

CO₂ footprint in supply chains

Reporting requirements for companies and potentials of digital product descriptions



Increased focus on sustainability

Political and social focus



Source: European Union

Regulation of economic activities



Act on Corporate Due Diligence Obligations in Supply Chains



Directive on Corporate Sustainability Due Diligence



EU-Taxonomy Compass



European Sustainability Reporting Standard

Corporate Sustainability Due Diligence

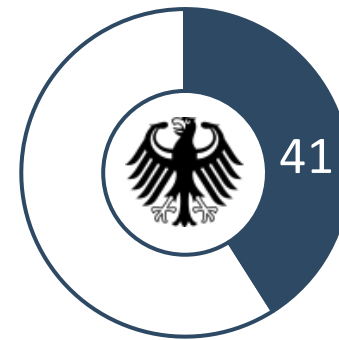
Extent of the affected companies

Directly Affected companies

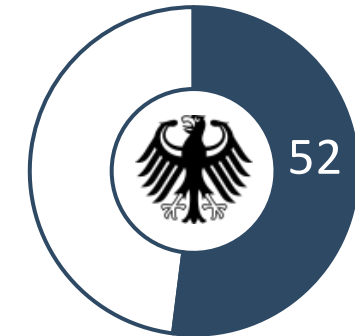


Total affected economy

Survey results: directly or indirectly affected



total economy

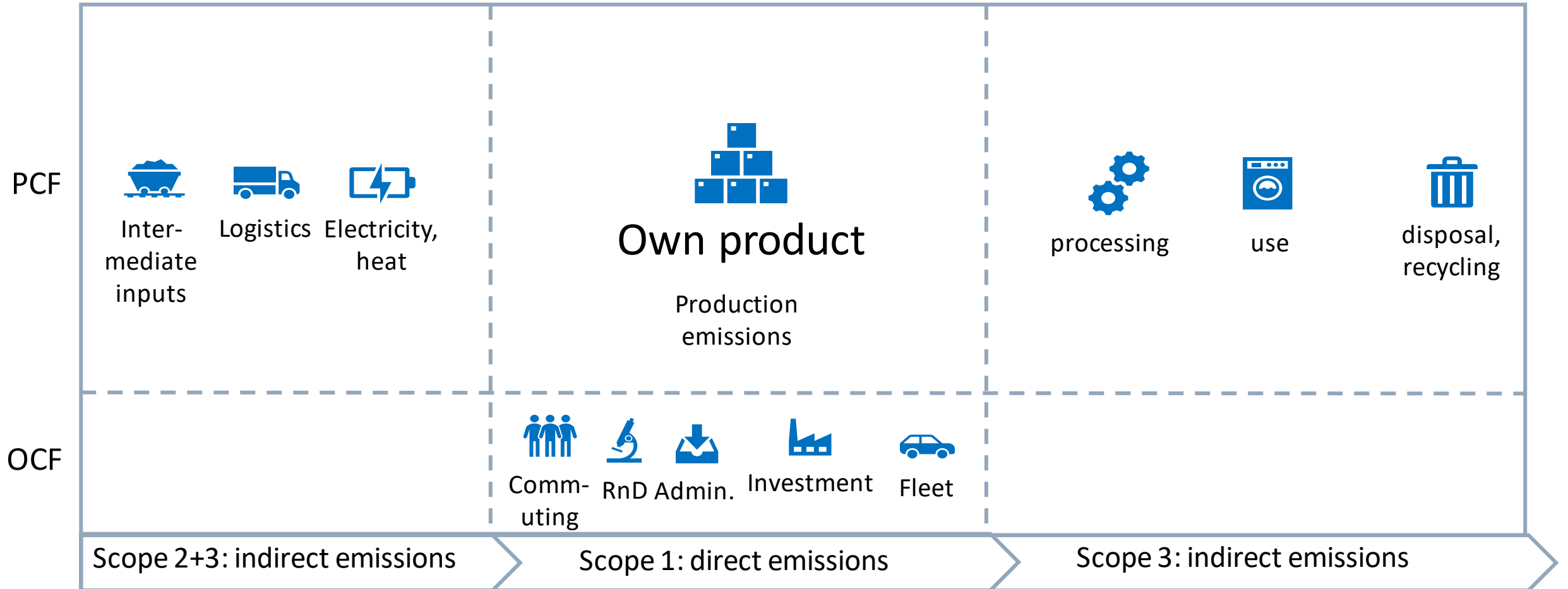


manufacturing

Source: Bundesgesetzblatt (2021), European Commission (2022), Kolev / Neligan (2022)

Dimensions of carbon footprint

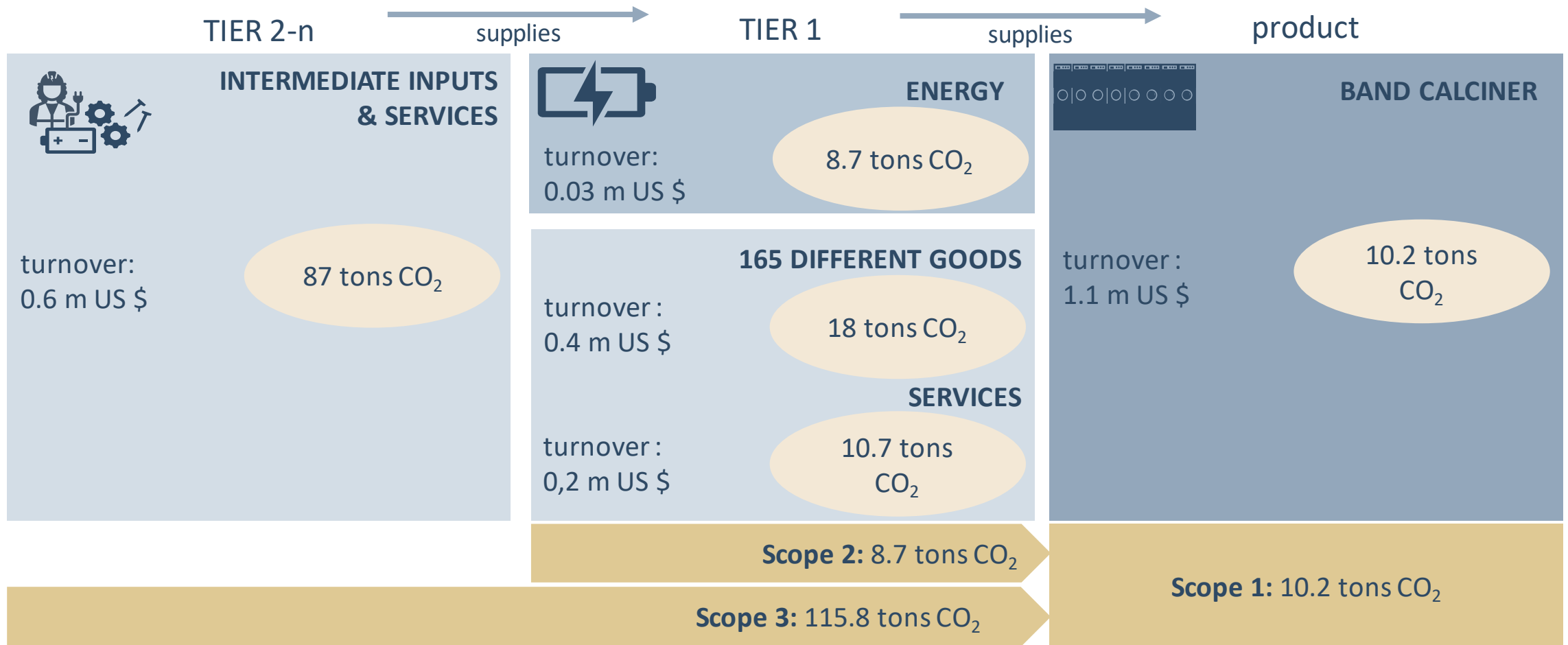
Product and organizational carbon footprint



Source: IW Consult (2023)

Upstream value chain example

Calculating average emission based on official statistics

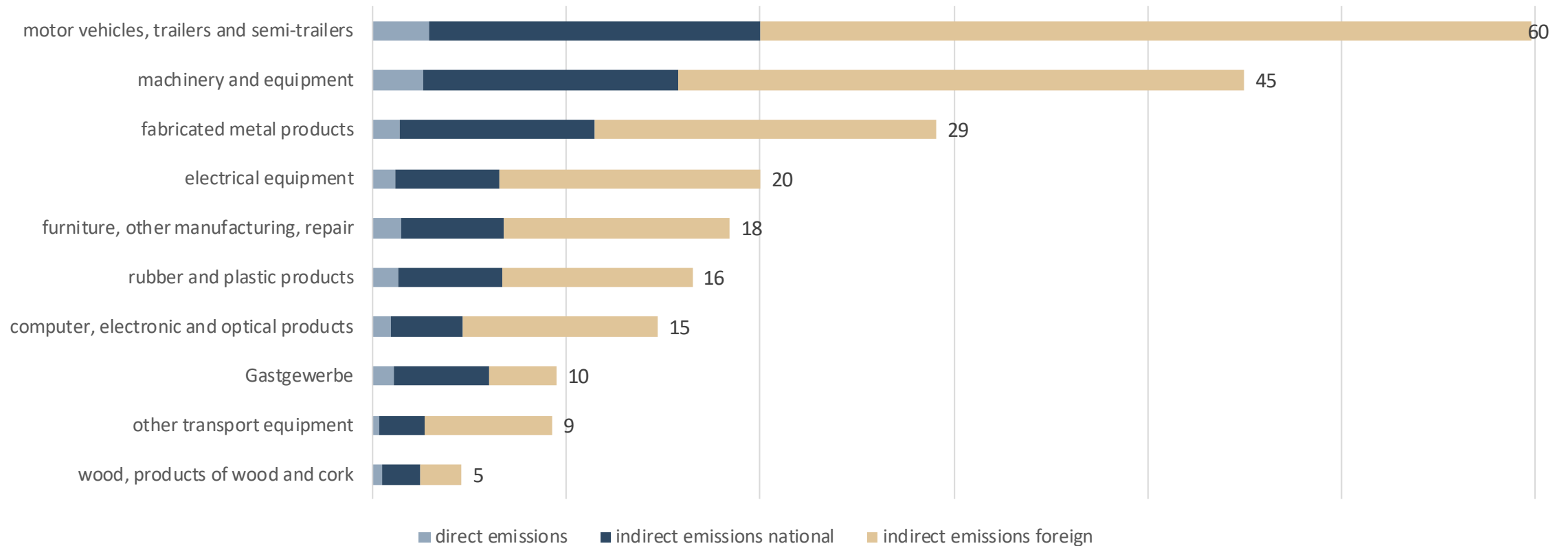


Source: IEA (2022), OECD (2021), authors calculations

Germany as a net-importer of CO₂-Inputs

CO₂ emissions in the value chain in million tons 2020

Most upstream emissions are abroad



Source: IEA (2022), OECD (2021), authors calculations

Challenges in measuring carbon footprints

In the upstream value chain

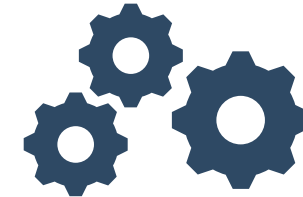
Gathering the information
for each intermediate
input



Getting comparable,
complete & procedure-
documented microdata



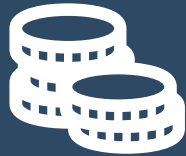
Integrating and combining
the gathered data for own
PCF calculations



Potentials of digital product descriptions

Micro- and macroeconomic advantages

Effort and costs for recording the sustainability indicators are significantly reduced



Easy and timely integration of the key figures into existing systems, avoiding loss of information.



Violations of reporting obligations are avoided. This reduces the companies' financial risks



Avoids weakening of the resilience of the supply chains, by limiting cost-based incentives for few suppliers



Increased transparency enables management of the sustainability of the purchasing portfolio



Opportunity to identify deviating sustainability recording methods and to adjust these subsequently

