

IELab ISAPC Scope 3 Emission Factors for 2025

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Contents

BACKGROUND	3
2024 EDITION OF SCOPE 3 FACTORS REFERRING TO 2022	3
2025 EDITION OF SCOPE 3 FACTORS REFERRING TO 2023	3
PRIMARY DATA SOURCES	4
ECONOMIC INPUTS	4
ENVIRONMENTAL INPUTS	4
HOW WE MAKE EMISSION FACTORS	5
METHODOLOGY OF ENVIRONMENTALLY EXTENDED INPUT-OUTPUT (EEIO) ANALYSIS	5
MODEL	5
OUTPUTS:	6
OBSERVED CHANGES IN PRIMARY DATA	6
ECONOMIC CHANGES	6
EFFECT OF PRICES	8
GREENHOUSE GAS EMISSIONS CHANGES	9
<i>Changes in GHG emissions at ANZSIC Division level.....</i>	<i>10</i>
<i>Reconciling the emissions inventory with economic activity.....</i>	<i>10</i>
<i>Accounting Changes</i>	<i>13</i>
OBSERVED CHANGES IN EMISSION FACTORS	14
UPDATES IN METHODOLOGY	16
POST-PROCESSING AND HANDLING LARGE CHANGES	17
EMISSION FACTORS ESTIMATED FROM HISTORICAL TRENDS	18
REVERTING TO 2022 EMISSION FACTORS	19
CORRECTIONS TO 2022 EMISSION FACTORS	20
WHEN TO USE SPEND-BASED FACTORS	21
APPENDIX 1: RECALCULATIONS OF AUSTRALIA’S NATIONAL GHG INVENTORY	22
APPENDIX 2: IELAB METHODOLOGY	23
LEONTIEF DEMAND-PULL MODEL	25
EMISSION FACTORS	26
APPENDIX 3: DATA DICTIONARY OF ISAPC SECTORS	27

Background

The Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW) has previously obtained scope 3 spend-based greenhouse gas (GHG) emission factors for the Climate Active Scheme (www.climateactive.org.au) directly from The Industrial Ecology Virtual Laboratory, or IELab¹.

FootprintLab² is the commercial arm of IELab and has taken over licensing, provision, and user assistance for IELab emission factors supplied to Climate Active, while IELab remains responsible for data management, updates and the environmentally extended input-output modelling and analysis (EEIO) that produces the emission factors.

All factors have been provided for the most current *data year* in purchaser prices. Primary data available to IELab are regularly 2 years behind the current calendar year, hence the latest scope 3 emission factors (EF) referred to here are for 2023. FootprintLab has additionally provided estimated “now cast” estimates of current year (2025) emission factors using CPI and other scaling data. These are available on request to hello@footprintlab.io.

The classification system used to describe the 344 sectoral EFs is referred to as “ISAPC” and was first introduced in application to an Australian carbon footprint analysis by Wood and Dey (2009)³. FootprintLab understand that Climate Active extend this to their own inventory of product and activity descriptions.

2024 Edition of Scope 3 factors referring to 2022

In the 2024 edition, GHG EFs were calculated using ABS input-output tables and economic data and the 2022 data released by the National Greenhouse Gas Inventory in 2024. The documentation on the production of those EF can be found on the FootprintLab website⁴. That report also discussed how the 2022 scope 3 EFs were observed to have changed from their predecessors: the edition based on FY2017/2018 primary data.

2025 Edition of Scope 3 factors referring to 2023

For the present edition, GHG EFs have also been generated using the latest ABS economic data and data released by the National Greenhouse Gas Inventory in 2025 referring to a data year of 2023. The following is a short explanation of how Scope 3 EFs are observed to have changed, in the year since the last release, with respect to primary data sources and methodology.

¹ <https://ielab.info/> accessed 01/08/2025

² <https://www.footprintlab.io/> accessed 01/08/2025

³ Econ. Systems Research, 2009, Vol. 21(3), pp243–266 <https://doi.org/10.1080/09535310903541397>

⁴ <https://www.footprintlab.io/s/IELab-ISAPC-Scope-3-Emission-Factors-2024-Documentation.pdf>

For our primary data inputs, both economic statistics and the GHG inventory use Australian financial year reporting periods (June – July). In the following, where we refer to a reporting year (e.g. 2023) this indicates financial year (e.g. 2022-23) unless specified otherwise.

Primary Data Sources

Economic inputs

The essential sources of primary economic data used in the input-output algorithms of IELab are publicly available and published by national statistical offices like the Australian Bureau of Statistics (ABS):

- Australian System of National Accounts: ABS Catalogue Number 5204.0, Australian Bureau of Statistics⁵
- Australian National Accounts, National Income, Expenditure and Product: ABS Catalogue Number 5206.0, Australian Bureau of Statistics⁶
- Australian National Accounts, Input Output Tables: ABS Catalogue Numbers 5209.0 and 5215.0, Australian Bureau of Statistics⁷
- Australian System of National Accounts, Concepts, Sources and Methods: ABS Catalogue Number 5216.0, Australian Bureau of Statistics⁸
- Australian System of National Accounts, Supply Use Tables (previously ABS Catalogue 5217.0)⁹

Environmental inputs

For data on GHG emissions, we refer to the Australian *National Inventory Report 2023*¹⁰, and data sets published on or after 30 May 2025 from the Australian National Greenhouse Gas Inventory (NGGI):

- National Inventory by Economic Sector 2023 – Data Tables¹¹.
- State and Territory Activity Tables
- Paris Inventory Datasets were sourced by API (bulk data download) locations¹².

⁵ <https://www.abs.gov.au/statistics/economy/national-accounts/australian-system-national-accounts> accessed 22/08/2025

⁶ <https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-national-income-expenditure-and-product> accessed 02/09/2025

⁷ <https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-input-output-tables/latest-release> accessed 01/09/2025

⁸ <https://www.abs.gov.au/statistics/detailed-methodology-information/concepts-sources-methods/australian-system-national-accounts-concepts-sources-and-methods/2020-21> accessed 02/09/2025

⁹ <https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-supply-use-tables/latest-release#data-downloads> accessed 01/09/2025

¹⁰ <https://www.dcceew.gov.au/climate-change/publications/national-inventory-report-2023> accessed 22/08/2025

¹¹ <https://www.dcceew.gov.au/sites/default/files/documents/national-inventory-by-economic-sector-2023-data-tables.xlsx> accessed 06/06/2025

¹² <https://greenhouseaccounts.climatechange.gov.au/OData/> accessed 12/06/2025

How we make emission factors

The models developed by IELab and operated by FootprintLab are able to represent the direct and indirect environmental impacts associated with economic activity. The foundational construction of IELab is outlined in Lenzen et al. (2017)¹³ and the mathematical description is in Appendix 2: IELab Methodology.

Methodology of Environmentally Extended Input-Output (EEIO) Analysis

Input-output analysis is a top-down approach of “consumption-based accounting”. Input-output tables (IOT) can be extended to include environmental account data related to industry sectors, e.g. the direct use of energy or resources or the direct emissions of GHG in production. With this, we can trace these impacts from production by different industries to the consumption of goods and services, using financial flow data (economic inputs). This method is called environmentally-extended input-output analysis (EEIO). The resulting data provide information on embodied environmental flows per monetary value of output from a particular sector (e.g. tonnes of GHG emissions per dollar value of construction). With a product’s cost information, an estimate of its associated direct (Scope 1) and total direct and embodied GHG emissions (Scope 3) can be calculated.

Model

An EEIO model consists of 3 or 4 main blocks of data or IOT – see *Figure 1* below. The central “**Transaction Matrix**” identifies monetary transactions (sales and purchases) between industry sectors of an economy in a year – “intermediate demand”. The “**Primary Inputs**” includes **Value Added** items of wages, profits, taxes paid by businesses. When added to the **Purchases from intermediate demand** by businesses, this equals **Total Input**, which is numerically equal to the sum of **Sales to intermediate demand** and **Final Demand** that is **Total Output** by businesses. “**Final Demand**” represents the consumption of products from the economy by households, government and exports.

The **Environmental Extensions** or “Satellite Data” includes physical inputs such as energy, water, materials, waste and GHG emissions. Using IOA we can trace the direct and indirect physical inputs of the **Environmental Extensions** through the many inter-industry transactions of the economy to a dollar spent in **Sales to Final Demand** for goods and services.

¹³ Lenzen, M (2017) *Econ. Systems Research*, 29, 275-295 <https://doi.org/10.1080/09535314.2017.1315331>

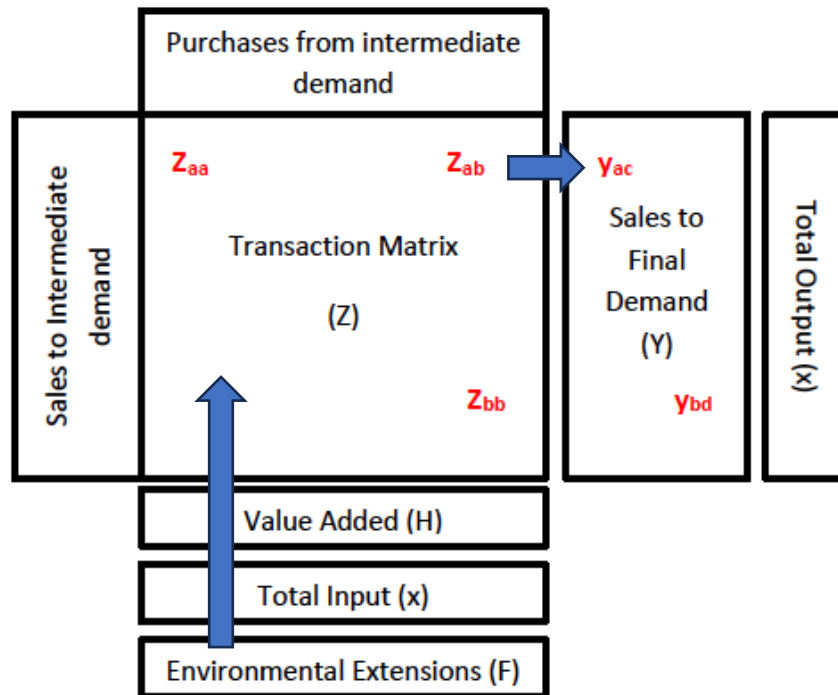


Figure 1: major components of an Environmentally Extended Input-Output model using economic and environmental accounts to produce direct and total (direct + indirect) factors.

Outputs:

Using the EEIO and environmental data we can create detailed accounts of the direct physical inputs to different industries. Scope 1 EF are calculated from dividing the direct impact in **Environmental Extensions** by **Total Input** for a given economic sector and these correspond to the “Scope 1” impact factors for GHG emissions as referred to in the Greenhouse Gas Protocol. The EEIO can also calculate the “Scope 3” indirect impact factors: the intensities of physical impact/\$ for emissions are the total Scope 3 associated with consumption of products from the same industries.

These outputs cover the life cycle stages from raw material extraction to distribution and storage. For purchaser price valuation we refer to the life cycle scope as “cradle-to-shelf”. Basic price valuation of the same impact factors more closely represents production and has a life cycle scope of “cradle-to-gate”. Subsequent life cycle inventories and process data can inform other stages of the lifecycle of post-consumption impacts and flows.

Observed Changes in Primary Data

Economic changes

Across the whole Australian economy, Total Demand (\$AUD) was \$5,251 Billion in 2023 in current prices, up from \$4,731 Billion in 2022, representing an 11% increase in Total Supply. As mentioned in the Background section, the latest release of the economic primary data

are 2 years behind the current calendar year, and there are certainly latent effects of a return to pre-COVID economic output seen in 2023 data.

A majority of sectors saw double digit economic growth between reporting years 2022 and 2023. Notably, the value of output from the following industries¹⁴ grew by 25% or more, in current prices, in 1 financial year:

- Accommodation
- Agriculture, forestry and fishing support services
- Air and space transport
- Beer manufacturing
- Internet service providers, internet publishing and broadcasting, websearch portals and data processing
- Food and beverage services
- Footwear manufacturing
- Non-metallic mineral mining
- Petroleum and coal product manufacturing
- Publishing (except internet and music publishing)
- Railway rolling stock manufacturing
- Sports and recreation

It's important to underline these measures are in current prices and to remember that Australia's Consumer Price Index (CPI) increased by 0.9% in the June 2023 quarter (seasonally adjusted) and by 6% per cent over the preceding 12 months with a peak of 7.8 per cent in the December quarter of 2022. As such, any annual growth less than 6% in current prices represents no growth at all in real terms. In real terms, there were some sectors that apparently experienced contraction according to the macro-economic accounts:

- Forestry and logging
- Furniture manufacturing
- Sawmill product manufacturing
- Water supply, sewerage and drainage services
- Plaster and concrete product manufacturing
- Glass and glass product manufacturing
- Textile product manufacturing
- Non-residential property operators and real estate services
- Other fabricated metal product manufacturing
- Wine, spirits and tobacco
- Fishing, hunting and trapping
- Defence
- Broadcasting (except internet)
- Non-ferrous metal ore mining
- Natural rubber product manufacturing

¹⁴ Sector descriptions are directly from the ABS economic source data: Input-Output Industry Groups (IOIG)

- Basic non-ferrous metal manufacturing
- Ships and boat manufacturing
- Textile manufacturing
- Basic chemical manufacturing
- Iron and steel manufacturing
- Iron ore mining
- Veterinary pharmaceutical and medicinal product manufacturing

All else being equal, more economic activity will mean more total emissions and although the *value* of output from some parts of the economy did not keep pace with inflation, it does not necessarily mean a decline in their *physical* activity: consumption of materials, energy and production of GHG emissions. As we will see in the section on Greenhouse gas emissions changes, there has been an increase in GHG emissions but substantially less than the relative increase in economic output.

Different sectors experienced different levels of economic growth 2022-2023, and the industries in *their* respective supply chains will have been affected. That structural effect also influences economy-wide GHG emissions levels.

There can also be non-linear effects in play as some sectors like electricity involve a minimum amount of annual emissions, and the increasing value of output by some sectors of the economy does not mean a corresponding increase in GHG emissions, which affects the emissions intensity – see also the section: Observed Changes in Emission Factors.

Effect of prices

IELab continues to provide scope 3 EF using “purchaser prices”. This is the case with the current release. Purchaser prices are the amount paid by the purchaser in order to take delivery of goods or services. From the ABS documentation: “Purchasers' prices include any taxes payable (less any subsidies receivable) on production and imports, and any transport charges paid separately by the purchaser to take delivery of goods. Value added taxes, such as the GST, are included in purchasers' prices unless they are allowable as deductions from the purchaser's value-added tax liability. Purchasers' prices are also referred to as market prices”¹⁵.

The fundamental calculations of the EEIO model use basic prices and the results are converted to purchase price (see also Appendix 2: IELab Methodology). For reference, the ratios of basic prices to purchaser prices of product groups can be calculated for IOIG from Table 4 of the ABS national account input-output tables¹⁶. These ratios change over time in response to changes in the application of taxes, duties, wholesale, retail and other mark-up margins – see a selection of sectors with the most significant relative change 2022-2023 in Table 1 below.

¹⁵<https://www.abs.gov.au/statistics/detailed-methodology-information/concepts-sources-methods/australian-system-national-accounts-concepts-sources-and-methods/2020-21/chapter-8-gross-domestic-product/basic-producers-and-purchasers-prices> accessed 09/09/2025

¹⁶<https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-input-output-tables/latest-release> accessed 09/09/2025

The basic price to purchaser price ratio can significantly affect the final spend-based scope 3 EF in purchaser prices irrespective of year-to-year changes in economic output or GHG emissions produced. For example, all else being the same as the previous year¹⁷, the Scope 3 purchaser price EF for 'Bakery product manufacturing' or 'Textiles product manufacturing' would be 28% less in 2023 than 2022. Of course, all else being equal, the retail purchase price of products from 'Bakery product manufacturing' or 'Textiles product manufacturing' would have increased on average by 28% across the economy.

Table 1 Selected ISAPC sectors and the ratio of basic price to purchaser price for 2022 and 2023 reporting years.

ISAPC Sector	2022 ratio	2023 ratio	Relative Change
Footwear manufacturing	0.53	0.33	-38%
Tanned leather, dressed fur and leather product manufacturing	0.85	0.57	-33%
Gambling	0.98	0.70	-29%
Bakery product manufacturing	0.91	0.66	-28%
Textile product manufacturing	0.74	0.53	-28%
Soft drinks, cordials and syrup manufacturing	0.84	0.61	-27%
Furniture manufacturing	0.80	0.59	-26%
Other manufactured products	0.73	0.56	-24%
Gas supply	2.01	2.43	21%
Cleaning compounds and toiletry preparation manufacturing	0.59	0.48	-19%
Dairy product manufacturing	0.85	0.69	-19%
Other agriculture	0.80	0.66	-18%
Electricity transmission, distribution, on selling and electricity market operation	1.58	1.84	17%
Oil and gas extraction	0.80	0.93	16%
Paper stationery and other converted paper product manufacturing	0.82	0.69	-16%
Sugar and confectionery manufacturing	0.86	0.72	-16%
Road transport	1.74	2.02	16%
Human pharmaceutical and medicinal product manufacturing	0.53	0.61	16%
Other food product manufacturing	0.83	0.70	-16%
Glass and glass product manufacturing	0.78	0.67	-15%

Greenhouse gas emissions changes

Australia's annual total GHG emissions increased 3% in 2023 to 453Mt CO₂eq. That figure also includes Residential emissions, notably a 9% increase in residential transport (another post-COVID behavioural change). To construct the IELab spend-based scope 1 and 3 emission factors, we use the total GHG emissions minus residential emissions and without

¹⁷ No change to economic growth, inflation, nor any change in emissions intensity of production.

changes in carbon stocks from land use or land use change. This is a better representation of direct emissions by industry and omits the uncertainty in land use, land use change and forestry (LULUCF) emissions accounting¹⁸, and possibly a specious presentation of decarbonisation¹⁹. With household emissions and changes in carbon stocks removed, the national inventory for Australian industry still increased total GHG emissions by 2% between 2022 and 2023, to 439Mt CO₂eq.

Changes in GHG emissions at ANZSIC Division level²⁰

For Division A: Agriculture, Forestry and Fishing there was a surprising 22% increase in direct emissions between 2022 and 2023 despite a 15% reduction in GHG emission from Forestry and Logging within that Division. Concurrently, there was only a 1% increase in reported total emissions for Division B: Mining in 2023. The latter is consistent with trends since 2021, but the former may be the result of genuine increases in activity and/or some changes to emissions accounting and attribution – see later section on Accounting Changes.

Continuing a 5-year trend, the total GHG emissions of Division D: Electricity, Gas, Water and Waste Services decreased by 3%. The Subdivision of Electricity Supply, within that, reduced its emissions by 2%. This is largely due to the increasing role of renewables making up 35% of generation even as total output remained flat between 2022 and 2023 at 273GWhr²¹. The Subdivision of Gas Supply reduced its GHG emissions by 4% and the Subdivision of Water Supply, Sewerage and Drainage Services by 6%.

Total GHG emissions for Division C: Manufacturing decreased by 4% and Division E: Construction by 3%. However, the total emissions from ANZSIC Divisions F - H, J - S Commercial Services returned to near pre-COVID levels: rising 19% between 2022-2023, after having dipped by 21% over the period 2019-2021.

Division I: Transport, Postal and Warehousing had decreased over the same historical period by 11% but returned to at least historical levels (+/- 5%) in 2022 and increased 11% in 2023. In the sub-sectoral detail here, we can see the changes in transport emissions are mostly due to a rebound (56% increase) seen in the ANZSIC Subdivision of Air and Space Transport, with emissions from other transport modes for industry being consistent with historical trends over the same period (<+/-2% change).

Reconciling the emissions inventory with economic activity

National Greenhouse Gas Inventory (NGGI) data are presented in two formats: The Paris Agreement Inventory, and the Inventory by Economic Sector (ANZSIC). GHG emissions data from the Inventory by Economic Sector (ANZSIC) reflect direct GHG emissions attributed to industry sectors at an aggregate level, whereas the Paris Agreement Inventory provides

¹⁸ McGlynn, E., Li, S., F. Berger, M. *et al.*. *Climatic Change* **170**, 5 (2022). <https://doi.org/10.1007/s10584-021-03254-2> accessed 01/09/2025

¹⁹ <https://australiainstitute.org.au/post/lulucf-explained-why-australias-emissions-arent-actually-going-down/> accessed 01/09/2025

²⁰ See data in Excel spreadsheets located at Datasets and API > Activity tables > in the NGGI <https://greenhouseaccounts.climatechange.gov.au/> accessed 02/10/2025

²¹ <https://www.energy.gov.au/publications/australian-energy-statistics-table-o-electricity-generation-fuel-type-2022-23-and-2023> accessed 02/09/2025

more detail by source of emissions, albeit with some gaps in data due to confidentiality and unavailability. Both sources agree in aggregate totals though it is difficult to make exact cross-associations see Table 2.

Table 2. Summary comparison of different presentations of the National Greenhouse Gas Inventory for Australia in 2023 (<https://greenhouseaccounts.climatechange.gov.au/>) used as IELab's primary data . All measures in Kt CO₂-eq.

Inventory by Economic Sectors (ANZSIC)		Paris Agreement Inventory	
A Agriculture, Forestry and Fishing	54,621	Agriculture	82,388
B Mining	107,453	Energy Industries, Oil and Natural Gas, Solid Fuels*	83,107
C Manufacturing	56,984	Industrial Processes, Energy: Manufacturing Industries and Construction	75,029
E Construction	9,278		
D Electricity, Gas, Water and Waste Services	157,362	Energy: Electricity	152,646
F - H, J - S Commercial Services	18,911	Other	12,731
I Transport, Postal and Warehousing	33,981	Energy: Transport (includes Residential)	97,908
Residential	48,417	Residential (Stationary)	9,547
		Waste	13,792
Changes in Inventory: Agriculture, Forestry and Fishing	-33,557	LULUCF**	-73,701
Total	453,449		453,449
Total Industry***	438,589		438,589

* Includes fugitive emissions

** Land use, land use change and forestry (LULUCF)

*** Less direct Residential emissions and LULUCF

The Paris Agreement Inventory more explicitly represents *sources* of direct emissions particularly from primary industries. The same emissions are accounted for, but differently, in the Inventory by Economic Sectors. In that inventory, the level of detail is about 50 ANZSIC Divisions, Sub-Divisions and sometimes Groups, whereas the Paris Agreement Inventory has less granularity on the economic sectoral *location* of these sources.

According to both Inventories there was an increase in total GHG emissions from Agriculture but there are significant differences in the way the totals and trends appear with respect to concurrent changes in carbon stocks and LULUCF. Figure 2 shows the substantial difference in how the two inventories present emissions from Agriculture and the effect of changes in carbon stocks and LULUCF.

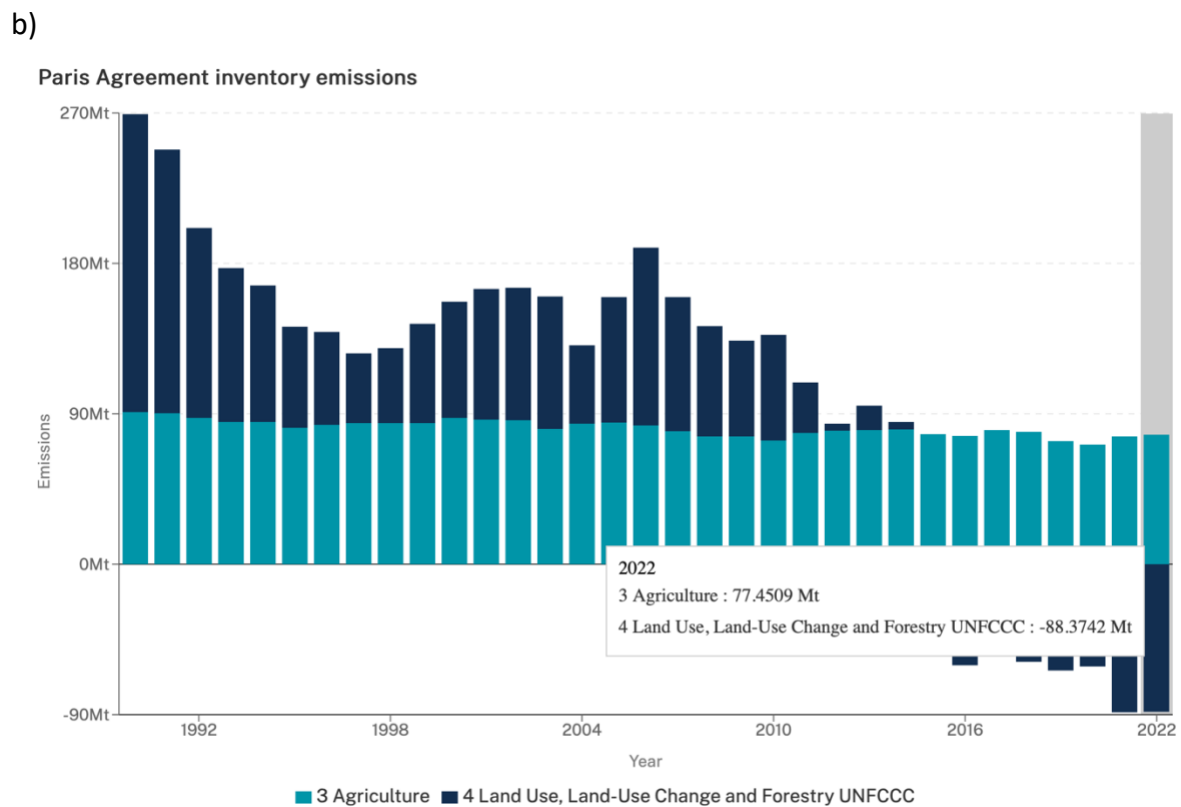
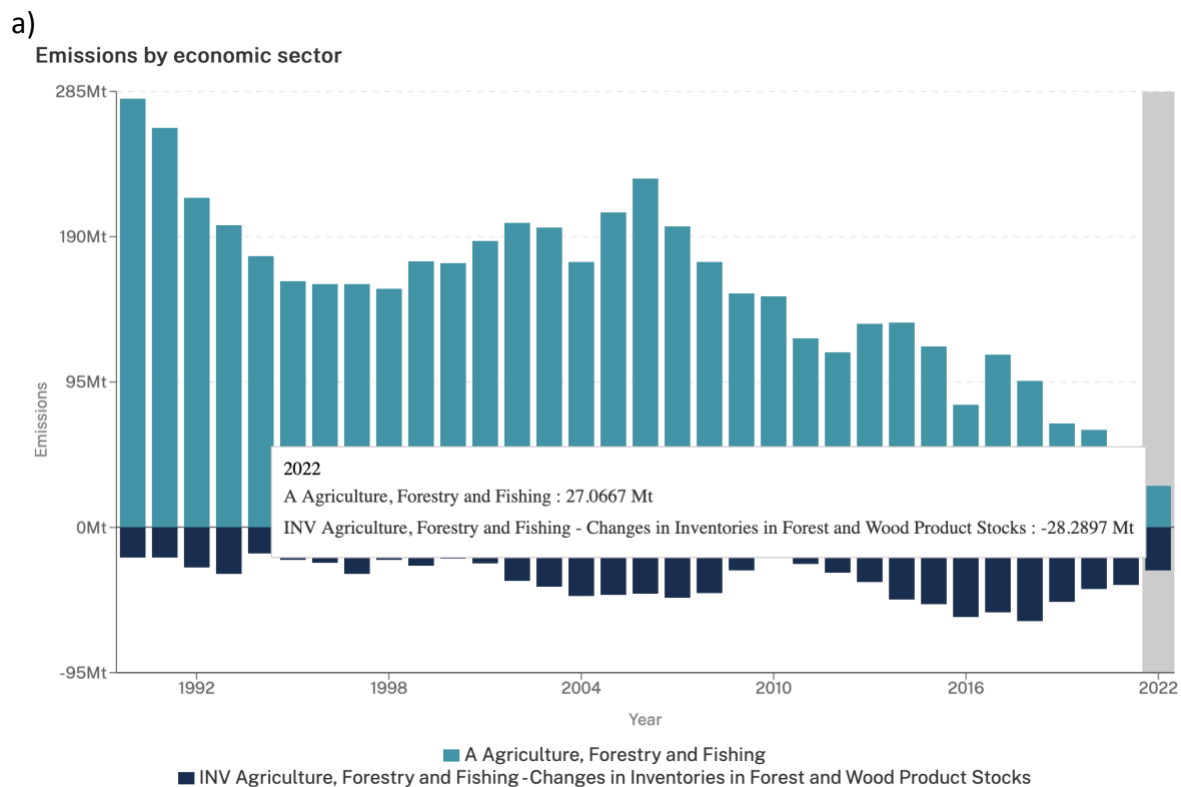


Figure 2: The emissions inventory data from the NGGI (<https://greenhouseaccounts.climatechange.gov.au/>) 1990 - 2022 showing totals and time-series trends for Agriculture and LULUCF from a) Emissions by economic sector and b) the Paris Agreement Inventory.

While we are guided by the direct connection to economic activity in the Emissions by Economic Sector inventory, the Paris Agreement Inventory was used by IELab as the reference data source in this case for generating scope 3 EF. As Table 2 and Figure 2 show, there are significant differences in how the Australian inventories present the data and reconciling these to a single set of coherent emission factors is one of the regular tasks of IELab.

Accounting Changes

From 2009 until 2018, IELab ingested the NGGI when there were 921 detailed records of emission sources, according to the Paris Inventory. In 2018, the national inventory had detail on 1022 sources and since 2019 this has been reduced to 380.

Data for a new input year is still mapped by IELab to the 921-source structure for retrospective consistency. Though this process now needs to infer some values while using the more recent and more aggregate data to scale estimated values proportionally.

There have been a number of other changes to accounting methods of the National Greenhouse Gas Inventory²² between 2022 and 2023, This includes substantial (up to 50%) re-allocation of many agricultural emissions, high-emitting sectors, and changes in emphasis where the inventory reports detail – see also the Appendix 1: Recalculations of Australia’s National GHG Inventory.

There have been significant retrospective revisions. For example, if we relied on the 2024 version for 2022 data it appears Agriculture emissions have increased 115% between 2022 and 2023. If we use the 2025 version for the same comparison, over the same years, Agriculture emissions have decreased by -20%. Large variation between published data versions, for the same historical years, also occurs for Wood, Pulp, Paper and Printing, Construction Services, and all the service economy sectors under ANZSIC Divisions H, K, L, M, N, O, P, Q, R and S. FootprintLab have worked closely with the Australian Government departments who produce the inventory and, consequently, IELab has modified its own methodologies but this work is ongoing.

²² <https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-accounts-2023/national-inventory-by-economic-sector-data-tables-and-methodology-2023> accessed 20/09/2025

Observed Changes in Emission Factors

The NGGI accounting changes confound some genuinely significant reductions across the whole economy: a -8% decrease in overall spend-based emissions *intensity*, which was driven by different sectors to differing degrees, including a reduction in the emissions intensity of the national electricity grid of -5% (see Table 1)²³.

While not a pervasive trend across all sectors, there is a general observation of decreasing values for scope 3 EF through 2018-2020, with a transient low peak in 2021 or 2022, some sectors decreasing in 2022 and lower again in 2023. The 2023 values can sometimes be >25% lower than in 2021, which we refer to as consistent with historical trend for the whole economy – see Table 3. Since 2018 the total emissions intensity for the whole economy has declined 42%. NOTE: this is not the decline in emissions, it's the decline in national average GHG emissions intensity over 5 years.

Table 3: Change in Australia's total reported national economic supply (current prices), GHG emissions, and the effective change in the national emissions intensity compared to 2021 (actual reported numbers rounded to 3 or 4 significant figures).

Year	2021	2022	2023
Total Supply (\$Bn)	\$3,829	\$4,731	\$5,251
Total GHG Emissions (Mt CO ₂ eq)	430	428	439
Overall GHG intensity (kgCO ₂ eq/\$)	0.112	0.090	0.084
Change in Intensity compared to 2021	–	-19%	-26%

This broadly represents long-term trends in national economic growth concurrent with smaller or negative changes in the total GHG emissions inventory. We have also observed shorter term (1 year) instability in particular sectors due to: changes in commodity and/or energy prices; reactions to war, disaster or other supply interruptions; changes in the margins of purchase prices; and isolated changes to accounting definitions or re-classifications.

For example, there was a re-classification of the 'Ownership of dwellings' sector into ownership and, separately, income from rent, effective from the reporting year 2022. This change in accounting definition likely affected the 21% increase in the basic price Scope 3 EF for that sector after an apparent -30% drop in 2021-2022, possibly related to COVID.

Double digit percentage year-to-year changes in spend-based EF for 2022-2023 are not confined to Australia. See also this advisory note²⁴ from the UK's CarbonSaver facility about volatility in their Scope 3 EF.

²³<https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-accounts-factors-2023> accessed 02/02/2025

²⁴ https://carbonsaver.org/downloads/LAB_Volatility_in_Spend-Based_Emission_Factors.pdf accessed 10/11/2025

It should also be noted that, in general, we have observed relatively large EF variability over time for economically small sectors: the result of a small (and variable) total scope 3 emissions divided by a small (and variable) total economic output for that sector. Regardless of the presence of economic shocks, caution is advised when using factors for relatively small sectors of the economy e.g. ISAPC: Lawn mowers, Parking Services, or Knitting Mill products.

Increases to the *value* of output from economic sectors in 2023 (notably Accommodation and Air and Space transport) does not always involve a commensurate increase in emissions. This can mean a dramatic reduction in the per-dollar spend-based EF. That this follows a year where the reverse was true (greatly reduced economic output), has produced some of the large year-to-year observed changes. A selection of general observations follows.

The food processing sectors including beer and wine generally decreased emissions and raised economic output but this environmental efficiency appeared far more pronounced in the fruit and vegetables processing industries countering increased emissions elsewhere in the sector.

Vegetable products – there was a -27% decrease in purchaser priced Scope 3 EF, which is explained by a combination of an -8% economy-wide reduction in emission intensity and the approximate expected purchase price change effect on scope 3 EF of -18%.

Data processing services – although there was a -37% decrease in the purchaser price Scope 3 EF in this sector in 2022-23, this is explained largely by the 32% increase in economic output by sectors of internet service providers, internet publishing and broadcasting, web search portals and data processing.

Electronic equipment: Although the emission factor appears to have decreased by -37% in one year (purchaser price valuation), there has been an overall decrease in economy-wide emissions intensity of -42.5% between 2018-2023 and the long-term decrease for this sector over the same period is -48%. Possibly a modelled underestimate in purchaser price Scope 3 EF for 2023 but a linear trend through historical data agrees with that modelled value within a tolerance of +/- 20%. That is, it could be up to 20% underestimate or genuine reflection of changes in production over the long term.

Photographic and scientific equipment: Similarly to **Electronic equipment**, there is an apparent -36% decrease in the Scope 3 PP EF for this ISAPC sector, but the same analysis justifies the retention of the (possibly underestimated) EF published. There was a -32% decrease in the corresponding basic price EF.

Textile manufacture and finishing Sectors associated with this activity saw between -20% and -41% decreases in basic price Scope 3 EF. Some of this is due to modest (4%) economic growth and sector-wide reduction in emissions, but we also used historical trend values to

arrive at the final EF. The larger drop in purchaser price valued EF is most likely due to large changes in these BP/PP price ratios in related sectors:

- Textile product manufacturing (-28%)
- Tanned leather, dressed fur and leather product manufacturing (-33%)
- Footwear manufacturing (-38%)

The **Health sector** has reportedly seen a long-term 30% drop in total emissions since 2016²⁵, though there would have been much more activity (in-house waste and embodied emissions) during COVID without there necessarily being more economic output from the system. We think 2023 has seen a return to trend in emissions intensity. This goes some way to explaining double digit changes in health-related Scope 3 EF. Other Personal Services sectors that were exposed to changing labour conditions of 2021-2022 also see large fluctuations in Scope 3 BP EF for 2022-2023— see selection in Table 4 below.

Table 4: Scope 3 emission factors for selected health-related ISAPC sectors and their relative change 2022 – 2023.

ISAPC Scope 3 Emissions Factor	Change %
GPs, dentists, optometrists, ambulance	-33%
Hospitals and nursing homes	-27%
Community health centres	-32%
Veterinary services	11%
Personal services	-30%

Updates in Methodology

There are advantages to using the different primary data formats from the Australian GHG inventory discussed in the Section: Reconciling the emissions inventory with economic activity. It is the job of the IELab data infrastructure to reconcile these in their “data feed” code and processes. These processes involve codified judgement and, furthermore, need to adapt to changing levels of detail in successive annual national inventories. As such, methodological revisions can be an annual event, often concurrent with improvements in handling of data, mapping to detailed sectors of economic activity, and quality control of the final EFs published.

Given the GHG accounting changes noted earlier, FootprintLab’s view is that it is not useful to simply present large variations in scope 3 EFs due mostly to accounting definitions or method changes. This year we have applied a post-processing policy to handle such large changes: where high inter-annual variance has been observed, we have sometimes used an average or linear trend through results from multiple model runs and multiple years to produce our final ISAPC emission factors. Over time, these factors will become consistent with new accounting allocations while minimising the disruption of large and sudden changes to EF used in practice.

²⁵ <https://www.thelancet.com/journals/lanplh/article/PIIS2542-51961730180-8/fulltext> accessed 29/09/2026

We have also made an effort to harmonise across the different categorisations (ISAPC and ANZSIC) of Australian Scope 1 and 3 emission factors that FootprintLab produce using the IELab infrastructure.

Post-processing and handling large changes

The identification of large year-to-year variance (> +/-30% change in value 2022-2023) and consequent use of historical trend or other techniques is outlined by the logic below.

FootprintLab also looked at historical ANZSIC Class emission factors compared to latest ANZSIC results and latest ISAPC results translated to ANZSIC Classes.

- If the reported economic growth in a given sector exceeded 15% (in some cases > 30%), this strongly affects the scope 1 part of the total scope 3 emissions factor, especially in primary industries. The variance may then be justified, and the EF is retained as a valid value.
- We also retain the calculated EF if some other evidence substantiated the observed variation e.g. inter-annual economic effects such as changing commodity prices (including oil), disasters, change in policy, technical change (e.g. AI, new infrastructure or plant closure) or other discoveries.
- We retained calculated values that *did* change substantially from 2022 but were consistent with historical trends.
- Where there has been historical volatility, or we are aware of systemic accounting changes, we used an average or linear trend through historical scope 3 emission factors to estimate a 2023 value.
- Where 2023 emission factors departed from historical data or trends by >40%, we rejected modelled values and estimating scope 3 EF from historical data **OR**
- reverted to the prior year value **OR**
- We may identify valid “model corrections”: if 2023 results from both ANZSIC and ISAPC models were consistent with each other and consistent with EF of adjacent sectors, the historical sector values could be rejected and the 2023 ISAPC value may be chosen even if it was substantially different from 2022.

Emission factors estimated from historical trends

The EF for the sectors in Table 5 were originally calculated to be > +/-30% different from their values in the 2022 data set. A linear best fit algorithm was used on historical data from 2018 to 2022 inclusive to generate a trend line to estimate an updated 2023 value. If volatility persists in the subsequent 2024 value (published in 2026), the originally calculated 2023 value may be used to extend the historical trend estimation.

Table 5 ISAPC sectors that used historical trends to estimate their scope 3 emission factor value for 2023

ISAPC #	ISAPC Code	ISAPC Description
14	106001	Eggs
33	200004	Aerial agriculture
43	400005	Aquaculture
65	1400001	Gravel
66	1400002	Sand
67	1400003	Dimension stone
73	1500000	Services to mining
129	2313000	Paper containers
130	2314000	Paper products
131	2401000	Printing and stationery
153	2507002	Munitions
154	2507003	Inks
182	2703000	Structural metal products
207	2807000	Household appliances
s208	2807001	Space heaters, gas
209	2807002	Space heaters, electric
210	2807003	Domestic refrigerators
216	2807009	Water heater, electric
232	2901000	Prefabricated buildings
233	2902000	Furniture
234	2902001	Wooden furniture
235	2902002	Sheet metal furniture
252	5401000	Motor vehicle and lawn mower repairs
263	6201001	Railway freight transport services
264	6201003	Railway passenger transport services
287	7401003	Public liability
312	7803006	Packing
313	7803007	Collecting and credit reporting
320	8401000	Education

Reverting to 2022 Emission Factors

Table 6 lists 26 sectors that have retained a 2022 purchaser price value in the 2025 Edition of Scope 3 factors, although that set generally refers to 2023. This follows a cautionary policy to releasing new data, which avoids presenting large changes to the scope 3 EF data set unless there is strong empirical support from primary data or clear methodological causes. Further review is needed of these EF in the next edition.

Table 6 ISAPC sectors that retained scope 3 EF purchaser price values from 2022. Further review needed.

ISAPC #	ISAPC Code	ISAPC Description
8	102005	Legumes
29	200000	Skins and other agricultural services
30	200001	Ginned cotton
31	200002	Cotton seed
32	200003	Sheep shearing
41	400003	Raw fish
50	1301000	Iron ores
59	1302008	Lead ores
61	1302010	Tin ores
92	2105006	Self-raising flour
94	2105009	Pasta
160	2511001	Superphosphate
164	2602000	Ceramic products
186	2703004	Architectural aluminium
242	3701000	Water supply; sewerage and drainage services
248	4102004	Non-building construction
250	4501000	Wholesale trade
251	5101000	Retail trade
257	5402003	Retail repair and service
279	7101001	Postal services
280	7101002	Courier services
290	7501002	Services to insurance
298	7801001	Research and meteorology services
301	7801004	Technical services
309	7803003	Security and investigation
342	9601004	Corrective centres

Corrections to 2022 emission factors

These 11 sectors listed in Table 7 each differed by more than +/-40% from their respective values in 2022 and, despite this difference, the 2023 updated value was retained. Some of these have been discussed and justified earlier (see the Section: Observed Changes in Emission Factors regarding the Textiles industry). Others represent a correction in the most recent release, for example the 2023 scope 3 EF value for Oils and fats is now more consistent with those of adjacent food processing sectors rather than the historical values for the Oils and fats sector.

We saw extreme variation (>75%) in EF for TAB agencies and the basic price EF for Retail Trade. For the latter we have rejected the 2022 value as an aberration but have maintained stability in the purchaser price version by referring to 2022 for the 2023 value. We expect any substantial changes due to corrections like these to be one-off events leading to improved future EFs.

Table 7 ISAPC sectors with notable corrections to 2022 scope 3 emission factors

ISAPC #	ISAPC Code	ISAPC Description
83	2103000	Vegetable products
84	2103001	Fruit products
85	2104000	Oils and fats
96	2106001	Bread and bread rolls
114	2125000	Textile finishing
115	2202000	Textile products
116	2202001	Textile and canvas bags
143	2501005	Refinery LPG
213	2807006	Clothes washing machines
251	5101000	Retail Trade (basic price)
335	9301003	TAB agencies

Defence scope 3 EF also varied by a substantial margin from prior year's value, but this sector has shown variability and some Defence emissions accounting is not represented in the national accounts as it effectively represents sensitive information.

Our calculation of the Scope 3 EF for Parks, botanical gardens and zoos has always had a small negative value. Climate Active's policy on published EF do not allow negative emissions factors in accounting and this has been rectified to a published value of 0 kg CO₂-eq/\$ as for 2022. Table 6 lists sectors that have retained a 2022 purchaser price value in the 2025 Edition of Scope 3 factors.

When to use spend-based factors

The *Greenhouse Gas Protocol Technical Guidance for Calculating Scope 3 Emissions*²⁶ provides guidance on the selective use of EF from different sources. There is no one prescribed method, rather there is a list of possible methods (see p20) and a decision tree to guide selection (see Figure 4.1 on p51). Spend-based EF are one of these and useful in situations where specific data is limited or not accurate, or e.g. where there are so many suppliers or heterogenous inputs to production that a complete inventory is impractical with other currently available data. Spend-based factors are useful in some cases (e.g. Scope 3.1 Purchased Goods and Services) but not all aspects of a GHG inventory.

The following example illustrates the interpretation of emission factors based on EEIOA: An organisation may have purchased personal computers (PC) from a computer manufacturer. The computer manufacturer in turn needs to procure computer parts (goods and services) from other producers e.g., computer chip from a computer chip manufacturer. The computer chip manufacturer in turn sources silicon mined by a mining company. The upstream GHG emissions from the mining company, the computer chip and computer manufacturers (and all other suppliers' supply chain) through to the point of sale of PC to the organisation are considered Scope 3 emissions. For example, the emission factor for PC (0.08 kg CO₂-eq/\$PP from the Electronic equipment sector) means that 0.08 kg of CO₂-eq of upstream GHG emissions are emitted to produce one Australian dollar's worth of PC to the point that the organisation buys it. These upstream emissions are part of Scope 3 because they are part of their suppliers' supply chain. Complete upstream Scope 3 emission factors are the outcomes of this process of successive supply-chain analyses.

Spend-based EF cover all *upstream* embodied emissions but not *downstream* Scope 3 e.g. from the combustion of fuels, the use phase of electrical goods, or emissions from waste associated with specific goods.

National spend-based EF do not represent local details in urban versus regional freight costs, taxi fares, or electricity production in different States of Australia. Particularly for fuel use, transport, freight and electricity consumption, we recommend activity-based factors that connect physical consumption (e.g. per tonne.kilometre or per kWh of electricity) with GHG emissions and/or with geographical detail. Valid Australian sources for activity-based EF are the *National Greenhouse Accounts Factors: 2025*²⁷ and the Australian Life Cycle Inventory²⁸ (AUSLCI v1.45). FootprintLab has also extracted these data to single CSV files with ordered fields as for the spend-based EF, and can supply on request.

²⁶ https://ghgprotocol.org/sites/default/files/2023-03/Scope3_Calculation_Guidance_0%5B1%5D.pdf accessed 20/09/2025

²⁷ <https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-accounts-factors-2025> accessed 20/09/2025

²⁸ <https://www.auslci.com.au/index.php/EmissionFactors> accessed 20/09/2025

Appendix 1: Recalculations of Australia's National GHG Inventory

The Commonwealth Department of Climate Change, Energy, the Environment and Water publish a complete new timeseries of GHG emissions data for the period 1989-90 onward with each new release of the National Inventory Report. New publications may contain recalculations to historical years – as such, analysts should always use the full time series of emissions from the latest publication.

The following notes are copied from the Australian Government website²⁹. Please refer to that source for more details noting, in particular, this is the first time the Department has published estimates of Land Use, Land Use Change and Forestry (LULUCF) emissions by land use category and allocation to economic sectors.

“Emissions estimation techniques and data sources for the Australian inventory continue to be refined, updated and improved. Recalculations to the 2023 National inventory by economic sector were made in response to several factors, including:

- Method improvements applied to the National Inventory Report 2023, on which the National Inventory by Economic Sector is based. See the National Inventory Report 2023³⁰ to find out more about method development.
- Extended use of NGER scheme data to allocate Scope 1 emissions from electricity generation.
- Updates to the most recent annual release of the ABS Energy Accounts, Supply-Use Tables and Input-Output Tables.
- Corrections or revisions to the allocation of some UNFCCC sectors to their corresponding economic sector.
 - Fugitive emissions from LNG terminals and LNG storage facilities have been reallocated from the pipeline transport industry to ANZSIC 07 Oil and Gas Extraction.
 - Emissions from mangrove forest converted to wetland have been allocated to ANZSIC 89 Heritage Activities. This follows the expansion of LULUCF reporting categories for mangroves to better reflect land use post clearing, as reported in the National Inventory Report 2023. Previously, all emissions from the clearance of mangrove forests were reported under forest land converted to settlements which is allocated to ANZSIC 32 Construction services.

The impact of the recalculations on emission levels for economic sectors was an increase in the estimate of total emissions for the financial year 2021-22 of 8.0 Mt CO₂-e or 1.8%. This is consistent with the recalculation of national net emissions for financial year 2021-22 reported in the National Inventory Report 2023.

²⁹<https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-accounts-2023/national-inventory-by-economic-sector-data-tables-and-methodology-2023> accessed 20/09/2025

³⁰ <https://www.dcceew.gov.au/climate-change/publications/national-inventory-report-2023>

- The increase in emissions from the Agriculture, Forestry and Fishing industry is mainly the result of recalculations to emissions from non-temperate fire management, cropland soils and enteric fermentation, as reported in the National Inventory Report 2023. This resulted in an increase in emissions for several LULUCF and Agriculture sectors allocated to the Agriculture, Forestry and Fishing industry.
- The increase in emissions from the Mining industry is a result of an increase in the allocation of road transport emissions to the Mining industry reflecting the latest release of the ABS Energy Account, the reallocation of fugitive emissions from LNG terminals and LNG storage facilities to ANZSIC 07 Oil and Gas Extraction, and because of a recalculation of fugitive emissions from natural gas flaring, as reported in the National Inventory Report 2023.
- The decrease in emissions from the Residential sector is a result of a decrease in the allocation of road transport emissions to the Residential sector reflecting the latest release of the ABS Energy Account. This has resulted in a corresponding increase in the allocation of road transport emissions to other industries.”

Appendix 2: IELab Methodology

The Australian IELab uses the underlying methodology of EEIO – see also the high-level description in the Section: Methodology of Environmentally Extended Input-Output (EEIO) Analysis. The high-performance computing platform takes information from IOTs, which summarise all financial transactions between all industry sectors in an economy. IELab then links the IOTs to environmental and social statistics (e.g. GHG emissions, wages and salaries, employment) for use in detailed environmental footprint analyses – see also Lenzen et al (2017)³¹.

IO tables are based on economic supply and use tables (SUTs) representing a complete picture of the Australian economy showing all inputs (domestically produced goods and imports) and all outputs (domestic final consumption and exports) in monetary terms. See also Eurostat (2008)³².

A SUT is considered more valuable than a symmetric IOT (industry-by-industry) as it retains more information on the structure of transactions between industries and products (Wiedmann, 2017)³³. We refer to the table used in this project as an IOT in SUT format. The IOT structure is shown in the form of a ‘heat map’ in Figure 3, and is explained below:

- The Intermediate demand element of the IOT is called the transaction matrix (T) and it represents the financial transactions between 344 industry and product sectors of Australia (in \$AUD Million). The columns give the inputs to each sector, the rows give the outputs to each sector, and the off-diagonal areas represent trade between sectors.

³¹ *Economic Systems Research*, (2017) 29(2), pp275–295 <https://doi.org/10.1080/09535314.2017.1315331>

³² <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-013>

³³ *Journal of Economic Structures*, 6(1), pp11 <https://doi.org/10.1186/s40008-017-0072-0>

- Final demand (FD) represents money spent by final consumers, broken down into households, government and businesses (gross fixed capital formation) (in millions of Australian dollars).
- Value added (VA) is the value that each industry generates through wages and salaries, taxes and profits (in millions of Australian dollars).
- Total imports from the rest of world and total exports to the rest of world are aggregated in one additional row and column, respectively (in \$AUD Millions).
- Finally, GHG emissions (E) represent the environmental impacts (in kt CO₂-eq) associated with the production of activities, goods and services in each sector.

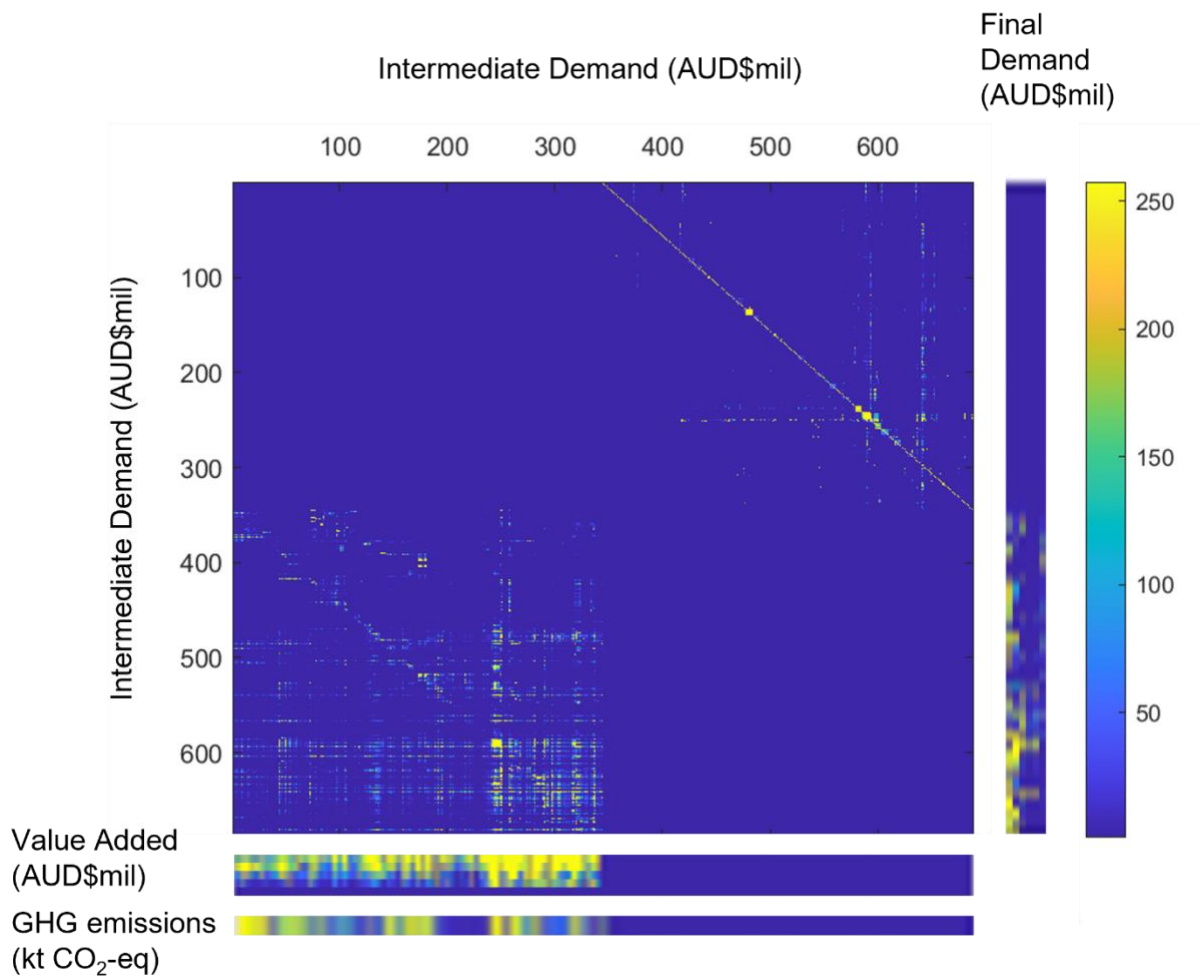


Figure 3: Format of the supply and use structure of the national input-output table used to produce Australian Scope 3 emission factors (not to scale). The colouring of cells indicates the magnitude of cell value. Intermediate demand has dimensions 688 x 688, Final demand 688 x 6, Value added 5 x 688, and GHG emissions 1 x 688. Australian industries are represented in the first 344 rows/columns of the IOT. Australian products are represented in the second 344 rows/columns of the IOT.

Leontief Demand-Pull Model

Underlying calculations for the Scope 3 emission factors followed the standard Leontief-inverse demand-pull input-output model (Leontief, 1986³⁴; Miller and Blair, 2009³⁵). To begin an EEIOA using the Leontief demand-pull model, two pieces of raw data are required: the direct environmental impacts associated with each industry sector (e), and an input-output table which has been balanced such that total inputs for each sector equal total outputs (Kitzes, 2013).

Then, the technical coefficient matrix (\mathbf{A}) is created. \mathbf{A} is made up of coefficients a_{ij} representing the input coefficient for sector i required to produce one unit of input of sector j (Kitzes, 2013)³⁶:

$$a_{ij} = \frac{x_{ij}}{x_j}$$

for $i = 1, \dots, n$
and $j = 1, \dots, n$,

where x_{ij} is the input from sector i to sector j and x_j is the total inputs of industry j . For a sector i , the equilibrium between total supply and total demand can then be written as:

$$x_i = \sum_{j=1}^n a_{ij} x_j + y_i$$

for $i = 1, \dots, n$

The overall supply and demand equation can also be expressed as:

$$\mathbf{x} = \mathbf{Ax} + \mathbf{y},$$

where:

\mathbf{x} is a vector of total inputs (size $1 \times n$),

\mathbf{y} is a vector of final demand (size $1 \times n$), and

\mathbf{A} is a matrix of technical coefficients (a_{ij}) of size $n \times n$

By solving for \mathbf{x} , the Leontief inverse matrix, denoted by \mathbf{L} can be found:

$$\begin{aligned} \mathbf{y} &= \mathbf{x} - \mathbf{Ax} \\ (\mathbf{I} - \mathbf{A}) \times \mathbf{x} &= \mathbf{y} \\ (\mathbf{I} - \mathbf{A})^{-1} \times (\mathbf{I} - \mathbf{A}) \times \mathbf{x} &= (\mathbf{I} - \mathbf{A})^{-1} \times \mathbf{y} \\ \mathbf{x} &= (\mathbf{I} - \mathbf{A})^{-1} \times \mathbf{y} \\ \mathbf{x} &= \mathbf{Ly} \end{aligned}$$

The Leontief inverse matrix can then be used to link the economy and the environment via the direct 'pollution' coefficient f_j (also called the Direct Intensity Multiplier, DIM):

$$f_j = \frac{e_j}{x_j}$$

where:

f_j is the amount of pollutant emitted (e_j) per total input x_j for each industry j .

³⁴ Leontief, W. W., 1986. Input-Output Economics. Oxford University Press.

³⁵ Miller, R. E., Blair, P. D., 2009. Input-Output Analysis: Foundations and Extensions. Cambridge University Press.

³⁶ Resources (2013), 2(4), pp489-503 <https://doi.org/10.3390/resources2040489>

Finally, the Leontief inverse matrix (**L**) and DIMs (**f**) are used to generate the Total Impact Multipliers (**TIMs**) of each product group – these are synonymous with Scope 3 EF;

$$\mathbf{TIMs} = \mathbf{fL}$$

where

f represents the vector of Direct Intensity Multipliers (DIMs) for industry sectors

L represents the Leontief inverse matrix.

TIMs of product groups are expressed as kgCO₂-eq/AUD_{BP} expenditure, in basic prices (BP). Ratios of basic prices over purchasers' prices of product groups (ABS, 2016) are used to convert these **TIMs** into kgCO₂-eq/AUD_{PP} expenditure, in purchasers' prices (PP).

$$\mathbf{TIMs} \left(\frac{\text{kgCO}_2 \text{ eq}}{\$_{PP}} \right) = \mathbf{TIMs} \left(\frac{\text{kgCO}_2 \text{ eq}}{\$_{BP}} \right) \times \frac{BP}{PP}$$

The BP/PP ratios for each product group are derived from Table 4: 'Reconciliation of flows at basic prices and at purchasers' prices by product group' of the ABS national account input-output tables³⁷.

Emission Factors

Scope 3 emission factors (also called Total Impact Multipliers (TIMs) are derived for each economic sector of the IOT from the calculation described. Emission factors depict the cumulative carbon emissions that occur in the entire supply chain network in order to produce one dollar of final demand of that sector. Hence, emission factors are the footprints for each sector, normalised to only one dollar of output. This normalisation offers the comparison of the emissions factor for different industries, and hence is a useful tool not only to calculate the footprints for industries, but also to assess how carbon-intensive the supply chain network is for one particular industry. The mathematical methods to calculate emission factors make use of the fact that the input-output table records the direct transactions between different industries and links these direct transactions in order to obtain a comprehensive analysis of the entire supply chain network.

IELab's EF are expressed as kgCO₂-eq/AUD_{PP} expenditure (PP = purchasers' price) for the year 2023:

- CO₂-eq includes the most common greenhouse gases reported under the Kyoto Protocol, which are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆)
- Purchasers' price is "... *the amount paid by the purchaser in order to take delivery of goods or services. Purchasers' prices include any taxes payable (less any subsidies receivable) on production and imports, and any transport charges paid separately by the purchaser to take delivery of goods. Value added taxes, such as the GST, are*

³⁷<https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-input-output-tables/latest-release> accessed 09/09/2025

*included in purchasers' prices unless they are allowable as deductions from the purchaser's value-added tax liability. Purchasers' prices are also referred to as market prices."*³⁸.

- Using TIMs valued in purchasers' prices is more straightforward for users as actual amounts of expenditure can be used without correcting the price (i.e. the market price of a product, including taxes/GST as well as trading margins, can be used without adjustment).

Appendix 3: Data Dictionary of ISAPC Sectors

The detailed descriptions of the 344 IELab sectors below are based on corresponding subsectors from the detailed Input-Output Product Classification (2009)³⁹. The first column is the running IELab sector number from 1 to 344. The second column has the short description, and the third column detailed descriptions are derived from the IOPC 2009 dictionary. In the detailed description: Words starting with a capital letter mark the beginning of the next subsector description. The letters "nec" mean "not elsewhere classified". Please ignore any numbers in brackets. There is one change from historical naming of ISAPC sectors: the short title "Coffee, tea, spices, snacks, spreads" is now "Food products", though the numbering is the same.

ISAPC	ISAPC Description	ISAPC Detail
1	Sheep and lambs	Sheep and lambs Sheep and lamb products nec Sheep and beef cattle agistment services
2	Shorn wool	Wool (shorn and dead) Grain mill and cereal products - commission production (1161-1162)
3	Oats, sorghum and other cereal grains	Oats, unmilled Grain, sorghum Cereal grains nec Forage sorghum Forage products nec
4	Wheat	Wheat (incl spelt) and meslin, unmilled
5	Barley	Barley, unmilled
6	Rice	Rice, in the husk Rice (husked, semi-milled or wholly milled)
7	Oilseeds	Oilseeds
8	Legumes	Lupins (white or yellow), field peas, chickpeas, faba beans, mung beans, navy beans, vetch, lentils and other legumes
9	Beef cattle	Beef cattle and calves Beef cattle and calves products (excluding Milk) nec Sheep and beef cattle agistment services
10	Untreated milk	Whole milk, chilled but otherwise untreated
11	Dairy cattle	Dairy cattle
12	Pigs	Pigs
13	Poultry	Poultry for slaughtering and egg-laying hens

³⁸<https://www.abs.gov.au/statistics/detailed-methodology-information/concepts-sources-methods/australian-system-national-accounts-concepts-sources-and-methods/2020-21/chapter-8-gross-domestic-product/basic-producers-and-purchasers-prices> accessed 09/09/2025

³⁹ [IOPC 2009: ABS Cat 5215.0.55.001 Australian National Accounts: Input-Output Tables \(Product Details\)](#)

14	Eggs	Eggs
15	Vegetables	Mushrooms, fresh or chilled Mushroom spawn Lettuces grown undercover Tomatoes grown undercover Other vegetables, fresh or chilled, grown undercover Lettuces grown outdoors Tomatoes grown outdoors Potatoes, sweet potatoes and edible roots and tubers nec grown outdoors Beans, french and runner; peas, green or blue grown outdoors Cabbages, brussels sprouts, cauliflowers and headed broccoli grown outdoors Carrots grown outdoors Onions grown outdoors Vegetable seeds Other vegetables (incl. melons), fresh or chilled grown outdoors Almonds and macadamias Edible nuts (excluding Peanuts) nec; Other fruit nec - fresh and sun-dried Peanuts Unblended honey and beeswax Fruit and vegetable products - commission production, Tobacco growing
16	Fruit	Grapes - table Grapes sun-dried or for drying Kiwi fruit Strawberries Berries nec - fresh and sun-dried Apples - fresh and sun-dried Pears and quinces - fresh and sun-dried Stone fruit - fresh and sun-dried Citrus fruit - fresh and sun-dried Olives - fresh and sun-dried Bananas - fresh and sun-dried Orchard fruit nec - fresh and sun-dried
17	Plant nurseries	Plants grown undercover Plants grown outdoors Turf
18	Flowers	Flowers (incl cut flowers) and flower seeds grown undercover Flowers (incl cut flowers) and flower seeds grown outdoors
19	Grapes for wine	Grapes for wine
20	Horses	Thoroughbred horses Horse stud and breeding services; horses nec Horse Agistment Services
21	Deer	Deer farming
22	Animal breeding	Breeding and live animals nec Livestock products nec
23	Sugar cane	Sugar cane (for planting or crushing)
24	Unginned cotton	Cotton (excl ginned)
25	Hops	Beverage and spice crops
26	Grass seed	Grass, lucerne and clover seed
27	Hay	Hay, cereal grasses and fodder
28	Natural rubber	Natural rubber Crops nec Other natural rubber products nec Natural Rubber Products - commission production Waste from manufacture of polymer products, rubber, natural rubber and rubber products (1911-192)
29	Skins and other agricultural services	Skins and pieces, raw Wildlife culling services Hunting and trapping products nec Services to agriculture nec
30	Ginned cotton	Cotton (ginned), cotton seed, waste from cotton and cotton ginning services
31	Cotton seed	Cotton (ginned), cotton seed, waste from cotton and cotton ginning services

32	Sheep shearing	Sheep shearing services
33	Aerial agriculture	Aerial agricultural services Packaging of fresh produce, groceries; bottling or rebottling services and packaging services nec
34	Forest products	Natural gums and resins (incl oleoresins) Forest products nec
35	Forestry	Forestry and services to forestry
36	Softwoods	Softwoods (conifers) growing Softwoods (conifers) logs
37	Hardwoods	Hardwoods, brushwoods, scrubwoods - growing Hardwoods, brushwoods, scrubwoods - logs; hewn timber and timber nec (incl firewood)
38	Services to fishing and squid jigging	Fish and squid (line fishing) Services to fishing nec
39	Rock lobsters	Rock lobster and crab
40	Prawns	Farmed prawns and crustaceans nec Prawns
41	Raw fish	Fish and squid (line fishing) Fish (trawling or netting)
42	Shellfish	Farmed oysters (including Pearl), paua and molluscs nec Farmed seaweed Oysters and other aquatic invertebrates nec, live, fresh or chilled
43	Aquaculture	Farmed fish and fish hatchery products Farmed prawns and crustaceans nec Coral and similar, shells of molluscs; natural animal sponges; algae, fresh or dried Freshwater fish and aquatic animals nec
44	Black coal	Black coal (all types incl briquettes)
45	Brown coal	Brown coal-lignite (incl briquettes)
46	Crude oil	Crude oil (incl. condensate)
47	Natural gas	Natural gas (in the gaseous state)
48	LPG, LNG	Liquefied natural gas Liquefied natural gas (other than from the well head) Hydrocarbons and derivatives (incl ethane, betane and benzole and benzene other than from petroleum and iron and steel)
49	Coal, oil and gas extraction	Coal gas, water gas, producer gas and similar gases (excl petroleum gases and other gaseous hydrocarbons)
50	Iron ores	Iron ore (incl treatment; excl pelletising) Agglomerated iron ores nec (incl iron ore pellets and sintered ores)
51	Non-ferrous ores	Antimony, pyrite, molybdenum, berryllium, wolfram, scheelite and other non-ferrous metallic ores, and other mining income
52	Bauxite	Bauxite
53	Copper concentrates and ores	Copper concentrates, oxides and ores
54	Gold	Gold bullion and ores
55	Ilmenite and Leucoxene	Beneficiated ilmenite, ilmenite and leucoxene concentrates
56	Rutile	Rutile concentrates

57	Mineral sands	Zircon concentrate; monazite, xenotime and other mineral sand ores
58	Nickel ores	Nickel ores and concentrates
59	Lead ores	Lead ores and concentrates (excl silver-lead-zinc ores)
60	Silver and zinc ores	Silver and zinc ores
61	Tin ores	Tin, tin-copper and tin-tantalite concentrates
62	Uranium ores	Uranium concentrates
63	Manganese ores	Manganese ores
64	Gemstones, gypsum, silica	Precious and semi-precious gemstones (incl garnet concentrate) Gypsum; anhydrite; calcareous stone of a kind used for the manufacture of lime or cement (excluding limestone) Silica
65	Gravel	Gravel
66	Sand	Sand
67	Dimension stone	Dimension stone
68	Construction materials	Pebbles, broken or crushed stone, macadam, tarred macadam, granules, chippings and powder of stone Construction materials (mined) nec (incl decomposed rock, residues, etc) (excl crushed and broken stone and dimension stone)
69	Limestone	Limestone (incl shell and coral) Ground limestone
70	Clays	Clays nec (incl brick, pipe, tile and shale) Clay bricks (excl refractory bricks) Refractory products (incl bricks, cement and clay) Ground clays (excl colours); andalusite, kyanite & sillimanite; mullite; chamotte & dinas earths Ground mica; feldspar; leucite; nepheline ; ground natural abrasives; crushed, powdered natural steatite and talc
71	Salt	Refined salt (cooking and table) Refined salt other than cooking or table salt
72	Phosphate rock	Natural phosphates and Phosphate rock (unground)
73	Services to mining	Petroleum and mineral exploration, non-exploratory services to mining
74	Meat products	Edible tallow (excl refined) Meat (excl fresh) for human consumption Bacon and ham and other dried, salted or smoked pigmeat (incl canned) Smallgoods nec (incl crumbed lamb cutlets, cured meat (canned or uncanned), frankfurters, saveloys and salami) Meat and meat products - commission production (1111-1113) Artificial guts (sausage casing) of hardened protein or of cellulosic materials
75	Fresh meat	Fresh meat, chilled or frozen (excl kangaroo or horse meat, other than for human consumption) Fresh kangaroo or horse meat, other than for human consumption Casings, bungs, weasands and runners (incl gut materials for further processing) Edible offals (excl poultry offals)
76	Offal, hides, skins, blood meal	Raw hides and skins Blood meal (milled or screened dried blood) for use as stock or poultry feed Inedible meat or meat

		offal flours, meals and pellets; greaves Other animal products nec Raw hides and skins, pickled or otherwise preserved Tanned or dressed skins, with hair or wool retained (incl sheepskin rugs)
77	Poultry, slaughtered	Poultry, for slaughtering Poultry and poultry products (incl canned)
78	Dairy products	Processed liquid milk (incl whole milk and skim) Cream (incl thickened), not concentrated or sweetened Ice cream and frozen confections Flavoured whole milk drinks Sour cream, yoghurt and other cultured milk products Buttermilk Milk based food preparations (excluding malt extracts) and dried milk based mixes Milk and cream, concentrated or sweetened; lactose and lactose syrup; products of natural milk constituents nec Dairy products - commission production (1131-1133)
79	Treated milk	Processed liquid milk (incl whole milk and skim)
80	Cheese	Cheese and curd
81	Butter oil	Fats and oils derived from milk (incl butter oil); casein
82	Butter	Butter
83	Vegetable products	Vegetables, frozen Vegetables, prepared or preserved (incl dried or shelled)(excl frozen); pickles and chutney Tomato pulp, puree and paste Mixed meat and vegetables, canned Vegetable juices (incl mixtures)(incl tomato); mixtures of vegetable and fruit juices Pasta products, canned Soup and homogenised food preparations including fruit, vegetables, meat or composites thereof Sauces (excl worcestershire and apple); vinegar (excl wine vinegar) Fresh vegetable salads, in plastic containers Fruit and vegetable based health, invalid or baby preparations Fruit and vegetable products - commission production
84	Fruit products	Jams Fruit juices, single strength or concentrated Dried fruit (excl sun-dried) Preserved fruit and fruit products nec
85	Oils and fats	Inedible tallow (excl refined) and other unrefined animal oils and fats Fats and oils derived from milk (incl butter oil); casein Crude soya bean, cotton seed, peanut, sunflower, safflower, rape seed, coconut and vegetable oils Refined and processed animal or vegetable oils and fats (incl tallow) (excl neatsfoot, wool grease and lanolin) Margarine Oil-cake, acid oils, cotton linters and other solid residues resulting from the extraction or refining of vegetable fats or oils Oils and fats - commission production
86	Rice products	Rice groats, meals and pellets; other worked cereal grains and products nec;
87	Plain flour	Dried roots, tubers and vegetables; Flour and meal of vegetables nec. Flour mill products nec, for human consumption

88	Fodder and feed	Bran, sharps and other residues (excl rice, wheat and rye), for animal feed Prepared animal and bird feeds nec (incl poultry pellets, crumbles and mash) Animal feed supplements
89	Flour mill products	Wheat and other cereal flours (incl self-raising) Wheat bran for human consumption (excl for breakfast food) Starch of wheat and corn Glucose, glucose syrup (incl dextrose) and modified starches (incl dextrans) Prepared baking powders Mixes and doughs nec (incl custard powder) for preparation of bakers wares (excl frozen) Grain mill and cereal products - commission production (1161-1162) Cereal groats, meals, pellets and other cereal products nec, other than for human consumption
90	Gluten	Wheat gluten and tapioca
91	Breakfast foods	Cereal foods (incl breakfast foods)
92	Self-raising flour	Wheat and other cereal flours (incl self-raising)
93	Cakes	Cakes, pastries and crumpets
94	Pasta	Pasta
95	Pies, cakes, biscuits	Biscuits and biscuit crumbs; rusks; ice cream cones and wafers; unleavened bread Meat pies Biscuit and bread dough (incl frozen) Bakery products - commission production (1171-1174)
96	Bread and bread rolls	Bread and bread rolls Biscuit and bread dough (incl frozen) Bakery products - commission production (1171-1174)
97	Confectionery	Chocolate confectionery (excl chocolate coated biscuits and white chocolate) Chewing gum, white chocolate and other confectionery not containing cocoa Sugar and confectionery - commission production (1181-1182)
98	Food products	Cocoa beans (roasted); cocoa paste, powder, butter, fat or oil Other food preparations containing cocoa (excl chocolate confectionery) Crystallised, drained and glace fruit, nuts and peel Potato crisps and flakes Corn chips; taco, tortilla and tostada shells Coffee and tea, including substitutes Yeast and yeast extracts Nuts, roasted Spices Mustard; worcestershire sauce; mayonnaise and salad dressing Flavouring essences, industrial Prepared meals (incl TV dinners), of meat or meat offal Bakers' wares nec (incl pretzels and frozen pizza) (excl bread and pies) Peanut butter and other nut butters, pastes and purees; jams Food products nec (incl jelly crystals, meat pastes) Other food products - commission production (1191-1199) Waste from the manufacture of food, food products and beverages (excl alcohol) (1111-1211)
99	Raw sugar	Raw and refined sugar in solid form (incl brown sugar)(excl icing sugar)
100	Refined sugar	Raw and refined sugar in solid form (incl brown sugar)(excl icing sugar) Icing sugar, molasses (incl treacle) and sugar nec

		Liquid refined sugar, golden syrup, artificial honey, starch and sugar products nec
101	Fish	Fish, canned Frozen whole fish, fish fillets and fish meat; fish loaf, cake, balls and paste; smoked fish; fish fingers; caviar
102	Lobster	Rock lobster and crab Rock lobster and crayfish (incl tails), chilled or frozen (incl boiled and frozen)
103	Processed seafoods	Crustaceans, molluscs & aquatic invertebrates nec (chilled, frozen, preserved or otherwise prepared) Inedible flours, meals, pellets & other products nec of fish, crustaceans & molluscs or other aquatic invertebrates Processed seafood - commission production
104	Animal food	Dog and cat food (excl canned) Dog and cat food, canned
105	Soft drinks	Natural and artificial mineral waters and aerated waters (excl sweetened or flavoured) Natural water nec Mineral waters and aerated waters, sweetened or flavoured, canned Mineral waters and aerated waters, sweetened or flavoured, bottled Cordials and syrups; powder flavours for soft drinks; concentrated cordial extracts Sweetened or flavoured bulk pre-mix & post-mix concentrates for mineral & aerated waters; non-alcoholic beverages nec Ice Soft drinks, cordials and syrups - commission production
106	Beer and malt	Malt (excl malt extract) Malt extract Beer, ale and stout, bottled Beer, ale and stout, canned Beer, ale and stout, bulk Beer - commission production Waste from the manufacture of alcohol (1212-1214)
107	Spirits	Whisky, brandy, rum, gin and fortified spirits; other distilled alcoholic beverages (incl liqueurs and mixed drinks) Wine, spirits and other alcoholic beverages - commission production (1213-1214) Waste from the manufacture of alcohol (1212-1214)
108	Wine	Vermouth and distillation wine Wines (incl sparkling) of grapes and other fruit (excl vermouth) Cider, perry, mead and wine-based mixed drinks (coolers) Vinegar from wine Wine, spirits and other alcoholic beverages - commission production (1213-1214) Waste from the manufacture of alcohol (1212-1214)
109	Tobacco	Tobacco Cigarettes, cigars, cheroots and tobacco Cigarette and tobacco products - commission production Waste from the manufacture of tobacco products
110	Wool scouring	Wool classing services Wool, scoured or carbonised (degreased but not carded or combed) Wool tops; noils of wool or fine animal hair
111	Human-made fibres	Woven or broadwoven fabric of artificial or synthetic filaments and fibres (excl pile or chenille) Woven pile fabrics and chenille fabrics (other than narrow fabrics) of man-made fibres Narrow woven textile fabrics (incl tape) (excl bias binding) of synthetic fibres; tyre cord fabric of high

		tenacity yarn of synthetic fibres Textiles - commission production (1311-1313)
112	Cotton fabrics	Woven and broadwoven pile, chenille and terry fabrics of cotton or other natural fibre (excl narrow fabrics) Woven and broadwoven fabrics of cotton (excl pile, chenille and terry) Towels (incl tea towels) and face washers of cotton terry towelling or similar cotton terry fabrics
113	Wool fabrics	Wool tops; noils of wool or fine animal hair Wool grease and fatty substances derived from wool grease (incl lanolin) Yarn and thread (excl chenille, loop wale, elastic or elastomeric) of natural fibres (incl worsted) nec Chenille, loop wale yarn and thread of natural fibres Natural textile fibres prepared for spinning nec Narrow woven textile fabrics (incl tape) (excl bias binding) of natural fibres; tyre cord fabric of high tenacity yarn of natural fibres Woven and broadwoven fabrics of natural fibres, other than cotton, nec (excl pile, chenille and terry) Gimped yarn and strip; chenille and loop-wade yarn; woven or broadwoven fabrics of metal thread and metallised yarn nec
114	Textile finishing	Textured, high tenacity, single, elastomeric, synthetic or artificial yarns and threads nec Narrow woven textile fabrics (incl tape) (excl bias binding) of synthetic fibres; tyre cord fabric of high tenacity yarn of synthetic fibres Textiles - commission production (1311-1313) Textile finishing nec Felt floor coverings (exclude underfelt) Underfelt and other felt products (excl floor coverings, headwear or clothing) Textile fabrics (excl rubber or plastic coated) & articles (excl bags) of a kind commonly used in machinery or plant Textile products - commission production (1331-1334) Waste from the manufacture of textiles, clothing or footwear (1311-1352).
115	Textile products	Elastomeric yarn of cotton, wool or fine animal hair (containing polyurethane or similar thread, excl rubber thread) Textiles - commission production (1311-1313) Carpets and other textile floor coverings (incl mats and matting) (excl felt and underfelt) Rope and cable (excl wire), cordage (excl tyre cord yarn), twine or net products Textile interior furnishing articles (incl blankets (excl electric), wall coverings, curtains, bed and table linen nec) Baby napkins of textile fabrics Textile quilted prods, hose/tubing, nonwovens, (bonded & yarn fabrics) Textile tarpaulins (incl canvas), sails, tents, annexes, pneumatic mattresses and motor vehicle covers Blinds and awnings of textile fabrics (incl canvas) and woven textile materials (incl cotton) Textile motor vehicle seat covers Pillows, cushions, bolsters, bean bags and stuffed mattress protectors (excl those of or stuffed with rubber) Floor-cloths, dishcloths, dusters and

		similar cleaning cloths Textile life jackets, life-belts, sleeping bags, parachutes and other cut and sewn textile products nec Labels and badges with printed or woven lettering or design Wadding, powder puffs, pads, cotton wool, gauze and bandages Articles of bonded fibre or yarn fabrics (excl labels & badges); tapestries, textile sutures, transmission and conveyor belts, textile articles nec Braids, tassels, tulle; lace or embroidery, strips or motifs Special fabrics nec Garment dyeing service Textile products - commission production (1331-1334) Safety headgear; textile belts for clothing; plastic clothing accessories (excl belts and disposable gloves) Waste from the manufacture of textiles, clothing or footwear (1311-1352) Textile fabrics (excl tyre cord) impregnated, coated, covered or laminated with plastics.
116	Textile and canvas bags	Bags, sacks and packets of textile or canvas Textile products - commission production (1331-1334) Waste from the manufacture of textiles, clothing or footwear (1311-1352).
117	Knitting mill products	Curtains in the piece (incl continuous), knitted or crocheted Hosiery (incl pantyhose, stockings, tights and socks) Pullovers, jumpers, sweaters and cardigans - knitted Knitted or crocheted pile fabrics (excl elastic or elastomeric) Knitted or crocheted fabric nec Knitted products nec Knitted products - commission production.
118	Clothing	Mens and boys trousers (excl suits), shorts, jeans, overalls and work shirts, dustcoats, textile (excl waterproof) Men's & boys' suits or uniforms (incl trousers for suits & uniforms), coats & jackets, textile (excl waterproof) Women's and girls' dresses, skirts, slacks, shorts, tunics, uniforms, jeans, overalls, leotards, coats, capes, suits and ensembles Shirts and blouses (with collars) T-shirts and tank tops Swimwear; sweatsuits, tracksuits, jogging suits, leisure suits and jumpsuits Foundation garments (incl brassieres, corsets and girdles) Underwear Outer nightwear (incl dressing gowns and robes) and sleepwear Waterproof, plastic or rubber trousers, overalls, coats and jackets Plastic (unsupported film) clothing other than waterproof Fur and sheepskin clothing and clothing accessories (excl headwear, footwear, handbags, purses and toys) Hats and other headgear (excl safety, rubber or plastic) Safety headgear; textile belts for clothing; plastic clothing accessories (excl belts and disposable gloves) Safety eyewear (industrial or sporting)(incl goggles) Clothing and clothing accessories nec Clothing - commission production Waste from the manufacture of textiles, clothing or footwear (1311-1352) Clothing and footwear repair.

119	Footwear	Footwear with uppers and outer soles of rubber or plastic (incl waterproof footwear and thongs) (excl sports footwear) Footwear with uppers of leather and outer soles of rubber or plastic (excl sports footwear) Sports footwear Footwear with uppers of leather and outer soles of leather or composition leather (excl sports footwear) Footwear nec (incl steel capped footwear) Soles of or cut from rubber or rubber composition and parts of footwear nec (incl plastic heels) Footwear - commission production Waste from the manufacture of textiles, clothing or footwear (1311-1352) Clothing and footwear repair.
120	Leather products	Leather, vegetable or chrome tanned (incl re-tanned), dressed or finished; chamois leathers Leather (excl dressed or finished) Handbags, suitcases, bags, travel sets for personal toilet articles, purses, key cases, wallets and billfolds (excl paper) Saddlery and harness, of any material; leather articles nec Rucksacks of leather or leather substitute Tanned leather, dressed fur and leather products - commission production.
121	Sawmill products	Treated wood in the rough (excl sawn timber, dressed or undressed); impregnated railway sleepers Ground bark Drying, impregnation or chemical treatment - commission production (1411-1413).
122	Undressed sawn timber	Undressed sawn timber from logs sawn at same establishment (incl treated (excl impregnated sleepers or resawn)); shooks Drying, impregnation or chemical treatment - commission production (1411-1413).
123	Softwood woodchips	Woodchips, softwood Drying, impregnation or chemical treatment - commission production (1411-1413).
124	Undressed resawn timber	Resawn/seasoned timber (incl kiln dried)(excl sleepers, palings & shingles) Dressed timber and mouldings of a thickness up to and including 6mm Dressed timber and mouldings of a thickness exceeding 6mm Chemically preserved re-sawn or dressed timber. Drying, impregnation or chemical treatment - commission production (1411-1413).
125	Hardwood woodchips	Woodchips, hardwood.
126	Pulp, paper and paperboard	Mechanical, chemical and semi-chemical wood pulp and residual lyes from wood pulp (excl tall oil) Copying paper nec Paper and paperboard, coated, impregnated, covered, surface-coloured, surface-decorated nec Paper and paperboard, uncoated nec Paper - commission production Corrugated paperboard sheeting Paper and paperboard trays, dishes, plates, cups, cones, egg containers and box files Other paper, paper pulp or paperboard products (incl wallpaper and liquid activated gummed or adhesive paper)

		Plastic-coated, pressure-sensitive, gummed or adhesive paper and paperboard.
127	Manufactured wood	Veneers (incl laminated) Plywood Glued laminated lumber Fibreboard (excl fibre paperboard and particle board) Other boards manufactured from wood nec (incl densified wood in block or other shape) Other wood products - commission production (1491-1499) Waste from manufacture of wood and paper products (1411-1529).
128	Joinery products	Prefabricated or transportable wooden buildings Doors, wooden Roof trusses, wooden Wooden wall and window (incl complete with glass) frames Custom made built-in wooden furniture Other wooden builders joinery and carpentry Cellular wood panels Particle board (incl laminated) and similar board of wood or other ligneous materials Laminates of timber and non-timber materials Parquetry strips etc., assembled into panels; shingles and shakes Pallets, cases, boxes, crates, drums, casks and barrels, wooden Frames, wooden (incl for paintings, photographs, mirrors, etc) Boards & similar articles nec, of vegetable fibre agglomerated with mineral binders (excl wooden boards) Moulding boxes, patterns, bases; moulds for metal (excl ingot), glass, mineral materials, rubber or plastics Wooden tools, tool bodies & handles; cork articles (incl agglomerated)(excl gaskets for motor vehicles); other products of wood nec Other wood products - commission production (1491-1499) Waste from manufacture of wood and paper products (1411-1529).
129	Paper containers	Solid and corrugated paperboard containers Paper bags, packets and sacks (incl paper multiwall bags) (excl bags of composite material) Paper and paperboard trays, dishes, plates, cups, cones, egg containers and box files.
130	Paper products	Paper stock (incl toilet, facial tissue and similar paper stock used for household or sanitary purposes) Toilet, tissues, serviettes, towels & similar paper for household & sanitary purposes, in sheets or perforated rolls Baby napkins (excl textile), sanitary towels and tampons of paper or cellulose wadding Paper products - commission production (1521-1529) Waste from manufacture of wood and paper products (1411-1529).
131	Printing and stationery	Newsprint Envelopes (paper), letter & correspondence cards (excl printed or illustrated); paper wallets & writing compendiums of paper Exercise books, registers, account books, diaries, board games and other paper stationery (excl commission printing) Adhesive paper labels (excl printed) Security printed material (incl stamps, cheque books, banknotes, share documents and airline tickets) Paper labels, printed or imprinted (but not published) Letter and

		correspondence cards (printed but not published), postcards Composed type, prepared printing plates/cylinders, lithographic stones or other impressed media for use in printing Printing trade services nec (excluding desktop publishing).
132	Trade advertising	Trade advertising material or commercial catalogues printed but not published by this business; other printed matter nec.
133	Recorded media and publishing	Pre-recorded Audio and Video tapes, manufactured but not published by this business Reproduced computer software, manufactured but not published by this business Pre-recorded Audio CD's and DVD's, manufactured but not published by this business Other pre-recorded media (including records), manufactured but not published by this business Sound and video recording and reproducing equipment (incl CD players, record players) (excl parts) Loudspeakers and audio-frequency electric amplifiers (excl hearing aids and parts) Electric or electronic alarm systems (excl remote monitoring alarm systems) and parts Prepared unrecorded media for sound or video recording (incl blank CDs, magnetic tapes) Other audio and video equipment and accessories (excl parts) Parts for television and radio receiving sets, sound and video recording and reproducing equipment, other audio and video equipment Video and other electronic media rental or hire.
134	Newspaper advertising	Newspapers - advertising services.
135	Newspapers	Newspapers, journals and periodicals printed but not published by this business once a week or more Newspapers, journals and periodicals printed but not published by this business less than weekly Newspaper publishing (incl printed and published by the same business) published once a week or more Newspaper publishing (incl printed and published by the same business) published less than weekly Copyright leasing - newspapers.
136	Periodicals	Magazine and other periodical publishing (incl printed and published by the same business) Copyright leasing - magazines and other periodicals Periodical subscription service.
137	Books, maps, magazines	Books (incl atlases & touring guides), maps, charts, plans, sheet music printed but not published by this business Magazine and other periodical publishing (incl printed and published by the same business) Magazines and other periodicals - advertising services Other publishing nec (incl maps, greeting cards, postcards and calendars) (incl printed and published by the same business).
138	Petroleum and coal products	Lubricating, heavy petroleum & bituminous oils; solvents; topped/enriched crude, refinery products nec Metallurgical

		coke, coke breeze, retort carbon and char (excl bone char) Pitch and pitch coke obtained from mineral tars Mineral turpentine Petroleum jelly; paraffin wax and other mineral waxes Toluol, xylol, not chemically or commercially pure; benzole and benzene from petroleum Phenol Styrene Chloroform and other halomethanes Carbon tetrachloride Brake and hydraulic fluid Rust arresting compound Bituminous mixtures and other articles of asphalt Petroleum and coal products nec. Petroleum and coal products - commission production (171-179) Waste from the manufacture of Petroleum and Coal products (171-179).
139	Petrol and diesel	Automotive petrol; gasoline refining or blending; motor spirit (incl aviation spirit).
140	Kerosene	Kerosene (incl kerosene type jet fuel).
141	Gas oil or fuel oil	Gas oil or fuel oil (excl motor spirit and kerosene).
142	Bitumen	Petroleum bitumen; residues of petroleum oils and bituminous minerals; petroleum coke.
143	Refinery LPG	Liquefied petroleum gas produced at refineries.
144	Basic chemicals	Carbon black Synthetic organic colouring agents & preparations (incl colour lakes, pigments & dyes of vegetable or animal origin) Hydrocarbons and derivatives (incl ethane, betane and benzole and benzene other than from petroleum and iron and steel) Other inorganic chemicals nec Basic Chemicals - commission production (1811-1832) Waste from the manufacture of basic chemicals (1811-1832) Waste from the manufacture of other basic chemical products (1891-1899).
145	Gases	Acetylene gas Hydrogen, rare gases, nitrogen, medicinal gases (incl nitrous oxide and oxygen), carbon dioxide (incl dry ice) and carbon monoxide Ethylene gas Hydrogen sulphide, Sulphur dioxide and other industrial organic and inorganic gases nec.
146	Paints	Architectural & decorative paints (incl coatings for use on buildings), enamels & clears (excl heavy duty coatings) Automotive paints (incl primer & undercoats), enamels, lacquers (excl heavy duty coatings & bituminous mastics) Industrial paints (incl primer, undercoats, finishing coats and heavy duty coats), enamels and clears Other paints (incl marine coatings) and other allied products (incl thinners, wood stains, paint, rubbing compounds and varnish remover).
147	Pesticides, insecticides and medicinal goods	Insecticides, pesticides, fungicides, weedkillers and pest control chemicals nec Pharmaceutical goods for veterinary use Veterinary Pharmaceutical and Medicinal Products - commission production Waste from the manufacture of pharmaceutical goods for human or veterinary use (1841-1842).

148	Pharmaceutical goods for human use	Pharmaceutical goods, for human use (excl wadding, gauze, bandages and surgical sutures) Human Pharmaceutical and Medicinal Products - commission production Waste from the manufacture of pharmaceutical goods for human or veterinary use (1841-1842) Eucalyptus, sandalwood and Tea-tree oil Natural gums (processed or refined).
149	Soap and other detergents	Glycerol (glycerine), glycerol waters and lyes Candles and tapers Soap and soap based products Toothpaste and other dentifrices Laundry bleach Disinfectants (incl phenyl) Anionic, cationic and other organic surface active agents (excl soap) Scouring preparations and abrasive cleaners Waste from the manufacture of cleaning compounds and toiletry preparations (1851 -1852).
150	Cosmetics and toiletry preparations	Barrier creams and toilet lanolin; suncreening preparations Hair shampoo, conditioner, sprays, colouring and other hairdressing preparations Aftershave & shaving preparations; lipstick, eye makeup; beauty cream or lotions; face lotions & powders Hand cream or lotions (excl barrier & medicated cream); nail polishes & other nail care preparations Perfume, deodorants, bath salts, depilatories, talcum powder and other preparations nec Cleaning Compounds and Toiletry Preparations - commission production (1851-1852) Waste from the manufacture of cleaning compounds and toiletry preparations (1851 -1852).
151	Chemical products	Gelatine Nitrogen-function compounds (excl saccharin) Organo-inorganic compounds; heterocyclic compounds; nucleic acids Carboxylic, monocarboxylic & polycarboxylic acids and derivatives (excl pharmaceutical goods) Ethyl alcohol pure Other alcohols, phenols (excl phenol), phenol-alcohols and derivatives; fatty acids (purity less than 9%) Plasticiser; mixed alkylbenzenes and alkyl naphthalenes nec; other chemical products and preparations nec Ethers, alcohol peroxides, ether peroxides, epoxides, acetals and hemiacetals and derivatives; organic chemicals nec Hydrochloric, chlorosulphuric, sulphuric (incl oleum), diphosphorous pentoxide, phosphoric, and polyphosphoric acids Nitric, sulphonitric and other inorganic acids; inorganic oxygen compounds of non-metals (excl industrial gases) Synthetic inorganic colouring agents and preparations (incl inorganic pigments and chemical whites) Surface cleaning, washing and degreasing preparations nec (incl oven and stove cleaners) Other cleaning polishes, creams and waxes nec Cleaning Compounds and Toiletry Preparations - commission production (1851-1852) Other chemical products nec Other Basic Chemical Products - commission production (1891-1899) Waste from the manufacture of other basic chemical products (1891-1899).

152	Explosives and matches	Safety fuses, detonating fuses or caps Explosives and other pyrotechnic articles (incl Ammonium nitrate (explosive), nitrocellulose, gun cotton, signalling flares, fireworks and matches).
153	Munitions	Munitions and ammunition (incl cartridges).
154	Inks	Inks.
155	Glue	Adhesives (excl bituminous) and glues Filler or putty, caulking compound.
156	Rubber products	Wetsuits and other rubber clothing and accessories nec (incl gloves, belts)(excl headgear) Synthetic rubber Pneumatic rubber tubes Synthetic rubber products and other polymer products nec (excl rigid or semi-rigid) Polymer Products - commission production (1911-1919) Rubber gloves, mittens and mitts Rubber belting (incl V belts) Rubber tubes, pipes and hose Rubber sheets, strips, plates, rods, profile shapes and primary forms (excl cellular) Sponge and foam rubber Waste from manufacture of polymer products, rubber, natural rubber and rubber products (1911-192).
157	Tyres	New pneumatic, rubber tyres for motor cars and motor cycles New pneumatic, rubber tyres for buses and lorries Tyres (solid rubber) Tyres, rubber nec (incl retreaded tyres) Forged iron or steel tyres and wheels for railway or tramway locomotives and rolling stock.
158	Retreading strips	Camel-back and unvulcanised rubber strip for retreading rubber tyres.
159	Plastic products	Polystyrene Polyethylene Polyvinyl chloride Polypropylene Polyvinyl acetate & synthetic resins nec (excl adhesives) in primary forms, not mixed/compounded (excl regranulated) Rosin and resin acids, and derivatives thereof, rosin spirit and rosin oils; run gums Plastics in primary forms, mixed/compounded with other substances; regranulated, single thermoplastic scrap material Cellulose fibre or filament Non-cellulose fibre or filament Synthetic fibre or filament nec Basic polymers nec Self-adhesive plastic plates, film, foil, tape, strip and other flat shapes Flexible plastic strip, plates, film, foil, tape and sheet (excl self-adhesive) Plastic sacks, packets and bags (incl garbage bags) Plastic bottles Plastic table and kitchenware (incl disposable cups), other household (incl buckets) and toilet articles Plastic pipes Plastic fittings for tubes, pipes and hoses (incl joints, elbows and flanges) Plastic taps, cocks, valves and similar attachments Plastic drums, drum linings, boxes, cases, crates & packaging accessories. (incl stoppers, lids, caps & seals) Polycarbonate sheets Plastic blow moulded products nec Other rigid or semi-rigid plastic injection moulded products (excl toys, games and fibre reinforced products) Rigid and semi-rigid polymer products nec (excl fibre reinforced plastic

		products) Foam and sponge plastic sheets, plates and strip (incl foam insulation and padding) Plastic foam products nec Plastic tubes and hoses Plastic conveyor belting Plastic wall or ceiling coverings (excl tiles) Linoleum and other floor coverings with a textile base; plastic floor coverings (incl paper or paperboard base), wall or ceiling tiles Rigid fibre reinforced plastic articles (incl swimming pool shells and tanks) Other plastic injection moulded products nec (excl rigid or semi-rigid).
160	Superphosphate	Triammonium phosphate; ammonia (excl fertiliser); ammonium chloride & carbonates; potassium nitrate Superphosphate and other phosphatic fertilisers.
161	Mixed fertilisers	Superphosphate and other phosphatic fertilisers Mixed fertilisers Ground phosphate Fertilisers nec.
162	Chemical fertilisers	Chemical and fertilizer minerals nec Ammonia aqua or urea, fertiliser grade; ammonium sulphate Ammonium nitrate (excl explosive).
163	Glass products	Prepared pigments, opacifiers, colours, glazes used in ceramic, enamel, glass industry; glass powder, granules/flakes Float, surface ground/polished glass, in sheets; cast & rolled glass, in sheets or profiles; but not otherwise worked Safety glass (incl windscreens and laminated sheet glass) Glass containers, bottles or jars; glass stoppers; glass inners for vacuum vessels Rear-view mirrors for vehicles Glassware nec Glass and glass products - commission production.
164	Ceramic products	Artificial graphite; colloidal or semi-colloidal graphite; preparations based on carbon in form of semi-manufactures Radioactive elements, nuclear reactor fuel elements, isotopes and compounds; alloys, dispersions, ceramic products and mixtures Ceramic roofing, flooring and wall tiles (incl terracotta) and ceramic construction goods nec Ceramic wash basins and permanent fixture type sanitary ware Tableware, ornamental pottery and domestic ware nec Ceramic goods nec Ceramic products - commission production (221-229).
165	Cement, lime	Gypsum; anhydrite; calcareous stone of a kind used for the manufacture of lime or cement (excluding limestone) Cement (incl hydraulic and portland) (excl adhesive or refractory) Lime (incl hydraulic, quick, hydrated, slaked and agricultural) Cement, lime and ready-mixed concrete - commission production (231, 233) Concrete, cement, fibrous-cement or artificial stone pipes; concrete box culverts Concrete, cement and artificial stone bricks, blocks, building boards and tiles Non-refractory mortars and concretes other than ready mixed; articles of asbestos-cement and cellulose fibre-cement nec.

166	Ready-mixed concrete	Ready mixed concrete and mortar (incl dry mix concrete) Cement, lime and ready-mixed concrete - commission production (231, 233).
167	Concrete products	Concrete, cement, fibrous-cement or artificial stone pipes; concrete box culverts Concrete, cement and artificial stone bricks, blocks, building boards and tiles Concrete or predominantly concrete prefabricated and transportable buildings Plaster and concrete products - commission production (232, 234) Non-refractory mortars and concretes other than ready mixed; articles of asbestos-cement and cellulose fibre-cement nec.
168	Plaster boards and plaster	Plaster boards, sheets, panels, tiles, cornices and other articles of plaster (excl ornamental) Plasters (incl plaster of paris)(excl dental plasters) Plaster and concrete products - commission production (232, 234).
169	Non-metallic mineral products	Non-metallic minerals nec Other non-metallic mineral products Other non-metallic mineral products - commission production Waste from the manufacture of non-metallic mineral products (21-29).
170	Worked monumental or building stone	Worked monumental or building stone.
171	Glass fibre and glass wool products	Yarn of glass fibre Glass fibre and glass wool products.
172	Ground minerals	Ground minerals & fluorspar (excl abrasives, dust & powders of natural & synthetic precious or semi-precious stones).
173	Iron and steel semi-manufactures	Basic iron, pig iron, sponge iron and spiegeleisen; iron or steel granules and powders Ferro-alloys (incl manganese, silicon or chrome) Iron or steel primary forms (incl ingots) and semi-finished products Iron or non-alloy steel flat-rolled products (excl clad, plated or coated) Clad, plated or coated iron or non-alloy steel flat-rolled products Alloy steel flat-rolled products Iron and steel bars, rods, angles, shapes and sections (incl sheet piling) Iron or steel wire for further processing (excl fencing, stranded or barbed) Painted, varnished or coated steel sheet, profile decking or cladding (incl steel sheeting for fencing) Iron or steel rails, rail fastenings or other rail accessories Iron or steel expanded metal Light oils obtained as a by-product from metallurgical coke (excl grease oils, toluole and xylole); Benzole from iron and steel manufacturing Crude tar Gas from coke works or blast furnaces Cast iron tubes, pipes and hollow profiles; cast iron or cast steel tube or pipe fittings Cast iron or cast steel steam, gas and water fittings other than domestic (incl taps, cocks and valves) Cast articles of iron or steel nec Iron or steel seamless tubes or pipes (excl cast or forged) Iron or

		steel tubes, pipes, hollow profiles and fittings (excl cast iron or seamless) Steel steam, gas and water fittings other than domestic (incl taps, cocks and valves)(excl cast steel) Iron and steel - commission production (211-2122) Waste from manufacture of iron and steel (incl slag, dross, sealings and scrap steel) (211-2122) Iron or steel pieces roughly shaped by forging Repairing and servicing (221).
174	Non-ferrous non-aluminium semi-manufactures	Zinc alloys; copper matte; cement copper; unwrought copper and nickel Platinum primary and secondary recovery (excl from purchased scrap) Other non-ferrous metal alloys Basic non-ferrous metals - commission production (2131-2139) Wastes and scraps from the smelting and refining of non-ferrous metals (incl precious) (2133-2139) Non-ferrous metal (excl aluminium) castings and diecastings Copper, copper alloy, nickel, lead, zinc and tin rolled, extruded and semi-finished products Silver and platinum rolled, drawn or extruded semi-finished products Semi-manufactures of tungsten, molybdenum, tantalum, magnesium, cobalt, cadmium, titanium, zirconium and thallium Non-ferrous (excl aluminium) metal powders and flakes Basic non-ferrous metal products - commission production (2141-2149) Wastes and scraps from the manufacture of non-ferrous metal products (incl precious) (2141-2149).
175	Copper, silver, lead, zinc	Silver primary and secondary recovery (excl from purchased scrap) Copper (including brass) primary and secondary recovery (excl from purchased scrap) Lead primary and secondary recovery (excl from purchased scrap) Zinc primary and secondary recovery (excl from purchased scrap) Silver, copper (including brass), lead and zinc recovery from purchased scrap Sulphuric acid from the smelting of copper, silver, lead and zinc..
176	Alumina	Alumina Aluminium scrap from the manufacture of alumina, aluminium and aluminium alloys (2131-2132).
177	Aluminium	Aluminium secondary recovery from purchased scrap Aluminium castings and diecastings Aluminium and aluminium alloy bars, rods (incl wire rod) and profiles (incl decking and cladding).
178	Nickel	Nickel and tin primary recovery and secondary recovery from drosses, ashes or other waste materials (excl from purchased scrap) Nickel and tin recovery from purchased scrap.
179	Precious metals	Gold - primary and secondary (excl from purchased scrap) Antimony and other non-ferrous basic metals nec primary and secondary recovery Basic precious metals (excl silver) secondary recovery from purchased scrap.
180	Aluminium semi-manufactures	Aluminium and aluminium alloys (excl purchased scrap) Aluminium scrap from the manufacture of alumina,

		aluminium and aluminium alloys (2131-2132) Rolled, drawn or extruded aluminium pipes, tubes, plates, sheets, strip & wire products; aluminium powders & flakes.
181	Aluminium foil	Aluminium foil.
182	Structural metal products	Aluminium/aluminium framed doors (incl roller/concertina) & windows (incl glass); door/window frames; roller grilles Iron or steel window-frames; metal (excl aluminium) door or door frames Wooden fire doors Iron or steel fire doors; fabricated iron or steel stairs, balustrades and other architectural products (excl Aluminium) Structural metal products - commission production (2221-2229) Waste from the manufacture of ferrous metal products nec Metal cylinders (incl aerosol containers) for compressed or liquified gas.
183	Fabricated construction steel	Fabricated & prefabricated construction steel (incl scaffolding, perforated plate & ready made parts for structures).
184	Reinforcing rods	Reinforcing steel rods or bars Reinforcing welded steel mesh.
185	Aluminium doors	Aluminium fire doors Aluminium combined door-window units.
186	Architectural aluminium	Architectural aluminium products (excl sheet metal), for building nec Aluminium roofing and guttering Other articles of aluminium (excl ladders) nec.
187	Structural metal products repairing	Structural metal products repairing and servicing
188	Sheet metal products	Metal roofing and guttering (excl aluminium) Sheet metal reservoirs, vats, tanks and similar containers of a capacity exceeding 3 litres Sheet metal vats and tanks of a capacity not exceeding 3 litres Super heated water boilers & steam generators (incl parts) (excl central heating); condensers for vapour power units Non-electric hot water or low pressure steam central heating boilers Iron, steel or aluminium vats, tanks, capacity exc. 3 litres and containers for compressed or liquefied gas Plate iron, steel and aluminium vats and tanks, capacity not exc. 3 litres (excl with mechanical or thermal equipment) Metal freight containers (excl stock crates) Metal containers nec Sheet metal milk and cream cans of a capacity not exceeding 3 litres Sheet metal household containers (excl sanitary ware) Metal vacuum flasks Sheet metal ducting Sheet metal sanitary ware Sheet metal stoppers, caps, lids, capsules for bottles, threaded bungs, bung covers, seals & packing accessories nec Sheet metal non-electric tableware, kitchenware or other household articles and parts (excl containers and sanitary ware) Sheet metal machine guards (not designed for use with a particular

		machine) Sheet metal products nec Metal container and sheet metal products - commission production (2231-224).
189	Fabricated metal products	Iron or steel fencing wire (excl stranded or barbed) Wire stranded, cables, cordage, ropes, plaited bands and slings (excl electrically insulated slings) Springs (incl leaves for springs) Nails, tacks, staples, spiked cramps, studs, spikes & pins (incl drawing & cotter pins) (excl metallic dowel pins) Woven or linked wire fabric (excl mattress supports) Welded wire fabric (excl reinforcing) Iron or steel wire gates (cross-sectional dimension of wire 16mm or less) Iron or steel articulated link chain and parts Domestic metal wire products; copper cloth, grill, netting and fencing; barbed wire; other wire products Metal nuts, bolts (incl expansion), screws, rivets, washers, dowel pins, masonry anchors and turnbuckles Metal coating and finishing Metal hand tools (incl gardening; excl power operated or pneumatic) Cutlery, kitchen ware and table ware (excl solid silver or gold) nec Knives and cutting blades for metal or wood working tools and machines Metal hand tool accessories & attachments (incl screwdriver & drill bits)(excl twist drills, taps, dies, chasers) Non-ferrous metal steam, gas and water fittings other than domestic (incl taps, cocks and valves) Tube or pipe fittings (excl valves) (eg couplings, elbows, sleeves), of copper or nickel (incl alloys) or aluminium Aluminium venetian blinds (incl plastic coated) Metal blinds and awnings (excl aluminium venetian blinds) Locks (incl parts/padlocks); keys; metal fittings for windows or doors (incl hinges and hydraulic door closures) Fire extinguishers Articles of tungsten, molybdenum, tantalum, magnesium, cobalt, cadmium, titanium, zirconium and thallium (incl wrought) Non-electric lamps and lighting fittings (incl pressure and gas lanterns) Woven wire, link mesh or wire spring mattress supports (excl upholstered) Cigarette and other lighters Fabricated metal products (incl ladders) nec Other fabricated metal products - commission production (2291-2299).
190	Firearms	Firearms (incl parts).
191	Fabricated metal products repairing	Fabricated metal products repairing and servicing
192	Motor vehicle parts	Finished motor vehicles with less than 1 persons capacity Finished motor vehicles with 1 or more person capacity Unassembled motor vehicles nec Chassis with engines for motor vehicles Engines nec, for motor vehicles or tractors Second hand motor vehicles Motor vehicle and truck bodies (coachwork) Caravans, camper trailers and similar vehicles Agricultural self loading and unloading semi-trailers (incl tippers) Other semi-trailers for the transport of goods &

		materials (incl tankers, vans, transporters, stock crates & jinkers) Trailers for the transport of goods and materials (incl box trailers, boat trailers and horse floats) Other trailers & semi-trailers nec (excl for the transport of goods & materials, & domestic type camper trailers) Body panels for trucks and buses Parts nec, for motor vehicle trailers and semi-trailers Vehicle electric motors of an output not exceeding 37.5W; other DC motors and DC generators Motor vehicle and truck air conditioners Motor vehicle apparatus for making, breaking, protecting & making connections to/in electrical circuits (excl wiring) Motor vehicle or motor cycle wiring harnesses Motor vehicle, tractor or motor cycle starting, heaters, demisters, windscreen wipers; lighting/signalling equipment Motor vehicle, tractor and motor cycle filament lamps and sealed beam lamps Motor vehicle & tractor gauges, revolution & production counters, speed indicators, thermostats & similar instruments Automotive insulated cable, wire or strip Motor vehicle transmission assemblies Cylinder blocks, pistons, connecting rods, valves Fuel, lubricating or cooling medium pumps Cranks, crank & cam shafts, gears and flywheels Motor vehicle, tractor and truck gaskets Motor vehicle body panels Motor vehicle and tractor parts and equipment nec.
193	Finished cars	Finished cars
194	Trucks	Finished trucks, truck type vehicles, utilities and panel vans Powered store trucks (incl those used on railway station platforms and forklifts).
195	Motor vehicle repairing	Motorised tanks and other armoured fighting vehicles and parts Transport equipment, parts and accessories nec (incl motorcycles and motor scooters) Repairing and servicing - (incl factory motor vehicle engine repair or replacements) (2311-2319, 2399) Motor vehicles, other transport equipment and parts - commission production (2311-2319, 2399) Automotive electrical repair or replacement services Automotive electrical installation services Automotive body, paint and interior repair services Other automotive repair services.
196	Ships and boats	Vessels of 5 tonnes gross and over (incl floating structures) Small boats (incl rowing or sail), yachts and canoes under 5 tonnes displacement (incl inflatable vessels and canoes) Boats and other vessels for pleasure or sport (over 5 but under 5 tonnes) Cruise ships, ferry and excursion boats, and other vessels under 5 tonnes nec for the transport of persons and goods Ships and boats - commission production (2391-2392) Transport equipment rental or hire (incl ship & boat) nec.

197	Ships and boat repairing	Ships and boat repairing and servicing
198	Railway equipment	Treated wood in the rough (excl sawn timber, dressed or undressed); impregnated railway sleepers Forged iron or steel tyres and wheels for railway or tramway locomotives and rolling stock Iron or steel chain (other than articulated link chain) and other forged articles of iron or steel Forged iron or steel products - commission production Locomotives and trams (incl underframes); railway rolling stock Railway rolling stock - commission production.
199	Railway equipment repairing	Repairing and servicing (221) Repairing and servicing (2393).
200	Aircraft	Aircraft and aircraft parts Aircraft - commission production Rental or hire of aircraft with operator.
201	Aircraft repairing	Aircraft repairing and servicing
202	Photographic and scientific equipment	Photographic, film, cloth, plates (sensitised), photographic chemicals and photographic paper (sensitised) Cameras, image projectors and parts Photographic goods nec (excl sensitised photographic film, paper, plates & chemicals) Objective lenses, filters and other mounted optical elements; microscopes (excl optical) and diffraction apparatus and parts nec Watches (incl metal watch straps), watch cases, clocks and parts Professional or scientific instruments, apparatus or models for demonstrational purposes only Surveying, physical or chemical analysis and other measuring, checking and testing instruments, appliances and parts Radio and radar equipment, navigational aids, and radio remote control equipment Optical fibres, fibre bundles and cables (excl insulated) Professional and scientific equipment nec Professional and scientific equipment - commission production (2411-2419).
203	Surgical and medical	Surgical, medical equipment (excl X-ray) and appliances (incl artificial joints, limbs or eyes, pacemakers, mechanical dental chairs & needles or syringes) X-ray medical equipment and parts or accessories Hearing aids and parts or accessories X-ray equipment (excl medical) and parts or accessories General practice medical services Specialist medical services.
204	Spectacles and sunglasses	Ophthalmic instruments and appliances Spectacle and contact lenses Spectacles, sunglasses and frames.
205	Electronic equipment	Mainframe and super-computers Computer file servers and other multiple-user computer hardware Laptops, notebooks, personal digital assistants and other portable computers Desktop computers (PCs) Computer peripheral devices (incl monitors, keyboards, mice, joysticks, speakers, drives and burners) Printers and plotters Other computer hardware, computer peripherals and accessories nec Photocopying

		machines and parts Electronic machines with a calculating device (incl cash registers, postage-franking & ticket machines) & parts Typewriters, word processors, addressing machines, EFTPOS machines, coin counting machines and other office machinery Money-changing, cigarette, food, beverage and other automatic goods vending machines (excl refrigerated vending machines) Office machines, parts and accessories nec Line telephone and telegraph equipment (excl headphones and parts) Radio and television studio equipment (incl cameras), transmitters, radio transceivers, mobile, cellular & car phones (excl parts) Satellite receivers (excl parts) Remote monitoring alarm systems Intercom equipment Parts for radio and television studio equipment, transmitters and radio transceivers Television antennae parts Telecommunication equipment parts (incl parts for mobile phones and satellite receivers) Television receiving sets (excl parts) Radio receiving sets (incl car radios and clock radios) (excl parts) Electronic equipment and parts nec Computer and electronic equipment - commission production (2421-2429).
206	Gaming and vending machines	Video games, poker machines and other coin- or disc-operated games
207	Household appliances	Solid fuel or gas portable barbecues Domestic stoves, ovens and rangehoods (incl gas, electric, solid fuel, oil or spirit fired) Domestic food waste disposal units Domestic soil heating apparatus Domestic fans (incl table, floor, wall, window, ceiling or roof) Electro-thermic appliances nec Sewing machines, vacuum cleaners, food mixers and other domestic appliances and parts (nec).
208	Space heaters, gas	Domestic gas, electric, solid fuel, oil, spirit fired space heaters and non-electric warm air furnaces Space heating equipment (commercial or industrial) (incl parts) nec.
209	Space heaters, electric	Domestic gas, electric, solid fuel, oil, spirit fired space heaters and non-electric warm air furnaces Space heating equipment (commercial or industrial) (incl parts) nec.
210	Domestic refrigerators	Domestic refrigerators and freezers Compressors for domestic refrigeration equipment.
211	Room air conditioning	Domestic room air conditioners and coolers (excl fans) Compressors for domestic air conditioning equipment.
212	Commercial refrigerators	Refrigeration cabinets, coolrooms, beverage dispensing equipment (cooling), refrigerated vending machines and refrigeration equipment nec (commercial or industrial) (incl water coolers).
213	Clothes washing machines	Clothes washing machines, drying cabinets, tumble driers and dishwashing machines.
214	Water heater, solar	Domestic solar hot water collectors, systems and parts (incl systems with conventional backup sources).

215	Water heater, non-electric	Domestic gas and other non-electric water heaters and hot water systems (excl solar) and parts.
216	Water heater, electric	Domestic electric water heaters or hot water systems and parts Water heaters (commercial or industrial) and parts.
217	Electrical equipment	Uninsulated copper and aluminium stranded wire, ropes, cables, plaited bands and slings Co-axial cable and other co-axial electric conductors Cable (excl co-axial or insulated optical fibre), wire and strip Insulated optical fibre cable Electric light or lamp bulbs or tubes (incl filament or fluorescent) (excl automotive) Incandescent light fittings Cold, discharge, arc, ultra violet, infra-red and other electric lights, torches and fittings nec Illuminated signs, name-plates and sign-plates having a permanently fixed light source Dry cell batteries Automotive wet cell batteries Batteries nec and battery components Transformers Electric motors, generators, electric generating sets and rotary converters (incl parts) (excl automotive) Electrical welding (incl arc) base metal wire, rods, tubes, plates and electrodes Relays and relay sets for radio, telephones and telegraphic equipment Electrical apparatus to switch, protect/connect circuits (incl boards & cabinets equipped with such)(excl inductors) Inductors (incl chokes, ballasts used with lighting apparatus and current limiting regulators) Electric soldering and welding (incl arc) irons, guns and other machines, apparatus and parts Industrial or laboratory electric furnaces and ovens Electric heating resistors (excl carbon) Electrical insulators nec and other electrical equipment and parts nec Electrical equipment - commission production (2431-2439).
218	Construction machinery	Construction and earthmoving wheeled tractors Bulldozers & other moving, grading, scraping, excavating, compacting or extracting construction machinery nec Buckets, shovels, grabs, grips, blades, bodies and cabs for construction vehicles and other construction and earthmoving machinery parts.
219	Hoists, cranes, lifting and loading machinery	Front end shovel loaders; mechanical shovels, excavators & shovel loaders with a 36 degree revolving superstructure Hoists, cranes and other lifting, loading or unloading machinery.
220	Machinery for crushing, grinding, mixing	Machinery for crushing, grinding, mixing or kneading earth, stones, ores or other mineral substances in solid form.
221	Mining or drilling machinery and parts	Mineral substances sorting, screening, separating, washing, mixing or kneading machinery and parts Mining or drilling machinery and parts (incl coal or rock cutters, boring, sinking or tunnelling machinery).
222	Elevators and escalators	Elevators, continuous-action, for goods & materials; escalators & moving walkways.

223	Industrial machinery and equipment	<p>Fluxes and other preparations (incl pickling preparations, powders and pastes) for soldering, brazing or welding Gas welding and cutting equipment (excl filler welding rods) Hand tools, power operated (incl portable electric hand tools) nec Machine-tools for working materials other than metal, wood; laser machine tools; hand tools with self-contained motor Converters, ingot moulds and ladles, casting machines, metal-rolling mills and rolls and parts Machining centres & other wood & metal working machinery & parts nec (excl saw blades, metal moulds & dies) Saw blades Metal dies, die sets and moulds Interchangeable tools for power-operated hand tools; sintered metal plates; rock drilling and earth boring tools Parts for hand tools with self-contained non-electric motors Metal work and tool holders, heads for machine tools, and other machine tool accessories and parts Non-domestic cooking or heating machinery for food or drinks Cream separators; bakery machinery (excl ovens) and other food and beverage processing machinery and parts Distilling/rectifying plant; heat exchange units; centrifuges nec; gas liquefying or beverages filtering machinery Machinery for can and bottle washing, packing, wrapping, canning, bottling and sealing of food and drink Parts of machinery nec for cleaning food or drink cans or bottles, (incl parts of dishwashing machines nec), or for filling, closing, sealing, capsuling or labelling containers for food or drink Other food and beverage processing machinery and parts nec Industrial machinery and parts for textile manufacture and treatment industries (excl industrial sewing machines) Office type sheet fed printing machinery, accessories and parts Other textile, apparel and leather production machinery and parts nec (incl industrial sewing machines) Printing machinery and parts Tobacco machinery and parts; bakery and biscuit ovens; dryers for agricultural products Machinery and parts for paper or book-binding Special purpose machinery & parts nec Specialised machinery and equipment - commission production (2461-2469) Conveyors, continuous-action, for goods & materials Materials handling equipment and parts nec Hydraulic and pneumatic motors and parts Rubber, plastics or hot glass working machines (incl parts) Non-electric industrial and laboratory furnaces, ovens (other than bakery or biscuit) and incinerators and parts Dishwashing machines other than household Engines nec, turbines and water wheels and parts Oil filters, petrol filters and air intake filters for internal combustion engines Bearings (incl parts) Parts for centrifuges (incl centrifugal dryers); parts for liquid or gas</p>
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		filtering or purifying machinery Other machinery, equipment and parts nec Other machinery and equipment - commission production (2451-2452, 2491-2499) Heavy machinery and Scaffolding (excl erection) rental or hire (excl financial leases).
224	Pumps	Fuel, lubricating or cooling medium pumps Pumps and pumping machinery (incl petrol bowsers and air or gas compressors) Pump and compressor parts nec.
225	Air conditioning	Domestic room air conditioners and coolers (excl fans) Compressors for domestic air conditioning equipment Complete air conditioning units nec (incl ducting etc); air conditioning compressors or parts (commercial or industrial).
226	Lawn mowers	Lawn mowers.
227	Tillage, seeding, planting and fertilising equipment	Ploughing, seeding and planting equipment and parts (excl hand tools).
228	Harvesting, haymaking and silage making equipment	Harvesting, threshing and haymaking machinery (incl straw or fodder balers or agricultural mowers).
229	Agricultural tractors	Agricultural wheeled tractors (excl crawler) Wheeled tractors (excl crawler, agricultural, construction and earthmoving).
230	Irrigation equipment	Mechanical appliances and parts for projecting, dispersing or spraying liquids or powders (excl industrial spray guns and steam blasting).
231	Agricultural machinery and parts	Dairy machinery Agricultural and horticultural machinery and parts nec.
232	Prefabricated buildings	Prefabricated or transportable wooden buildings Concrete or predominantly concrete prefabricated and transportable buildings Prefabricated metal or metal framed buildings (excl aluminium) and other transportable buildings Aluminium or aluminium framed prefabricated buildings.
233	Furniture	Complete and assembled other domestic furniture (plastic only) not elsewhere specified Other complete and assembled non-domestic furniture (plastic only) nec Other medical, dental, surgical or veterinary furniture and parts (plastic only) Unassembled or partly assembled domestic furniture and parts (plastic only) nec Unassembled or partly assembled non-domestic furniture and parts (plastic only) nec Other assembled domestic furniture nec (excl wooden, metal or plastic) Other medical, dental, surgical or veterinary furniture (excl wooden, metal or plastic) and parts Other assembled non-domestic furniture nec (excl metal, wood

		and plastic) Unassembled or partly assembled domestic furniture and parts nec (excl metal, wood and plastic) Unassembled or partly assembled non-domestic furniture and parts nec (excl metal, wood and plastic) Furniture - commission production (2511-2513, 2519).
234	Wooden furniture	Custom made built-in wooden furniture Assembled domestic wooden chairs, upholstered seating with wooden or metal frames, wooden or predominantly wooden domestic furniture nec Assembled non-domestic wooden or predominantly wooden seating and furniture nec Unassembled or partly assembled domestic wooden chairs, upholstered seating with wooden or metal frames, wooden or predominantly wooden furniture nec Unassembled or partly assembled non-domestic wooden chairs, furniture and parts nec Wooden or predominantly wooden medical, dental, surgical or veterinary furniture Upholstered seats with frames of any material for transport equipment and parts of passenger transport seats Furniture - commission production (2511-2513, 2519).
235	Sheet metal furniture	Cabinets (Audiovisual) - Metal framed Assembled metal or predominantly metal domestic furniture (excl upholstered seating with metal frames) Metal medical, dental (excl mechanical dental chairs), surgical or veterinary furniture Unassembled large scale sheet metal or fabricated metal storage structures and shelving Unassembled or partly assembled domestic metal furniture and parts nec (excl upholstered seats with metal frames) Unassembled or partly assembled non-domestic metal furniture and parts nec (excl upholstered seats with metal frames) Metal furniture fittings Metal seating for entertainment and sporting venues (incl assembled and unassembled) Assembled metal non-domestic furniture nec (excl upholstered seating with metal frames) Furniture - commission production (2511-2513, 2519) Badges, coins and medals, sheet metal.
236	Mattresses	Textile tarpaulins (incl canvas), sails, tents, annexes, pneumatic mattresses and motor vehicle covers Mattresses, of, or stuffed with rubber Water mattresses Mattresses (excl water-mattresses and those of or stuffed with rubber) Mattress supports (excl unupholstered woven wire, link mesh, wire springs and those of or stuffed with rubber).
237	Miscellaneous manufacturing	Toys (excl fur or leather) Other articles for funfair or table games (incl billiards, snooker or pool, pintables articles and accessories) Sporting equipment and accessories (incl fishing gear and gloves specially designed for use in sport) Paint brushes or rollers, accessories and parts Hair brushes, nail brushes, toothbrushes (excl electric) and other brushes for personal use Pens, pencils and refills, crayons and chalk

		Typewriter ribbons and ink pads Umbrellas Musical instruments (incl parts and accessories) Metal (other than precious) statuettes and other ornaments Articles of precious metal (incl articles for technical or laboratory use)(excl jewellery) Manufacturing nec (incl non-textile based sutures) Manufacturing products nec - commission production.
238	Jewellery	Jewellery and silverware Imitation jewellery (excl incorporating precious metal except as plating or as minor constituents)(excl watch straps) Specialised design services nec (incl fashion, interior and jewellery design).
239	Advertising signs	Advertising signs, name-plates and sign-plates (excl electric and metal).
240	Electricity supply	Electricity generated from fossil fuels Hydro-electricity Electricity generation nec Other electricity service income Margin - Electricity transmission, distribution and on selling (262-264).
241	Gas supply	Margin - gas distribution.
242	Water supply; sewerage and drainage services	Water supply; sewerage and drainage services
243	Residential building repair and maintenance	Second hand residential buildings Trade services repair and maintenance Other construction trade services.
244	Residential building construction	Residential building construction Trade services repair and maintenance Other construction trade services.
245	Non-residential building construction	Non-Residential building construction Trade services repair and maintenance Other construction trade services.
246	Non-residential building repair and maintenance	Second hand non-residential buildings Trade services repair and maintenance Other construction trade services Non-residential property operator services (incl non-residential property body corporate or strata corporation services).
247	Roads and bridges	Road and bridge construction (excl repair and maintenance) Repair and maintenance - road and bridge Second hand roads and bridges Trade services repair and maintenance Other construction trade services.
248	Non-building construction	Non-building construction nec Second hand non-building construction nec Trade services repair and maintenance Other construction trade services.
249	Non-building repair	Repair and maintenance - non-building construction nec Trade services repair and maintenance Other construction trade services.
250	Wholesale trade	Non-margin - wholesaling services (excl repairing and servicing) Margin on reexports - wholesaling services Margin - wholesaling services Auction room operations; Electronic

		procurement brokering services Wholesale commission on sales.
251	Retail trade	Non-Margin - retailing services (excl repairing and servicing) Margin - retailing services Retail commission on sales.
252	Motor vehicle and lawn mower repairs	Repairing and servicing - (incl factory motor vehicle engine repair or replacements) (2311-2319, 2399).
253	Industrial machinery repairs	Other machinery and equipment repair and maintenance Other repair and maintenance nec.
254	Business machines and equipment repairing and services	Business machines and equipment repairing and services
255	Wholesale repair and servicing	Repairing and servicing (2393) Electronic and precision equipment repair and maintenance (excl domestic appliance).
256	Household electrical appliances repair and service	Household electrical appliances repair and service
257	Retail repair and service	Repairing and servicing (2394).
258	Hotels, clubs, restaurants and cafes	Meal preparation and presentation Beverage serving service Takeaway food Catering services Margin - food and beverage services (4511-453).
259	Accommodation	Accommodation services.
260	Road freight	Non-margin - road freight transport services (incl rental or hire of trucks with driver) Road vehicle towing services Margin - road freight transport services Urban road passenger transport services nec Interurban road passenger transport services nec.
261	Bus and tramway	Interurban or non-metropolitan bus transport services (incl long distance, charter and rural) Urban or metropolitan bus and tramway transport services (incl short distance, airport and school).
262	Taxi and hire car	Taxi transport services Rental or hire of passenger car with driver Rental or hire of passenger road vehicle nec (incl buses and coaches) with driver Passenger car rental or hire (incl cars, minibuses) - (excl financial leases).
263	Railway freight transport services	Non-margin - railway freight transport services nec Margin - railway freight transport services.
264	Railway passenger transport services	Urban railway (incl monorail) passenger transport services Interurban railway passenger transport services.
265	Pipeline transport	Margin - pipeline transport services.
266	Transport services	Scenic and sightseeing transport services Transport services nec (incl ski lift operation) Other transport support services nec.

267	Water transport	Non-margin - ocean and inland water freight transport services Margin - ocean and inland water freight transport services Local water transport services for passengers Long distance water transport services for passengers Rental or hire of water vessel with operator.
268	Air and space transport	Non-margin - air and space freight transport services Air passenger transport services Rental or hire of aircraft with operator Margin - air and space freight transport services.
269	Parking services	Gas or liquid meters (incl parts and accessories) Parking meters, traffic signals and other signalling equipment Taxi meters Parking services.
270	Services to road transport	Support services for road transport nec (incl taxi radio base and road vehicle driving service) Support services for railway transport nec (incl station and terminal operations).
271	Services to water transport	Non-margin - stevedoring and port handling services (5211-5219) Support services to water transport nec (5211-5219) Margin on reexports - services to water transport (5211-5219) Margin - services to water transport (5211-5219).
272	Services to air transport	Airport operations and other air transport support services nec.
273	Travel and tourist agency services	Travel agency and tour arrangement services Tourist information centre operation.
274	Road freight forwarding	Freight forwarding agency services.
275	Forwarding agencies	Forwarding agency services (excl road freight forwarding)
276	Customs agencies	Customs agency services; other services to transport
277	Storage	Unassembled large scale sheet metal or fabricated metal storage structures and shelving Grain storage services Warehousing and storage services nec.
278	Overseas communication services and Pay TV	Overseas communication services and Pay TV
279	Postal services	Postal services.
280	Courier services	Courier pick-up and delivery services.
281	Domestic telecommunication services	Wired telecommunications network services (incl International, long distance and local) Mobile and other telecommunication network services nec (incl wireless and satellite) Other telecommunications services nec Other information services (incl radio and television new collection and telephone based recorded information services) Call centre operation.
282	Banking	Bank services - Financial intermediation services indirectly measured Bank services nec.
283	Non-bank finance	Non-depository finance services nec Financial asset investors.

284	Insurance	Fire and industrial special risks insurance provision Houseowner and household insurance provision Motor vehicle comprehensive and compulsory third party insurance provision Marine insurance provision (Non-margin); aviation hull/cargo insurance provision Employers liability insurance provision Insurance provision (incl travel insurance) nec. Marine insurance provision (Margin) Superannuation fund services.
285	Life insurance	Life insurance provision.
286	Health insurance	Health insurance provision.
287	Public liability	Public liability, product liability and professional indemnity insurance provision Farm animal and bloodstock leasing.
288	Security broking and dealing	Financial asset broking services.
289	Services to finance and investment	Other depository financial services (incl securitiser services) - Financial intermediation services indirectly measured Other depository financial services nec (incl money market and securitiser services) Non-depository finance services - Financial intermediation services indirectly measured Auxiliary services to finance and investment nec.
290	Services to insurance	Insurance fund management service Services to insurance nec.
291	Ownership of dwellings	Non-financial intangible assets (excl copyrights) leasing Ownership of dwellings Residential caravan park operation and residential property body corporate or strata corporation services.
292	Property services	Agricultural and pastoral broking, ship, boat and trailer hire, caravan and trailer hire, transport container hire, transport equipment hire, and other property services
293	Property operator and developer services	Non-residential property operator services (incl non-residential property body corporate or strata corporation services).
294	Real estate agent services	Real estate agent services.
295	Motor vehicle hire	Other motor vehicle rental or hire (incl caravan & trailer) (excl financial leases) nec.
296	Plant leasing, hiring and renting services	Plant leasing, hiring and renting services
297	Computer and technical services	Engineering design and consulting services Corporate head office management Management services (incl business, artists, entertainers and sporting professionals) Management advice and consulting services nec (excl financial and computer consulting) Computer systems, hardware and software design and development services Computer support services Other repair and maintenance nec.

298	Research and meteorology services	Meteorology services Interpreting and translating services Research and development services Own account research and development.
299	Architectural services	Architectural services.
300	Surveying services	Surveying, physical or chemical analysis and other measuring, checking and testing instruments, appliances and parts Surveying and mapping services Quantity surveying services.
301	Technical services	Copyright leasing - other Software publishing services (non-customised) Copyright leasing - software (non-customised) Statistical services Professional, scientific or technical services nec.
302	Data processing services	Internet access (incl ISPs) and internet search services Data processing and web hosting services Information storage and retrieval services.
303	Legal services	Legal services.
304	Accounting services	Accounting services.
305	Advertising services	Book publishing (incl textbooks, encyclopedias, travel guides and atlases) (incl printed and published by the same business) Books - advertising services Copyright leasing - books Directory, mailing list, collection or compilation - advertising services Other publishing - advertising services Internet publishing - advertising services Advertising services.
306	Market research and other business management services	Market research services Business and professional association services Labour association services.
307	Employment placement	Employment placement and recruitment services (incl casting agency service) General government consumption of fixed capital (954-9559).
308	Typing, copying and mailing	Copying paper nec Photocopying machines and parts Directory, mailing list, collection or compilation publishing (incl printed and published by the same business) Document preparation services nec (incl word processing, stenography, typing, transcription and resume writing).
309	Security and investigation	Security printed material (incl stamps, cheque books, banknotes, share documents and airline tickets) Scientific testing and analysis services Investigative and security services (incl locksmiths) (excl police).
310	Pest control	Pest control services.
311	Cleaning	Building and other industrial cleaning services nec (incl gutters, drains, roads, beaches, swimming pools and toilets) Car wash and cleaning services.
312	Packing	Crating or packing services for transport.

313	Collecting and credit reporting	Credit union services nec Credit rating, credit investigation and collection agency services.
314	Business services	Building society services nec Business and professional association services.
315	Judicial services	Judicial services commodity
316	Federal government	Government administration and regulatory services Domestic government diplomatic and consular services.
317	State government	Government administration and regulatory services.
318	Local government	Government administration and regulatory services
319	Defence	Defence services.
320	Education	Preschool education services Primary education services Secondary education services Special school education services Technical, vocational and other non-tertiary education services Tertiary higher education services (incl undergraduate and postgraduate) Sports or physical recreation instruction services (incl ski or snowboard) nec Arts education services (excl vocational) NPISH-provided adult, community and other education services Other adult, community and other education services Educational support services Services to students at post-secondary institutions by their sports and student unions.
321	GPs, dentists, optometrists, ambulance	General practice medical services Specialist medical services Pathology and Diagnostic Imaging services Dental services Optometry and optical dispensing Physiotherapy services Chiropractic and Osteopathic Services NPISH-provided other allied health services Other allied health services n.e.c. Ambulance services.
322	Hospitals and nursing homes	Hospital services (except Psychiatric Hospitals) Psychiatric Hospitals services.
323	Community health centres	Other health services nec Residential care services for the elderly (Aged care) Residential care services for the disabled Other residential care services (incl mental health illnesses or substance abuse) nec Child care services NPISH-provided other social assistance services n.e.c. (incl elderly, disabled, marriage and adoption services) Other social assistance services n.e.c. (incl elderly, disabled, marriage and adoption services).
324	Veterinary services	Veterinary Pharmaceutical and Medicinal Products - commission production Veterinary services.
325	Motion pictures	Motion picture and video production Motion picture and video distribution services Copyright leasing - motion pictures and videos Motion picture theatre services Post-production services and other motion picture and video activities.
326	Radio and television stations	Radio broadcasting services Free-to-air television broadcasting services Cable (Pay TV) and other subscription broadcasting services.

327	Library, museum and art gallery services	Library and archive services Museum and art gallery services.
328	Parks, botanical gardens and zoos	Gardening services Zoological and botanical services Nature reserve and conservation park services.
329	Music and theatre production	Music publishing nec (incl sheet music) Music copyrights (Acquiring, registering and selling) Music and other sound recording studios operation (incl pre-recorded radio programming services) Theatre, concert and sport ticketing and booking services Event management or promotion (incl sport, art or similar); fund raising services (fee based) or administration services nec.
330	Creative arts	Commercial art and display services Performing arts operation nec (incl theatre restaurants and circuses) Services of independent creative artists, writers and performers Theatre lighting, costume design and set design services Performing arts venue operation.
331	News reporting	Internet publishing and broadcasting services (incl radio, television, books, newspapers and magazines).
332	Entertainment	Paper festival, carnival or other entertainment articles (incl conjuring tricks, novelties, Christmas decorations).
333	Lottery	Lottery operation.
334	Gambling	Net losses from gambling - Clubs, pubs, taverns and bars (Hospitality) Gambling services nec.
335	TAB agencies	Totalisator agency services.
336	Sport and recreation services (incl horse and dog racing, sports grounds, services)	Gymnasia or fitness centre operation Sports professional services NPISH-provided sport and physical recreation club operation Ski slope and similar services Other sport and physical recreation club operation Sports grounds and similar recreational facilities operation nec (excl Gymnasia or fitness centre) NPISH-provided sport and physical recreation administrative services Other sport and physical recreation administrative services Horse and dog racing, administration and track operation racing horse or dog training and stable (kennel) operation Amusement parks and centres operation Amusement and other recreational activities nec Casinos operation.

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