

United Nations Conference on Trade and Development

Multi-Year Expert Meeting on Commodities and Development, 16th session

9-10 December 2025, Geneva

OECD's Work on Secure and Resilient Mineral Supply Chains

By

Przemyslaw Kowalski, Trade and Agriculture Directorate, OECD

The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.

OECD's Work on Secure and Resilient Mineral Supply Chains

Przemyslaw Kowalski
Trade and Agriculture Directorate, OECD

Multi-year Expert Meeting on Commodities and Development, UN Trade & Development,

Geneva, 9-10 December 2025





Outline

- **Context:** international markets for minerals under pressure
- **Overview:** OECD work on international trade in CRMs
- **OECD's monitoring** of trade measures: export restrictions
- **Digging deeper:** understanding the effects of export restrictions on international markets and domestic economies
- **Ways forward:** maintaining open markets while managing trade interdependencies



Trade is essential for CRMs, but global markets are under pressure

Demand is widespread but supply is not...so international trade is essential

But global CRM markets are under pressure

- Market dominance built on government support (?)
- Concentration giving rise to risks
- Impacts of export restrictions and other measures
- Economic coercion

Governments adopting more assertive (but not necessarily efficient) policies and investment in mining and refining capacity of CRMs has stalled

What is needed?

- Monitoring of trade measures
- Digging deeper: understanding motivations and impacts
- Coordination, cooperation, agreements ...



OECD work on international trade in CRMs - overview

Inventory of Export Restrictions on Industrial Raw Materials:

- Overview webpage: <https://www.oecd.org/en/topics/export-restrictions-on-critical-raw-materials.html>
- Data: <https://data-explorer.oecd.org/> (under Trade / Trade policy. The database is also available in Excel format) + visualisation tool "Compare your Country": <https://www.compareyourcountry.org/trade-in-raw-materials/>
- [Raw materials critical for the green transition - Production, international trade and export restrictions \(2023\)](#)
- [OECD Inventory of Export Restrictions on Industrial Raw Materials 2025](#)


Understanding value chains:

- [Trade and domestic effects of export restrictions: exploratory case studies of cobalt \(DRC\), lithium \(ARG, ZWE\) and nickel \(IND\) \(2025\) \(VC Japan\)](#)
- [Value Chains for Critical Raw Materials and export restrictions: a case study of graphite and tungsten \(2025\) \(VC Japan\)](#)
- Firm – level – product- mappings for graphite and tungsten using AI (pilot)
- OECD ICIO –TiVA – detailed trade data and application to CRMs

Agreements and cooperation:

- New VC-funded work on CRM Agreements (VC Switzerland & Netherlands)
- Meetings of the Trade Chief Economists Network





**Trade is increasingly
affected by export
restrictions (and other
trade-related measures)**



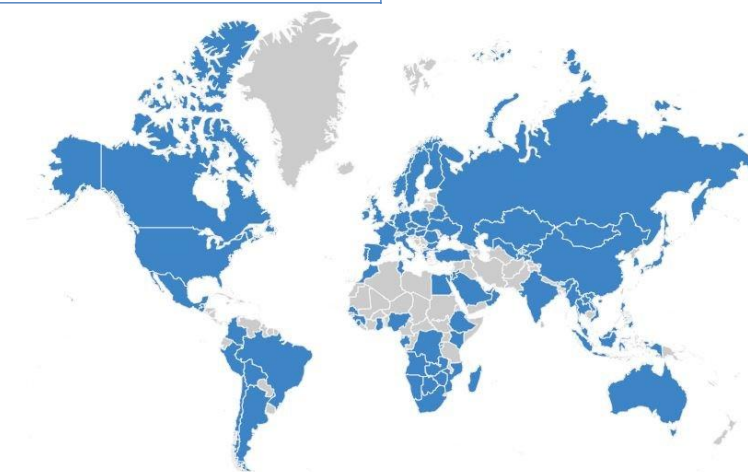
2025 OECD Inventory of Export Restrictions on Industrial Raw Materials (2009-2023)

Minerals and metals (58) + Wood (6) + Waste & scrap

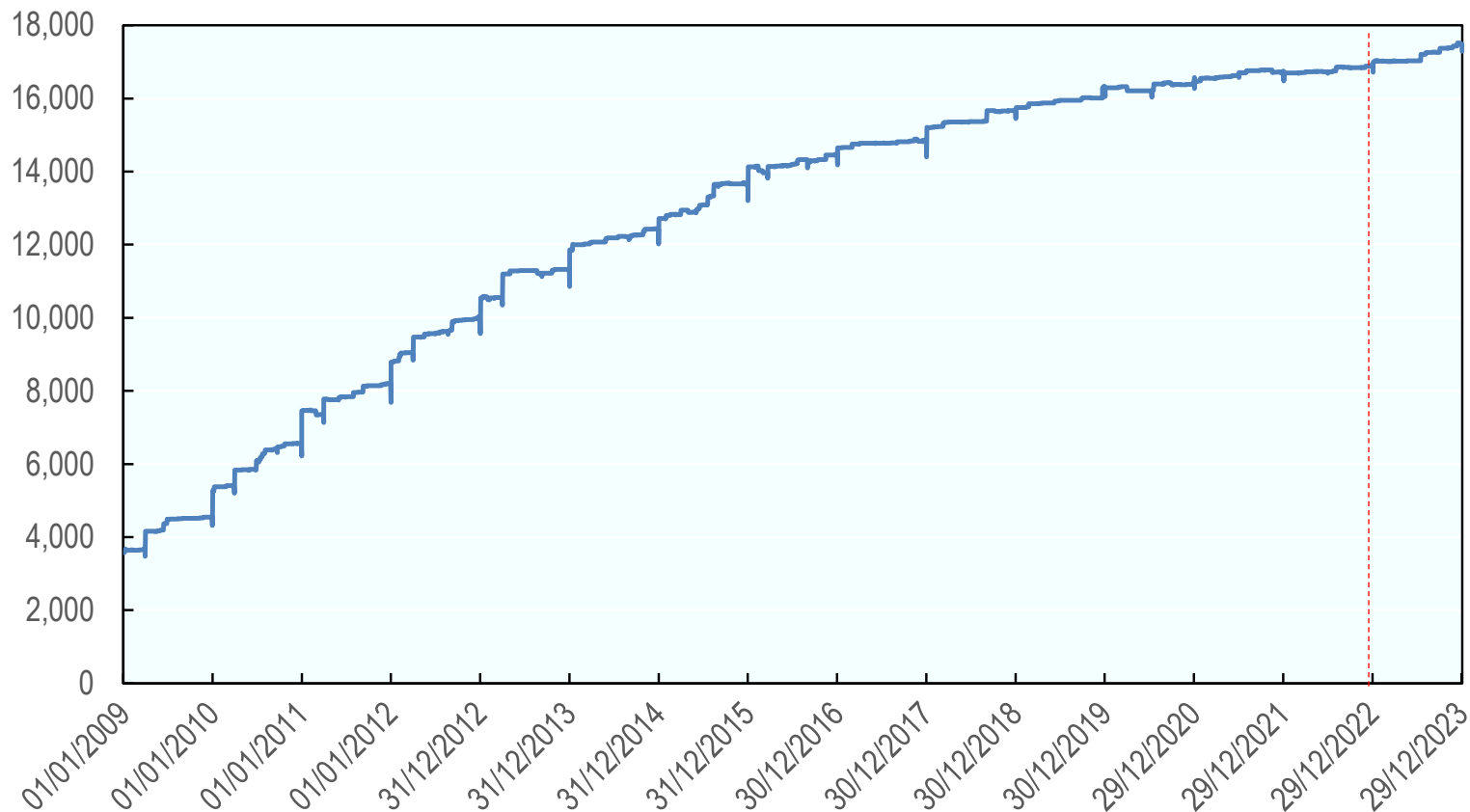
Aluminium	Antimony	Arsenic	Barytes	Bentonite
Beryllium	Bismuth	Borates	Cadmium	Chromium
Cobalt	Coke	Coking coal	Copper	Diamonds
Diatomite	Feldspar	Fluorspar	Gallium	Garnet
Germanium	Gold	Natural graphite	Gypsum	Indium
Iron and steel	Kaolin	Lead	Limestone	Lithium
Magnesite	Magnesium	Manganese	Mercury	Molybdenum
Nickel	Niobium	Perlite	Phosphates	Pig iron
Platinum group metals (PGMs) ¹	Potash	Rare (REE) earths	Rhenium	Selenium
Silica	Silicon	Silver	Strontium	Talc
Tantalum	Tellurium	Tin	Titanium	Tungsten
Vanadium	Zinc	Zirconium		

Types of export restrictions covered

Export tax
Fiscal tax on exports
Export surtax
Export quota
Export prohibition
Non-automatic export licensing requirement
Minimum export price / price reference for exports
VAT tax rebate reduction / withdrawal
Restriction on customs clearance point for exports
Qualified exporters list
Domestic market obligation
Captive mining
Other export measures



The pace of growth of global incidence of export restrictions accelerated in 2023

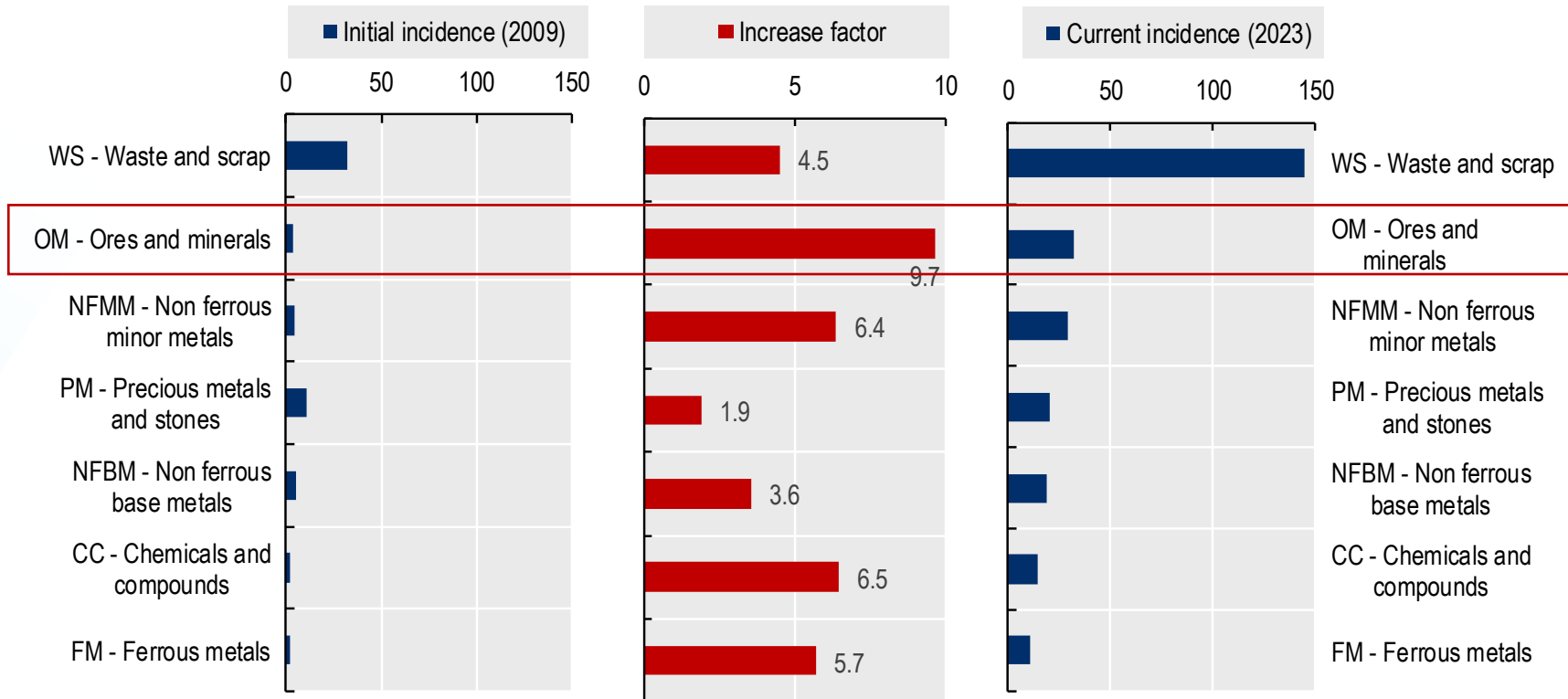


Note: The count of all types of measures in place across all covered raw materials and all implementing countries taking into account the stock of measures in place at the beginning of the period as well as new additions and eliminations.

Source: [OECD Inventory of Export Restrictions on Industrial Raw Materials 2024: Monitoring the use of export restrictions amid market and policy tensions](#)



Export restrictions increased the most for ores and minerals



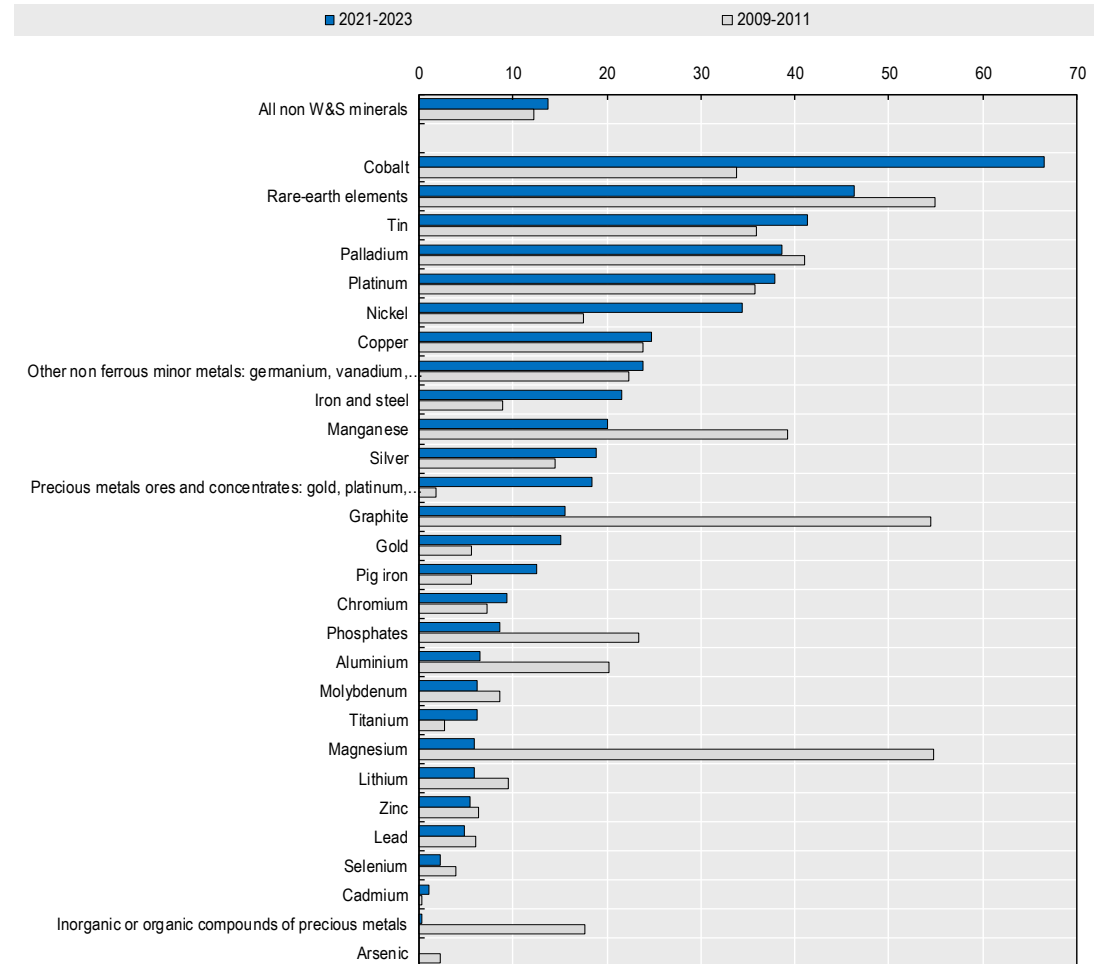
Note: Note: *The scaled incidence is the number of export restrictions recorded for the product divided by the number of HS codes that describe that product. Products are ordered by the scaled incidence in 2023. Increase factor = scaled count of measures in place in December 2022 / scaled count of measures in place in January 2009. Products ordered by the current incidence.

Source: OECD Database on Export Restrictions on Industrial Raw Materials



More than 20% of trade in certain CRMs faced at least one export restriction over 2021-23

Share in global exports of a given mineral (%) facing at least one export restriction

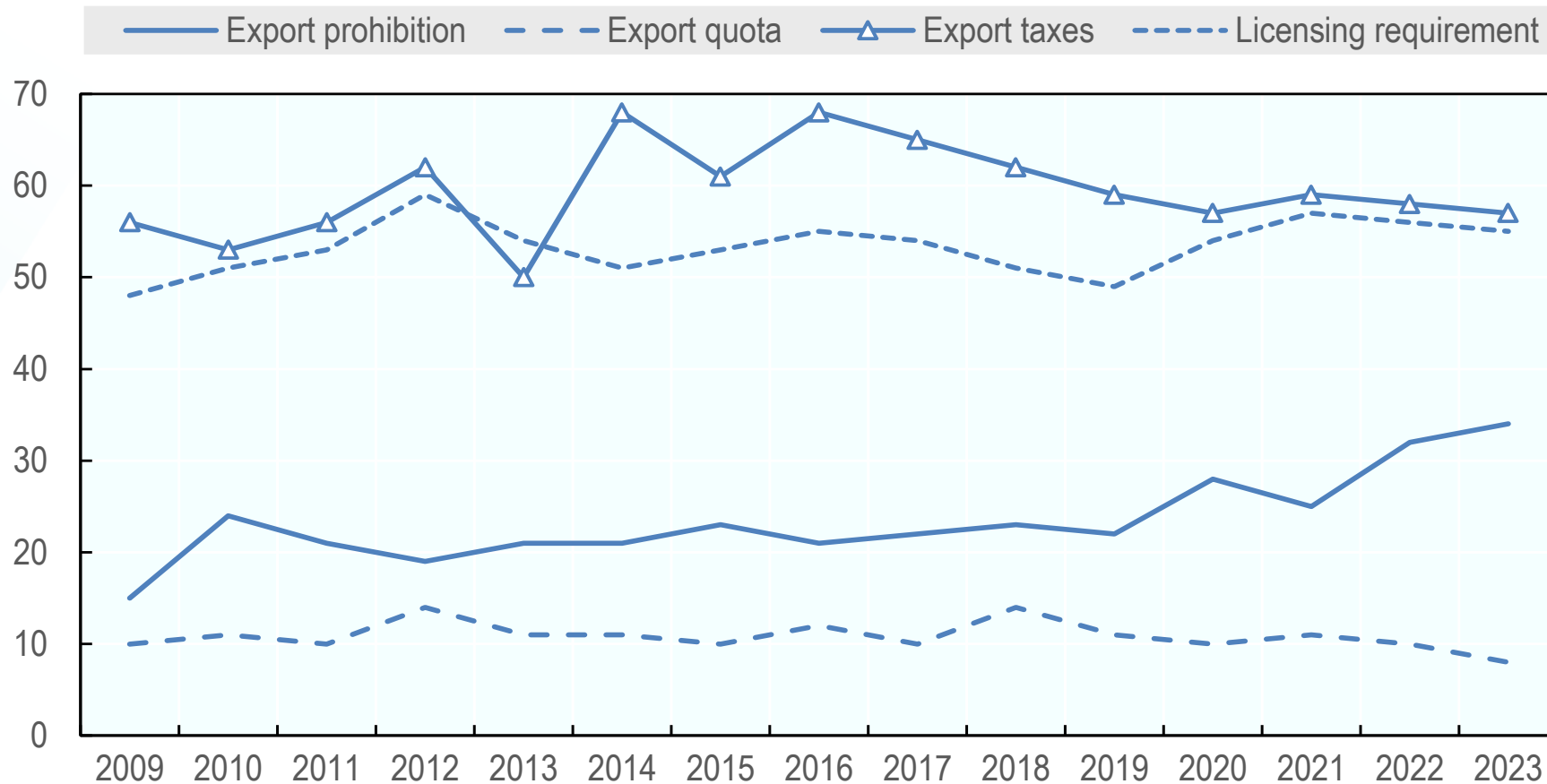


Source: OECD database on Industrial Raw Materials.



Export taxes and licensing requirements are the most common measures, but export prohibitions are growing

Number of countries applying at least one export restriction by type over time

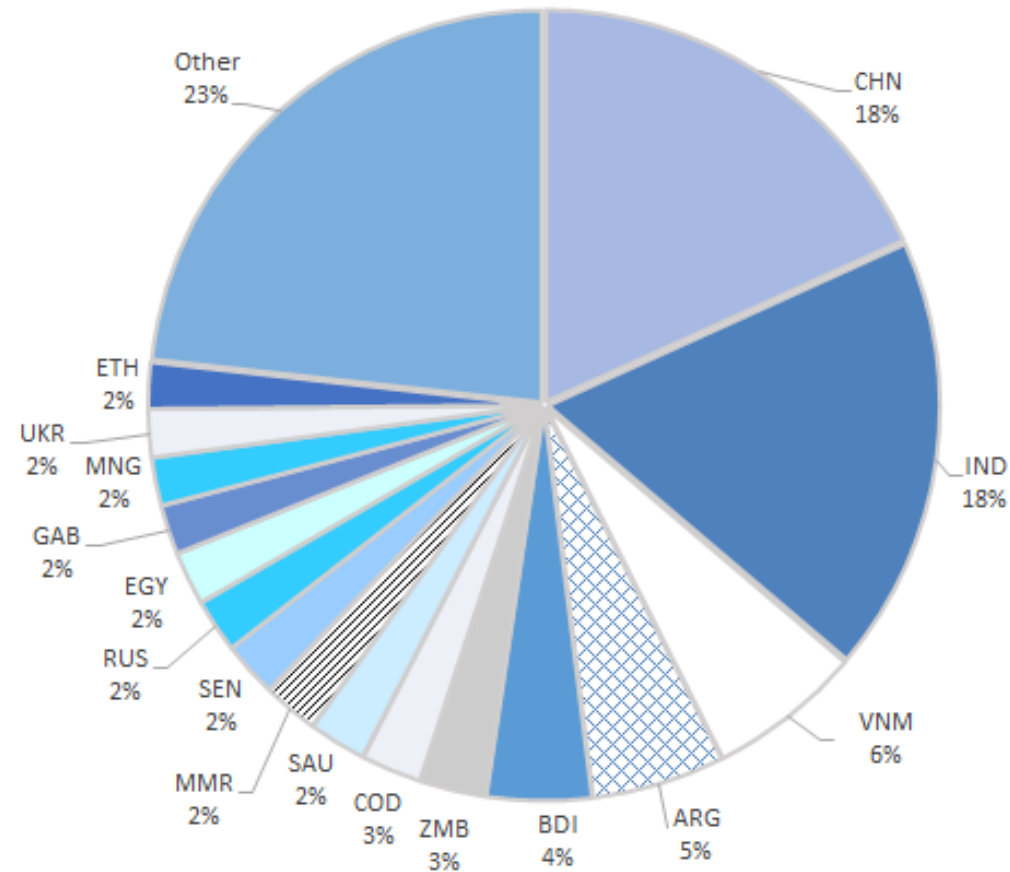


Source: OECD database on Industrial Raw Materials.



The global increase in restrictions over 2009-2023 has many participants, but some more than others

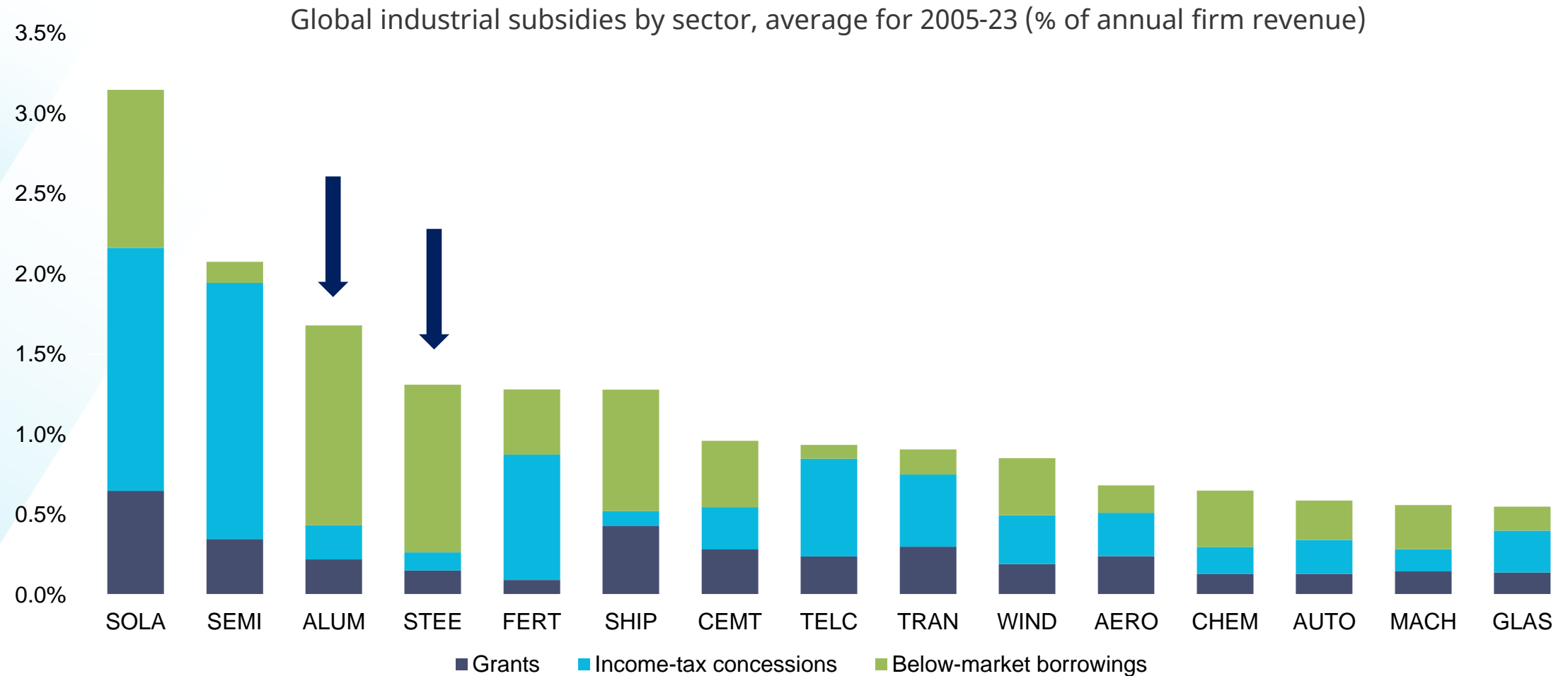
Main contributors to the global increase in the restriction count between 2009-2023



- Source: OECD database on Industrial Raw Materials.



Subsidies are significant in aluminium and steel



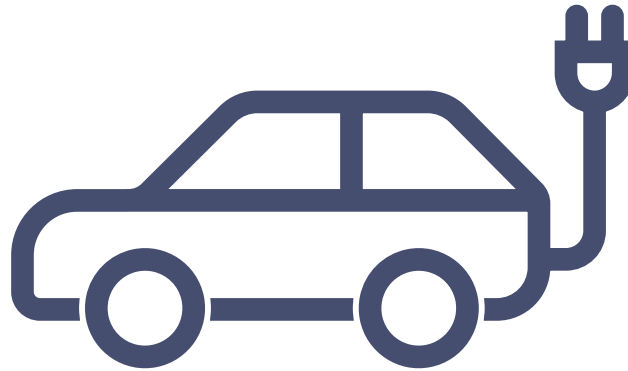
Source: OECD MAGIC database.



Export restrictions and subsidies can combine to impact global markets

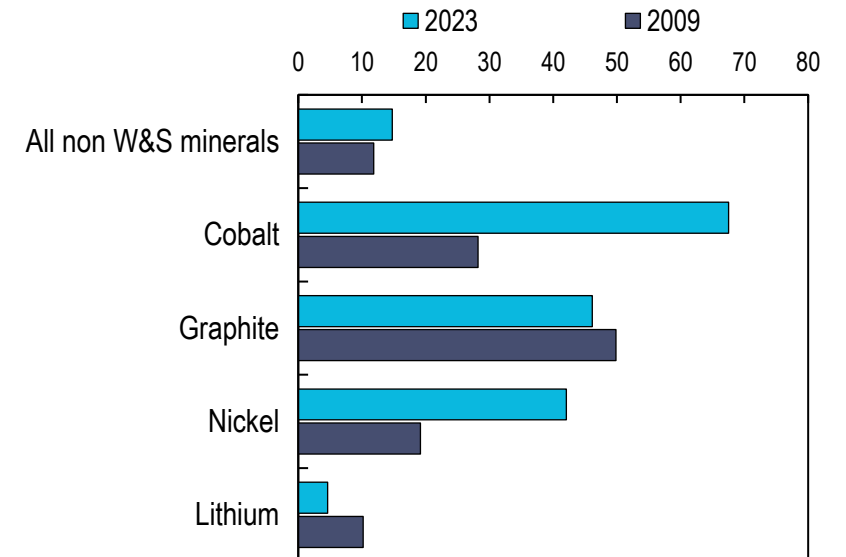
Ecosystem of subsidies on primary aluminium and aluminium parts

Subsidies on production of EV



Export restrictions on key ingredients for EV batteries

Share in global exports of EV battery minerals facing at least one export restriction (%)





Digging deeper into motivations and impacts



Motivations for export restrictions vary

Monitoring

- E.g., licensing requirements
- Minimal export impact

Circular economy

- E.g., restrictions on waste and scrap
- May not be helpful if it hinders processing in the most efficient locations or economies of scale

Industrial policy

- E.g., restrictions on ores and minerals
- Strategic objectives
- Lowers prices for downstream domestic user industries (but also for domestic extractive producers)

Revenue

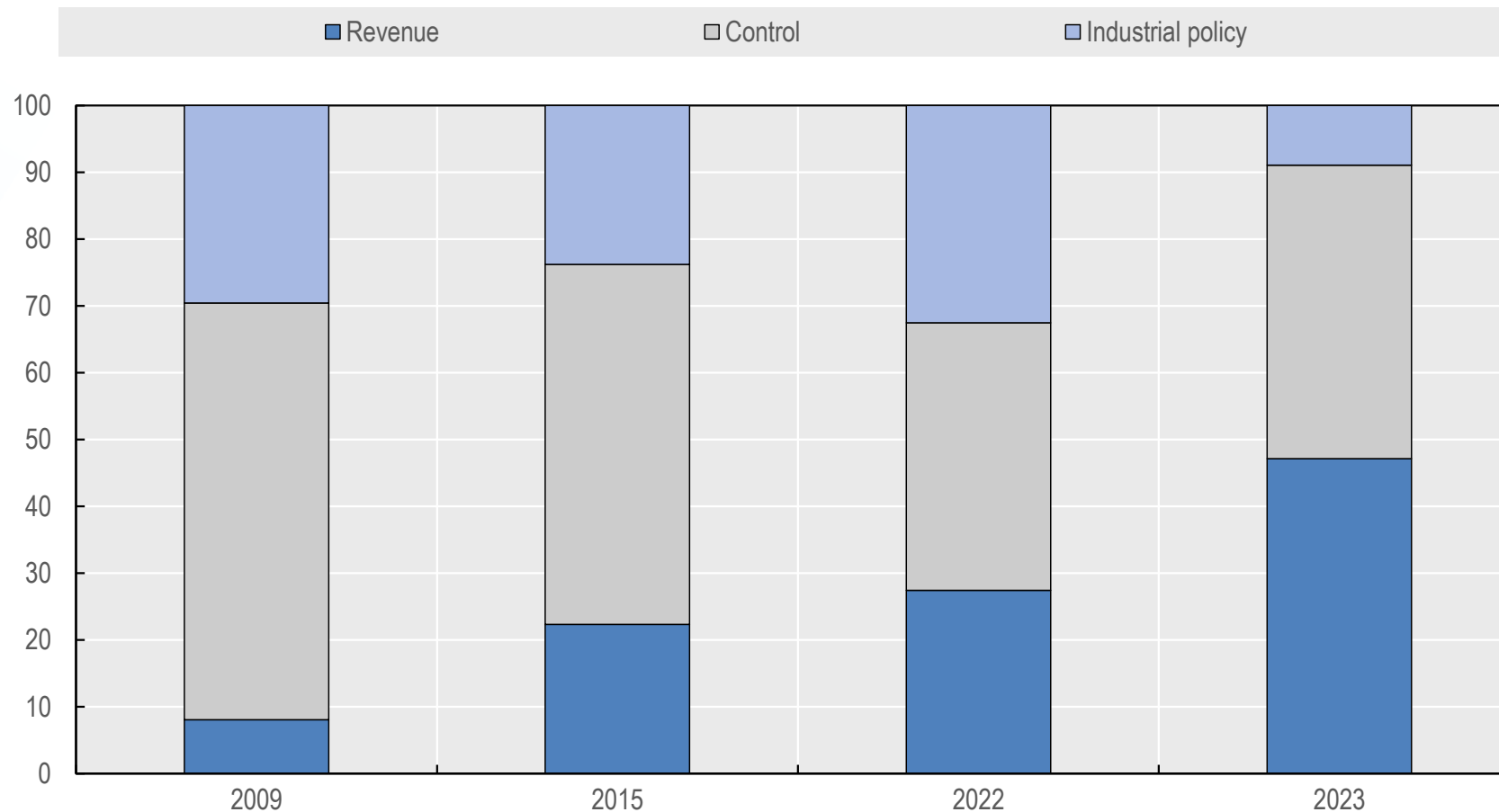
- Can also include offsets for environmental impacts
- Tax capacity issues, but also other models (exploitation licenses)

Non-economic (national and economic security)



Generating government revenue is the fastest growing officially stated purpose

Principal purpose of measures introduced (when the purpose is stated)





Impacts of export restrictions

Granular (mineral-specific) approach

- Mapping and descriptive statistical analysis of production and international trade along the supply chain
- Studying price and quantity effects of specific events of introductions and removal of export restrictions
- Insights from literature on supply chains, investment in capacity, ownership and ESG aspects of mineral extraction

Results illustrate key challenge of deepening and diversifying international markets for CRMs:

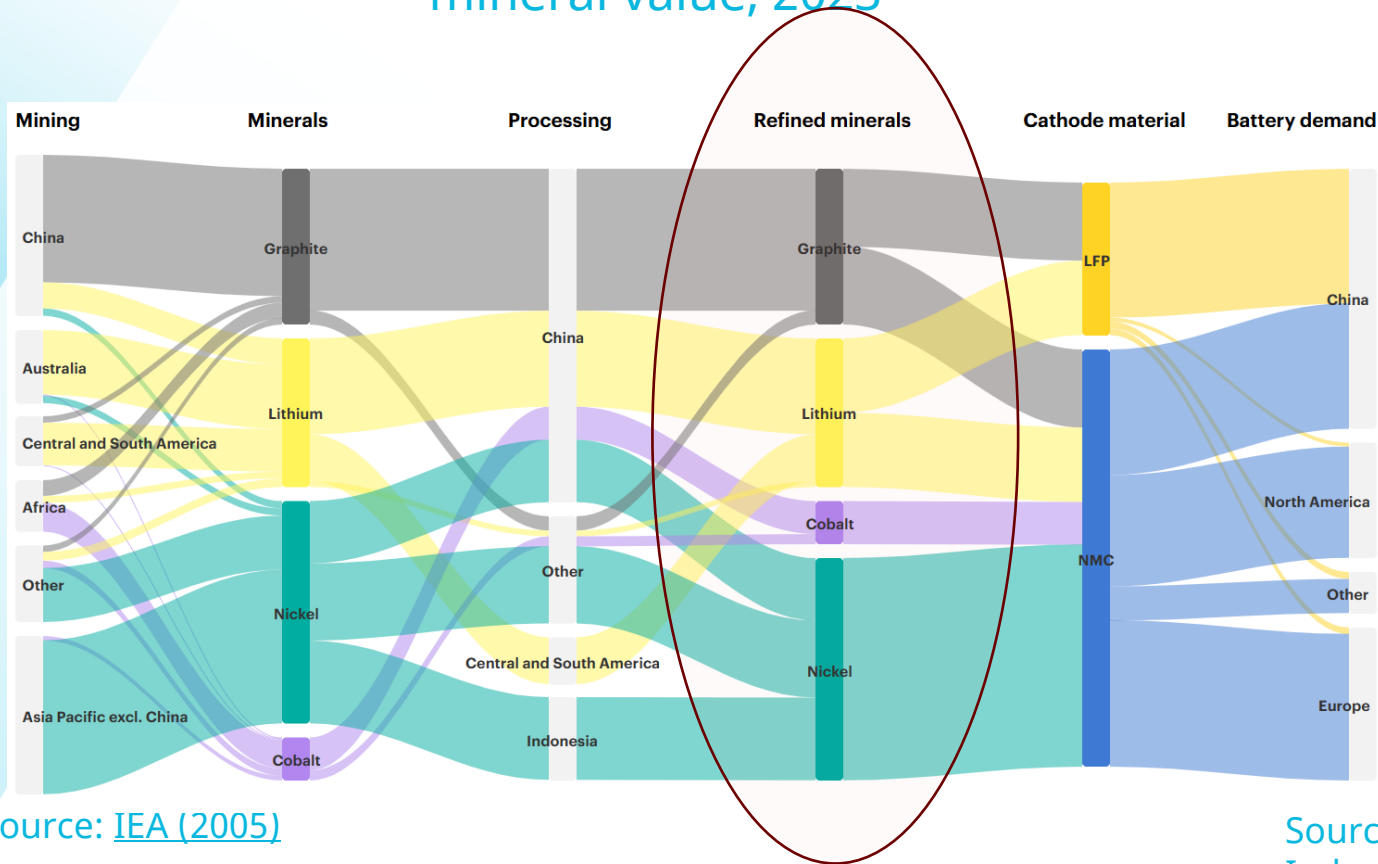
- Trade restrictions can be accompanied by (perceived or actual) positive effects on the domestic economy (downstream processing, value addition)
- They are often accompanied by trade restrictive effects in different segments of CRM supply chains
- They can negatively impact foreign producers and global markets and can contribute to increasing global prices (
- Create incentives for other producers to impose restrictions , leading to spiralling restrictions and prices

Insights into the economic incentives for resource-rich countries to introduce export restrictions, as well as the incentives for buyers to negotiate their removal



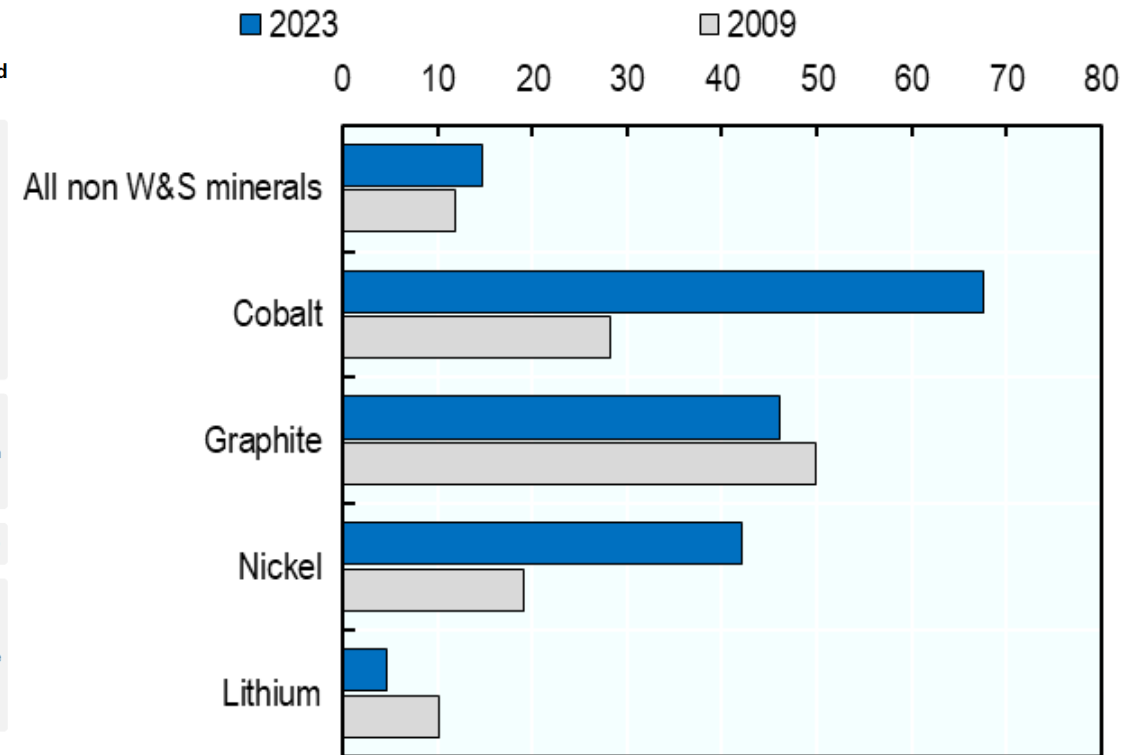
Export restrictions hit critical inputs in strategic sectors

EV battery minerals supply chain from extraction to use, by mineral value, 2023



Source: [IEA \(2005\)](#)

Share in global exports of EV battery minerals facing at least one export restriction (%)



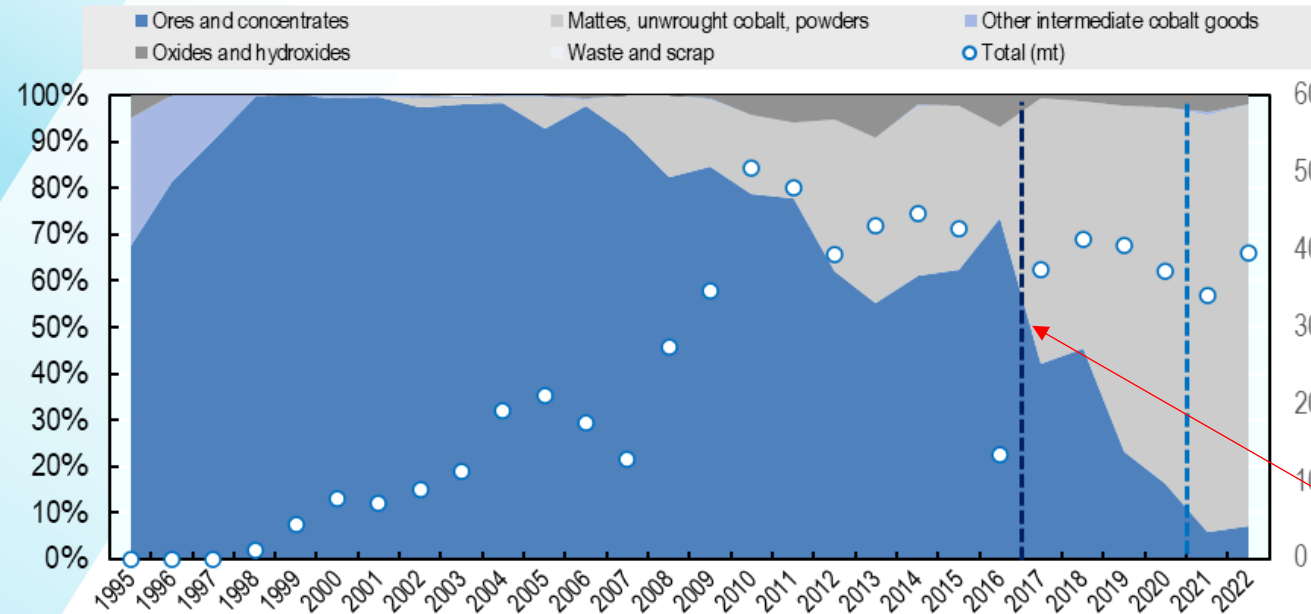
Source: [OECD Inventory on Export Restrictions on Industrial Raw Materials](#)



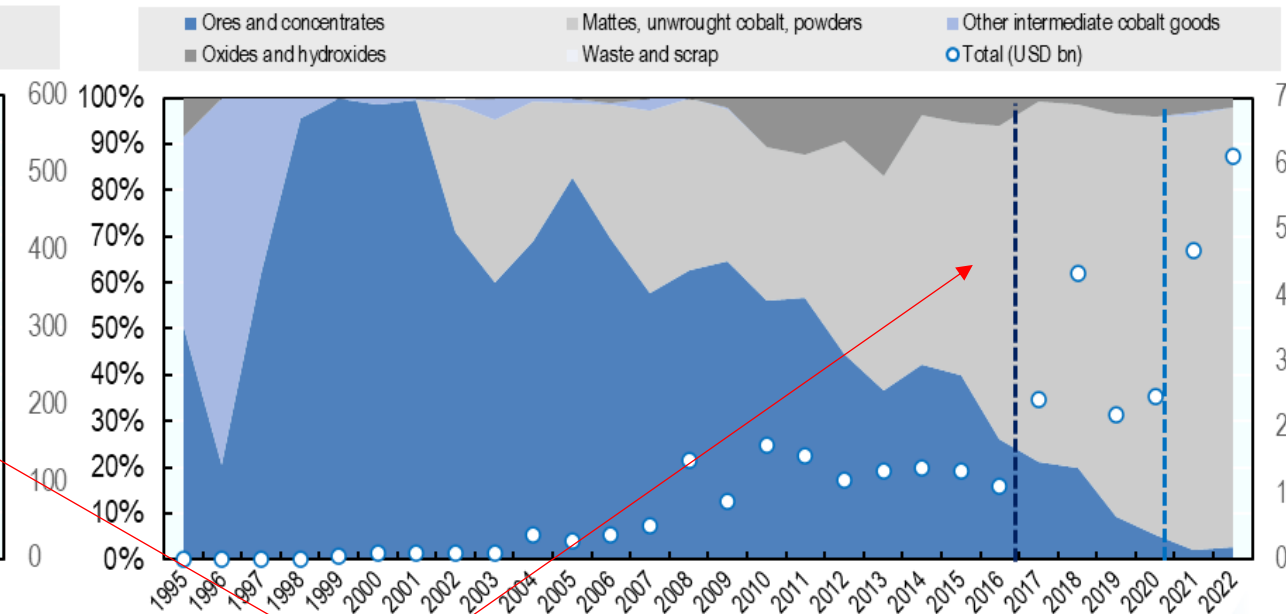
Industrial and strategic policy objectives motivate export restrictions, and change the shape of trade

Shares of different forms of cobalt in total cobalt exports from the DRC (left axis) and total of DRC's cobalt goods exports (right axis)

total volume (thousand mt)



total value (USD billion)



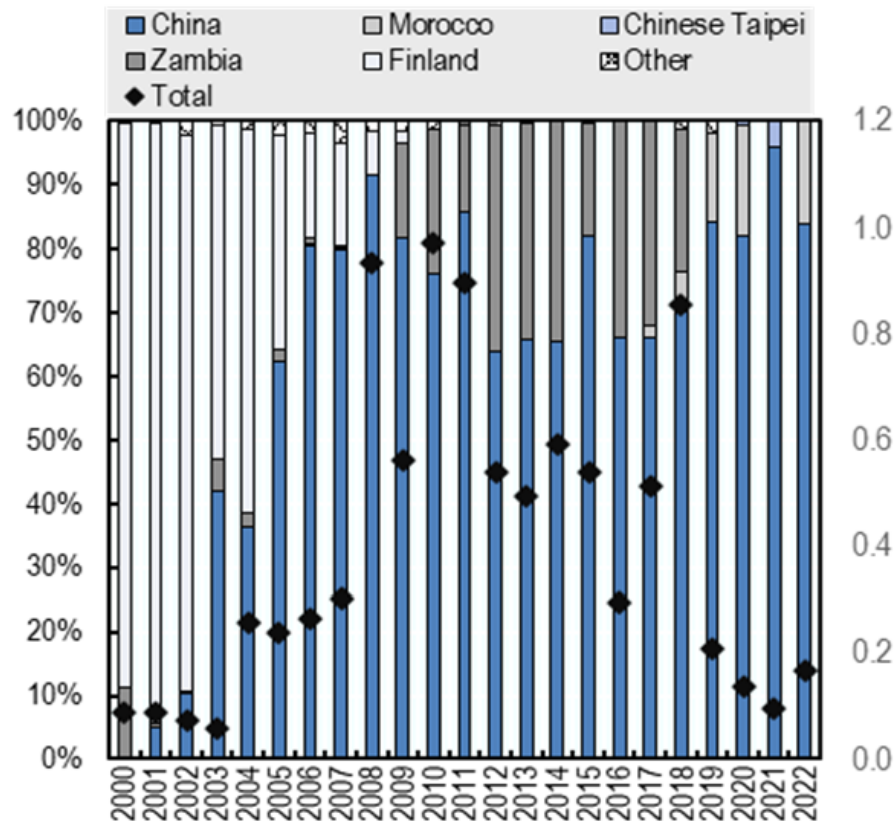
Export restrictions



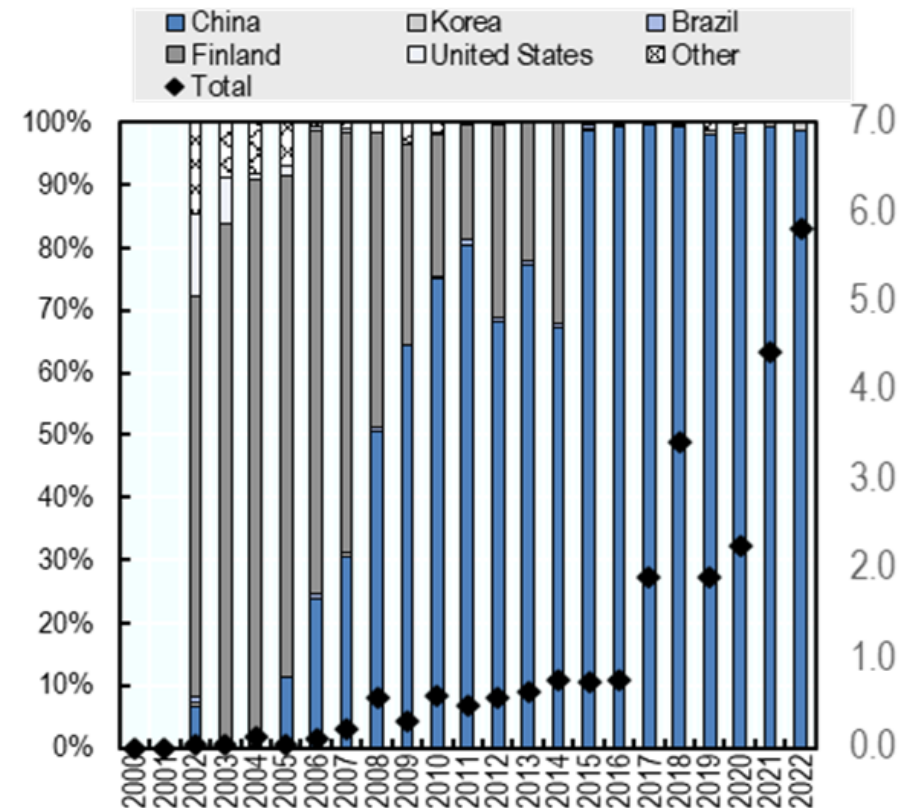
But do not necessarily change concentration

Shares of DRC's exports by destination, right axes indicate value in USD billion

a. Exports of cobalt ores



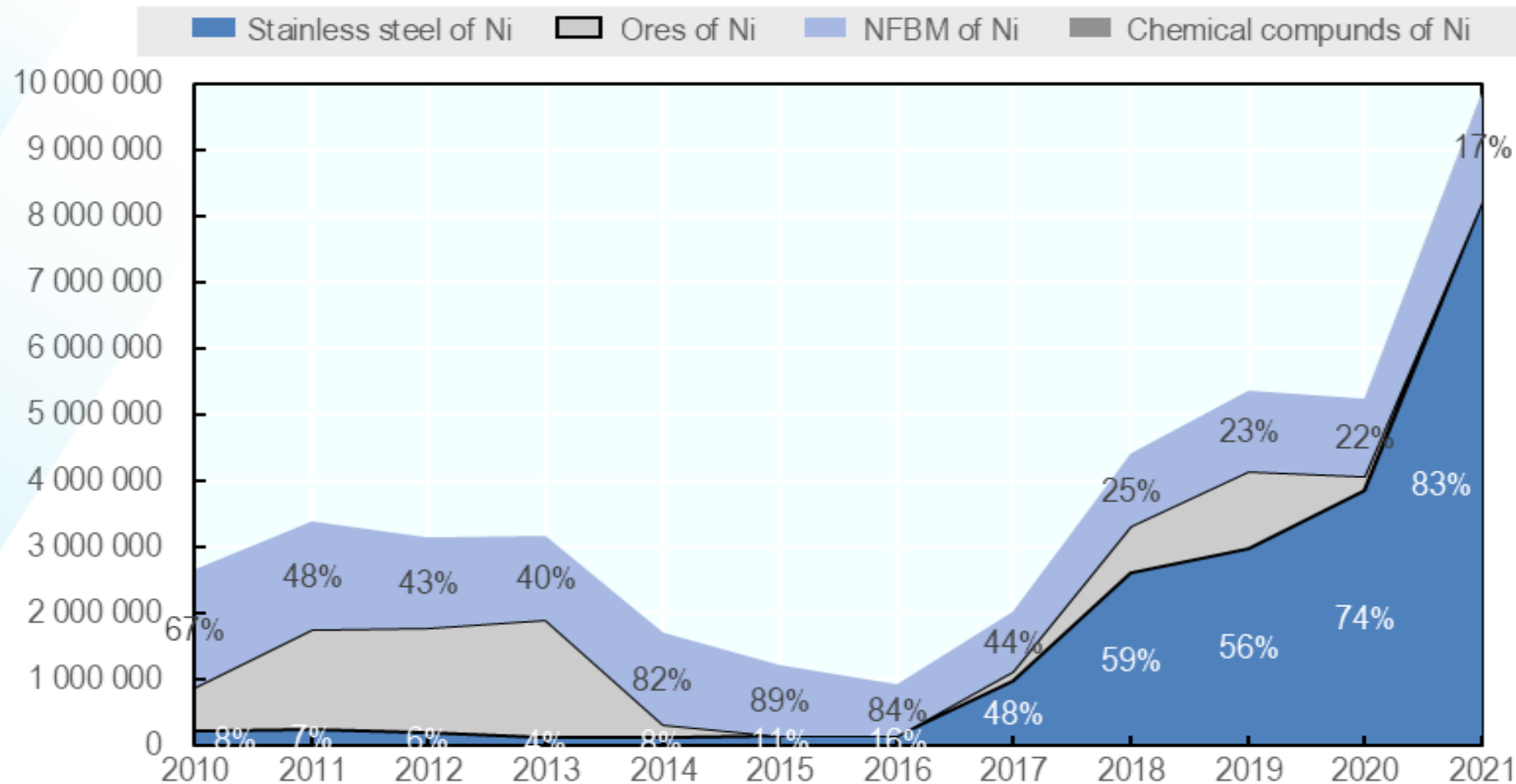
b. Exports of Mattes, unwrought cobalt, and powders





Export restrictions change the shape of trade

Compound value of exports of individual nickel product types and shares ('000 USD))



Source: UN COMTRADE.

Unclassified - Non classifié



Ways forward: identifying trade-offs and win-wins

- Trends suggest ever more pressure on international CRM markets and policy makers
- Maintaining open markets and managing trade interdependencies will be key
- Policy solutions all involve trade-offs – benefits for domestic economy and benefits of international trade and markets
 - Data, dialogue and cooperation are essential
 - Public/private, across economies
- OECD:
 - Toolkit for anticipating risks and impacts of shocks,
 - Monitoring of trade dependencies and export restrictions
 - Motivations and impacts
 - Analysis and dialogue on approaches to co-operative solutions



Thank You

Przemyslaw.Kowalski@oecd.org