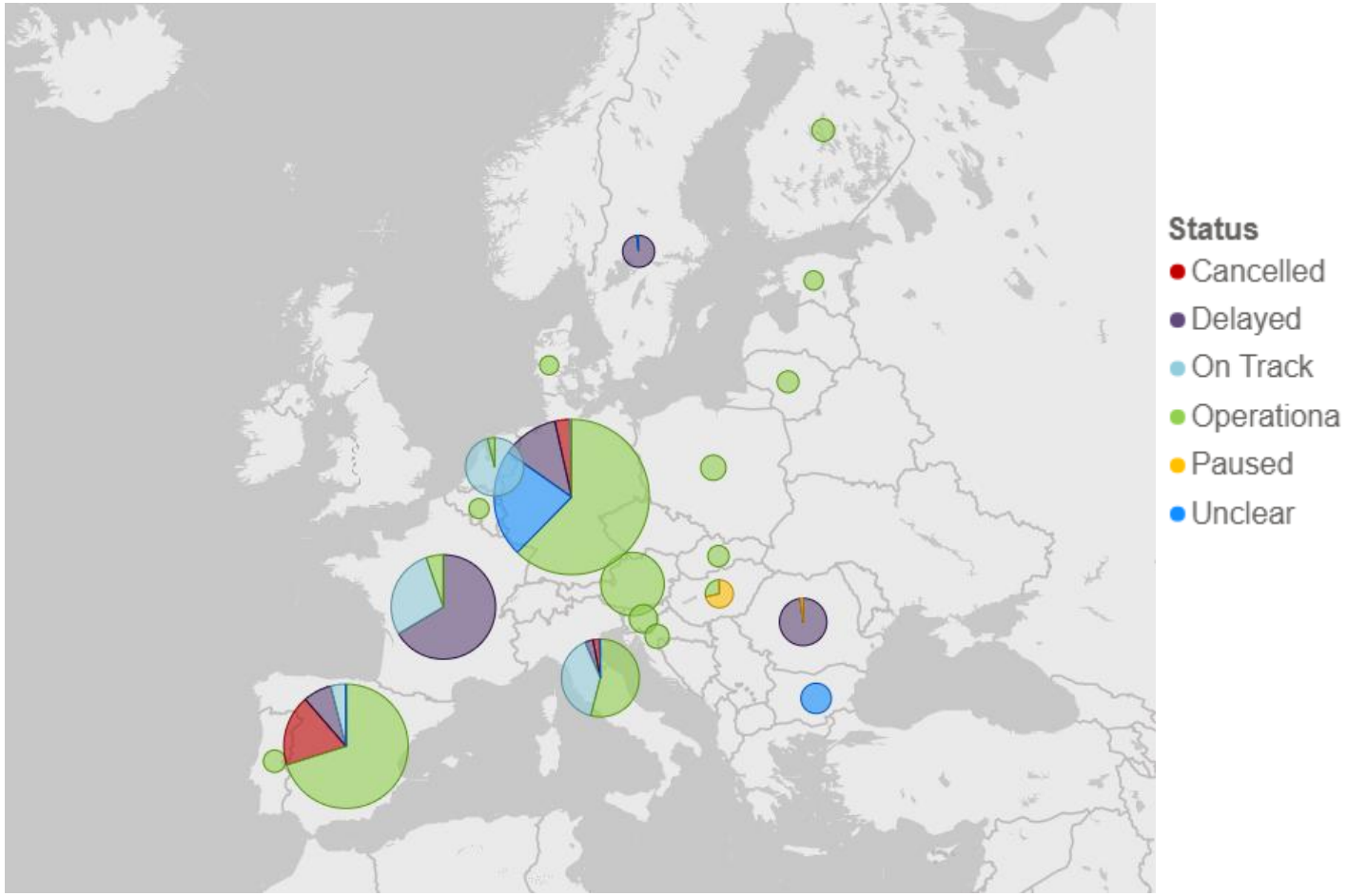
Solar PV manufacturing capacity in the EU for the whole value chain, 2025



European Commission

Manufacturing capacity – Some results

Projected solar PV manufacturing capacity in the EU, 2030



European Commission

Draghi Report

THE FUTURE OF EUROPEAN COMPETITIVENESS — PART B | SECTION 1 | CHAPTER 5

1. Ensure full, accelerated implementation of the NZIA.

Swift and effective implementation of the NZIA will help to reverse the current downward trend of the EU's competitiveness in clean technologies. The Commission should push forward or accelerate a set of actions to:

- **Secure complete, reliable and up-to-date data for entire value chains.** Data will be fundamental, for example, for the preparation and updating of secondary legislation envisaged in the NZIA. To this end, the European Commission should update customs codes to cater for clean technologies and propose possible updates to the EU's statistical system. It should, moreover, further reinforce its analytical basis in the European Commission's Joint Research Centre (JRC) and draw as much as possible on data from the EU industry and the International Energy Agency (IEA).

Source: The future of European competitiveness

European Commission

New trade and production statistics - Process

- **Identification and classification of Combined Nomenclature (CN) codes** relevant to net-zero technologies' components:
  - A) CN code(s) identified
    - 1. CN code(s) cover only that product ✓
    - 2. CN code(s) cover also other products X
  - B) CN code(s) cannot be identified X

  → Technology granularity of CN codes is not excellent
- **New CN codes have been developed** for components under class A2) and **new PRODCOM** (production statistics) **codes have just been approved** for the same components:
  - Solar technologies: PV wafer, PV inverter
  - Wind technologies: Wind turbine blade, Wind turbine tower
  - Batteries: Li-Ion battery anode active material, Li-Ion cathode active material, Li-Ion separator
  - Hydropower technologies: hydro turbine rotor, hydro turbine stator
  - Hydrogen technologioes: hydrogen water electrolyser stack, hydrogen fuel cell

New trade and production statistics - Results

Table 1

Shares of the Union supply from the three third countries of origin with the highest value of imports, 2023

Sub-category of net-zero technology	Final product	Main specific component	Share from top third country supplier [country]	Share from second-largest third country supplier [country]	Share from third-largest third country supplier [country]	Methodology
PV technologies	**Solar PV systems**		**79 % [China]**	1 % [Japan]		**Combination of CN codes**
PV technologies		**PV modules + PV cells or equivalent[4]**	**94 % [China]**			**CN codes**
PV technologies		**PV inverters**	**50 % [China]**	3 % [Japan]	2 % [United Kingdom]	**CN codes**
PV technologies		**PV wafers or equivalent** (1)	**79 % [China]**	6 % [United States]	6 % [Taiwan]	**TARIC codes**
Solar thermal technologies	Solar thermal systems		2 % [China]			CN codes
Onshore wind technologies, Offshore wind technologies	Onshore wind turbines; Offshore wind turbines (2)		2 % [India]			CN codes
Onshore wind technologies, Offshore wind technologies		Towers	9 % [Türkiye]			TARIC codes

European Commission

Conclusions

- The Net-Zero Industry Act encourages the **scale up of manufacturing capacity** of net-zero technologies in the EU, and the **diversification of supply** in case of high dependencies.
- **Manufacturing capacity data** for net-zero technologies in the EU is being collected via several initiatives → Complex to cover all technologies and their components.
- **New Combined Nomenclature and PRODCOM codes** will be developed to identify the dependencies of EU supply of net-zero technologies from third countries → Long time required.
- **DG GROW welcomes collaborations to improve availability and reliability of net-zero technologies supply chain data in support of EU policy making.**

Thank you

Contact

Jacopo.tattini@ec.europa.eu

European Commission