

How can the government contribute to the greening of the industry through promoting resource efficient systems for materials and metals?

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Who are Growth Analysis?

- Also known as a Productivity Commission
- A small (about 40 people) government agency reporting to the ministry of enterprise and innovation
- that analyse and evaluate Swedish growth policy via:
- Structural transformation, innovation capacity, infrastructure for innovation and business dynamics, internationalisation and greening of the economy
- Also responsible for some official statistics (startups, bankruptcies etc)

Swedish policy emphasise circularity and sustainability

- The Swedish government sets circularity as a top priority to solving both climate pressure and resource management.
- The process industry at the heart of these initiatives.
- But in order to meet the expectations – can the market live up to them?



Focusing
on metals!

Issues at hand:

- How well-functioning is the market for recycled, secondary, materials and how well-functioning is the end market where the primary and secondary materials are traded?
- What economic significance does the recycling industry have for Sweden and what competitive advantages and disadvantages does the Swedish recycling industry have compared with other countries?
- Which policy and which instruments affect the secondary and primary market and are the instruments coherent?
- The framework project also aims to shed light on the differences in market conditions and policy implications for a bulk material and an innovation-critical material.

Data and building an understanding

- Looking high and low for data – nationally and internationally
- Economic data
- Data on metals
- Data on economic instruments
- Data on emissions (waste and CO₂)

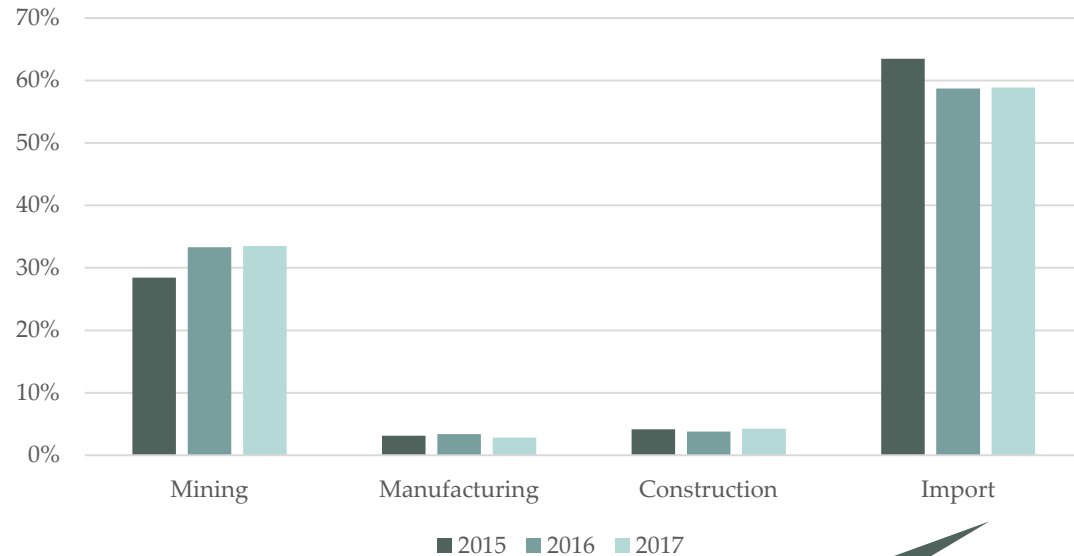


→ Eurostat, IMF, OECD, USGS, interest organisations, Statistics Sweden, Swedish EPA, London metal exchange, etc.

→ using micro data as well as aggregated statistics!

Now some examples on the basic understanding

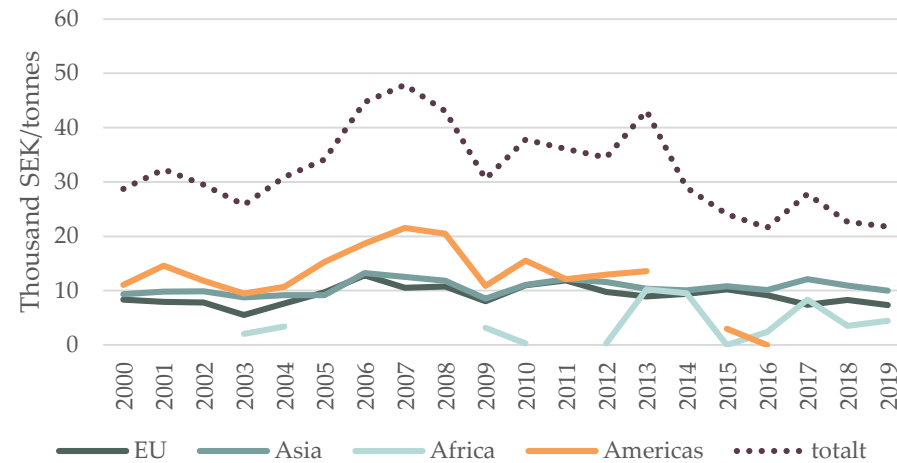
Where does the supply come from?



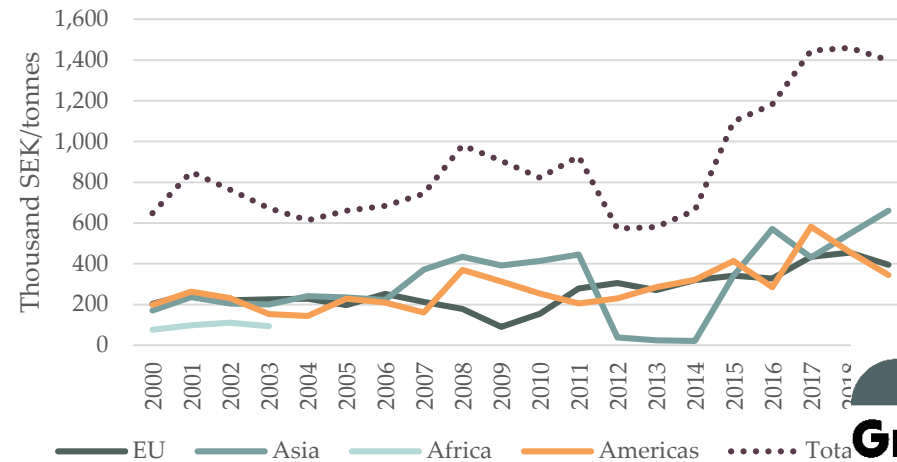
Source: Statistics Sweden, national accounts, supply of metals and mineral products

A large portion are imported, cobolt from Asia on the rise and so are prices

Aluminium



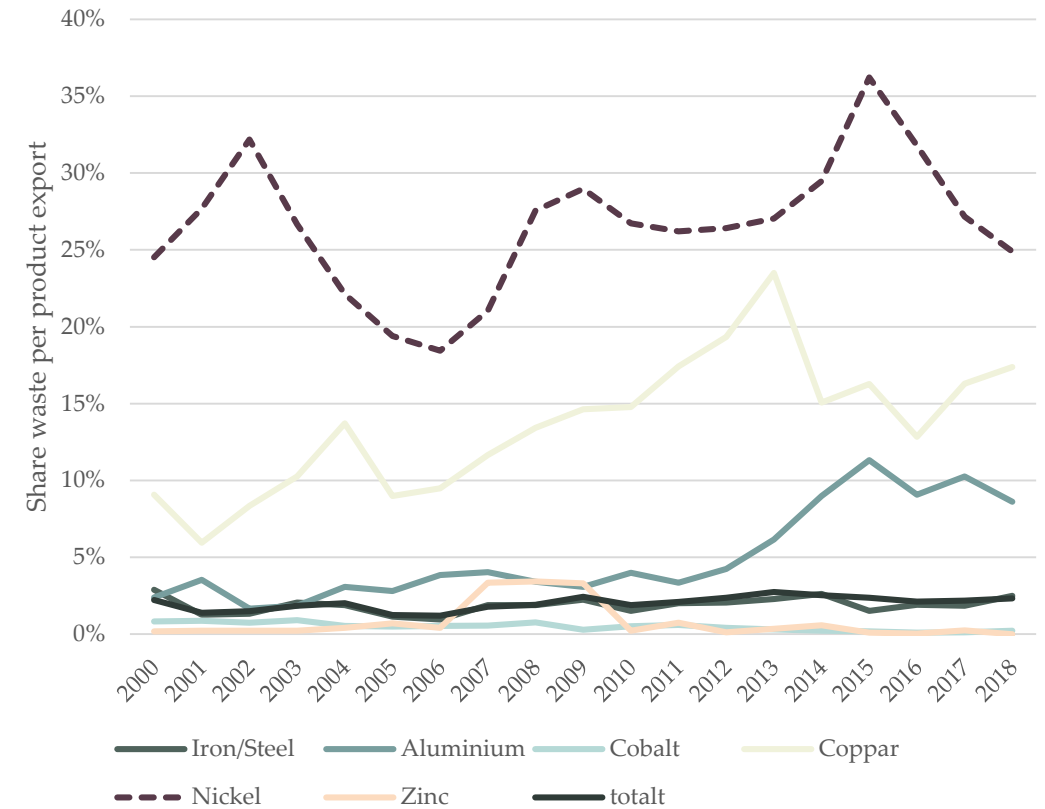
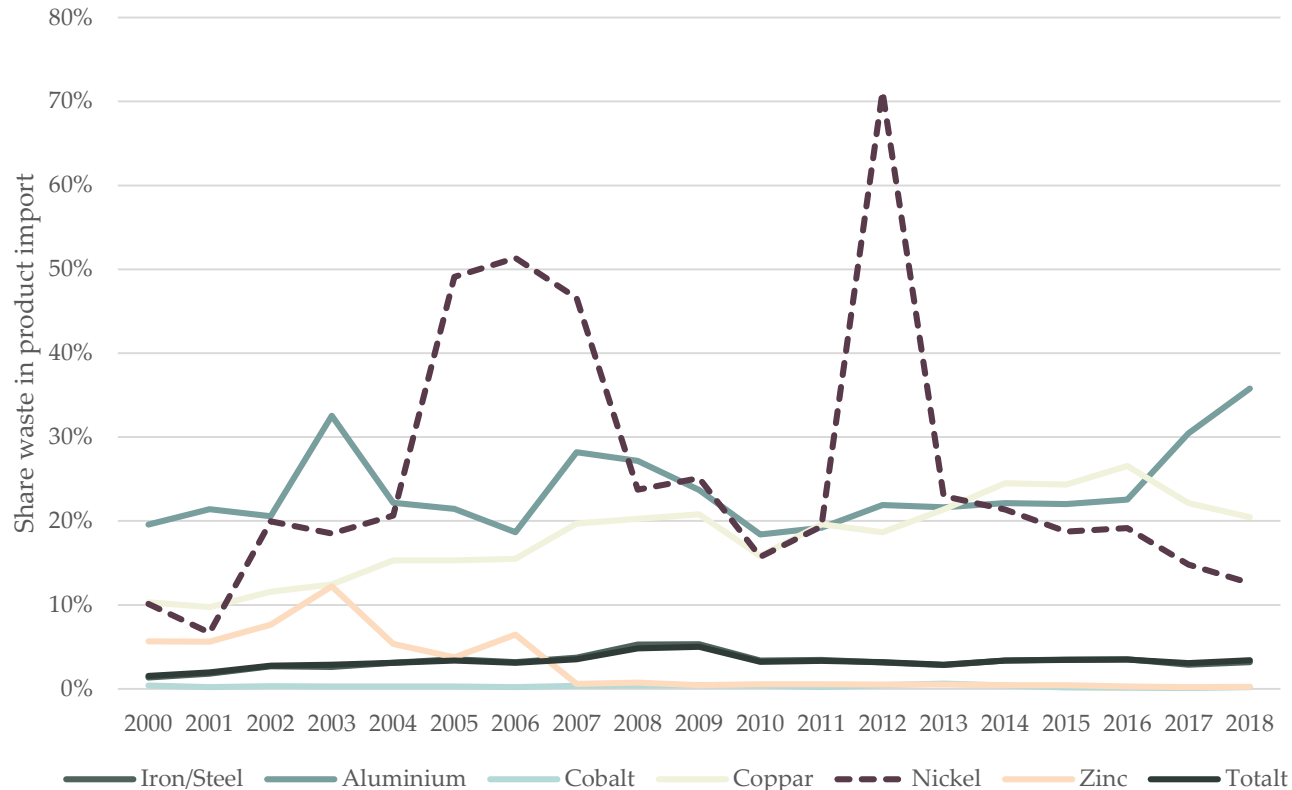
Cobolt



Source: Statistics Sweden, trade statistics

IMPORTS OF WASTE

How much secondary metals are traded?



Source: Statistics Sweden, material flow accounts and trade statistics

The market for recycling

Development of value added 2011-2018



But this does not tell the story about other industries also involved in the trade

Waste management in Sweden account for 0.5% of GDP

Greece has grown its recycling industry by 276%

Source: OECD and Eurostat, 1: most recent year available

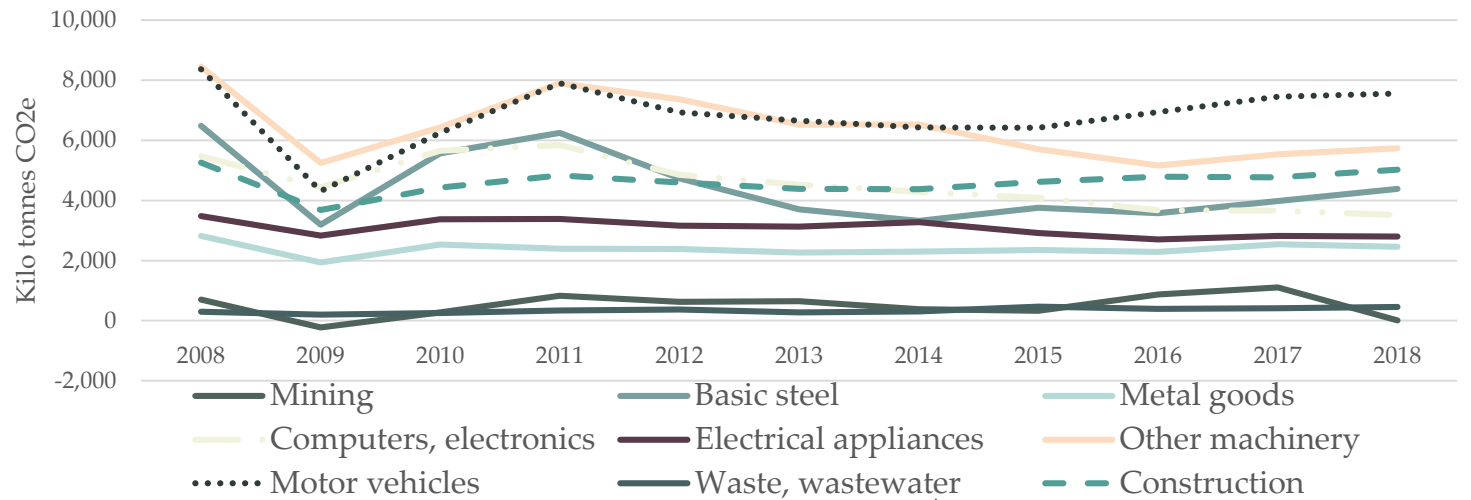
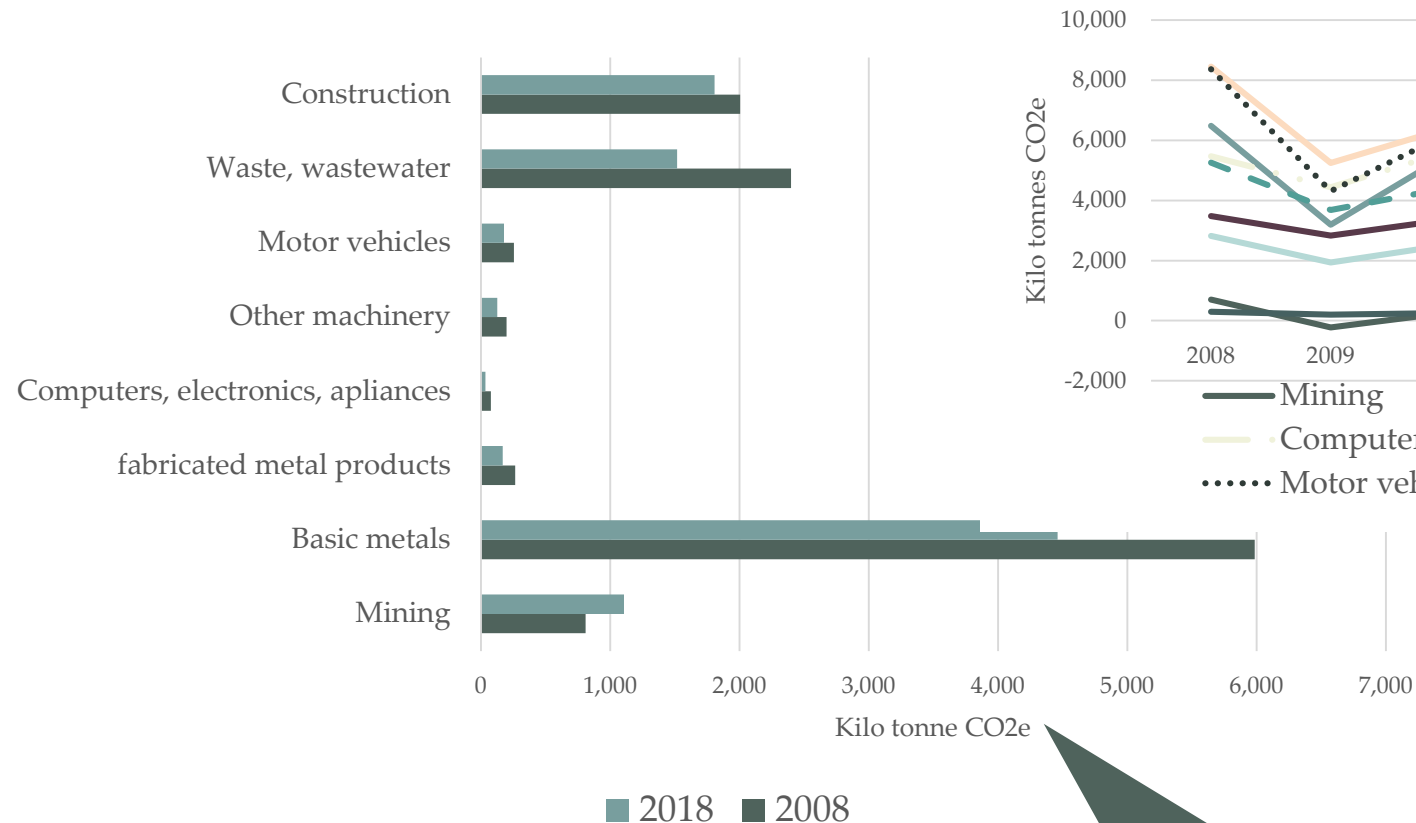
What about the waste?

The majority of the waste treatment consist of sorting...



Source: Eurostat, waste statistics

Shifting the CO₂ around the world



Greenhouse gases embedded in imported products to Sweden

Greenhouse gases emitted from the Swedish economy

Source: Statistics Sweden, Environmental accounts

Policy implications and next steps

- The waste management market is growing both in Europe and Sweden – but slowly.
- More mature market for recycling of aluminium and steel products – but less so for innovative metals.
- Are there different market barriers for different type of metals?
- Does Sweden has an interest in markets of recycling were there is no domestic use for the specific metal?
- Report to be published in 2021 covering the barriers. Final report due in 2022

Lessons learned thus far

- Different definitions of "recycling": JRC, Eurostat, "industry associations"
→ are there any cooperations between you?
- Lacking data related to input materials into production: share of recycled materials! → Are there any work going on producing this?
- Form a coherent data set that focus on the flow of materials (metals) through input-output including reuse/recycling → Can the statistical community assist or is it up to researchers/analysts to do?
- *Do you know of any similar studies – also related to economic instruments?*

Thank you for listening!

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