New Zealand's greenhouse gas emissions accounts

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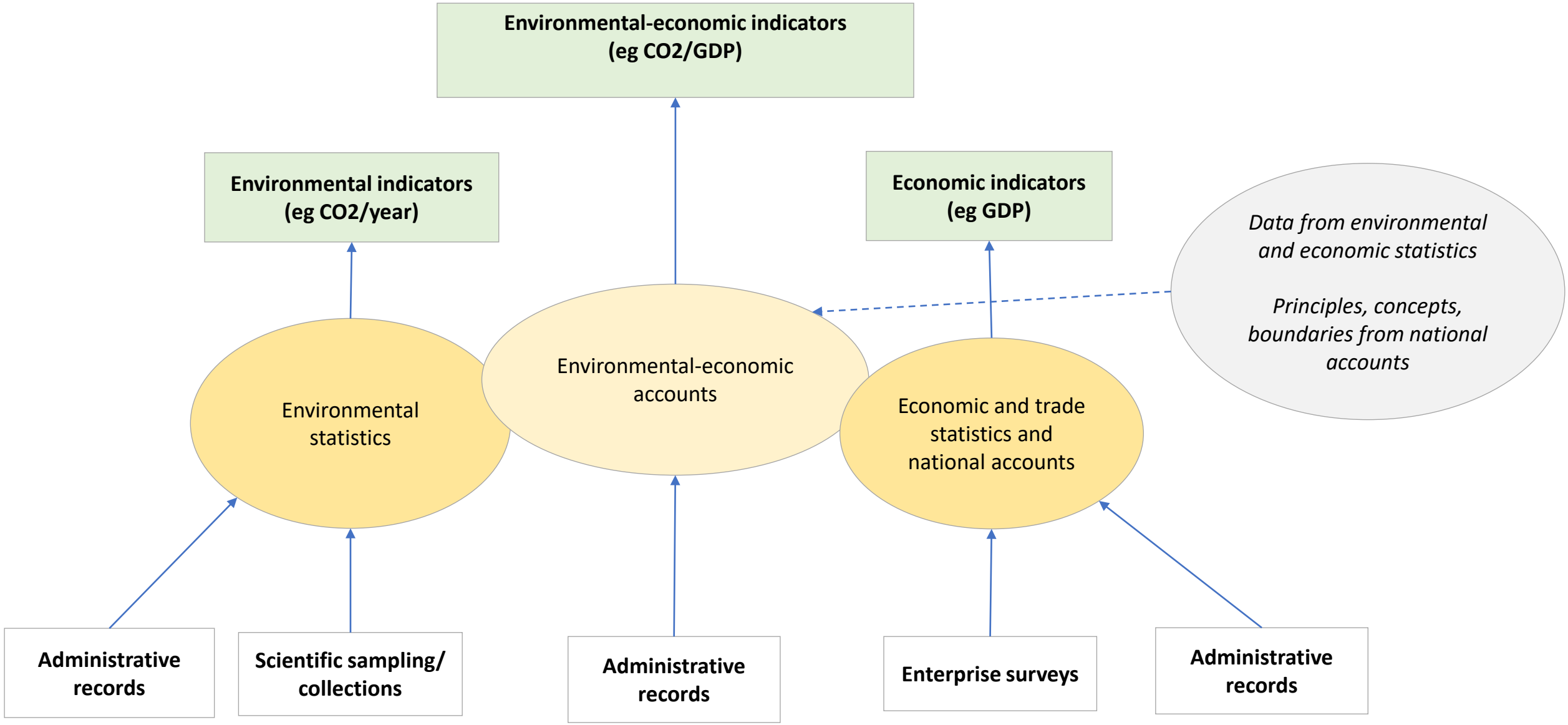
Stats NZ

Environmental statistics, environmental accounting, and national accounts



Overview

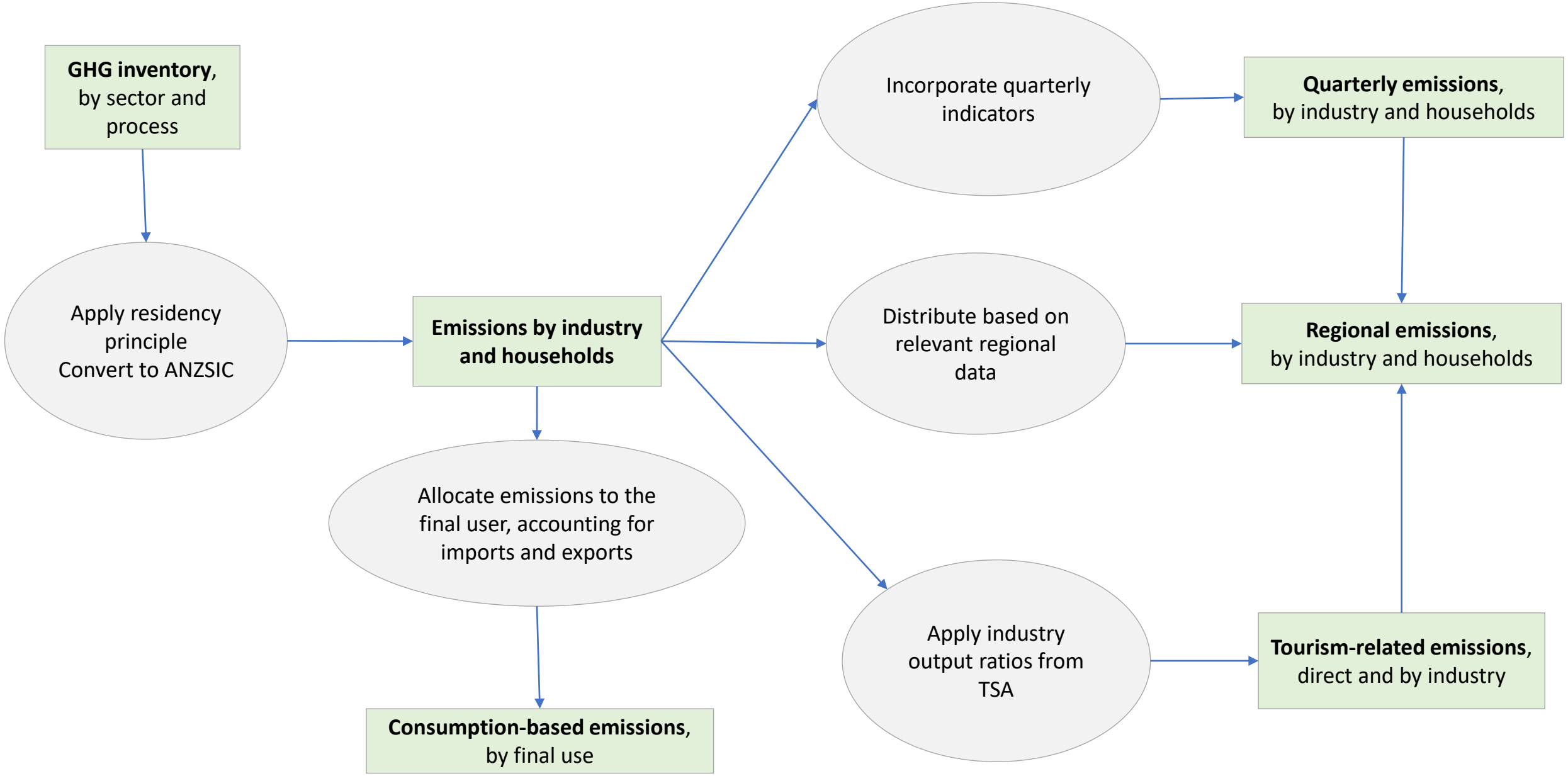
- The value of emissions accounts
- SEEA emissions accounts produced by Stats NZ
- Applications and uses

Why emissions accounts?

- 5 main sectors, +1000 sources in scope, by gas, based on IPCC guidelines, covering 1990-2020
- Central agencies hold even more underlying data and models that relate to policy target framing

- How does the SEEA contribute and add value to understanding emissions profiles?
  - Inventories are national scale, not timely, and focus only on production
  - SEEA capable of generating production, consumption, regional, quarterly accounts *and* contextualising with economic statistics

Stats NZ's emissions accounts



Value of integrated emissions data

- **Production side value**
  - Opportunity to validate emissions estimates and improve quality
    - In-built constraints
    - Comparability to other statistics
  - Additional confrontation can identify issues in input data series
  - Quality of accounts improved by using lowest level of detail possible

- **Customer side value**
  - Generates emissions accounts based otherwise unobtainable, eg tourism, regional
  - Generates novel insights into emissions progress, eg GDP and emissions growth comparisons
  - Higher quality data for other accounts and additional depth, eg production, consumption
  - Regional: clearly able to identify contribution of regions to national emissions
  - Consumption: clear link to production emissions

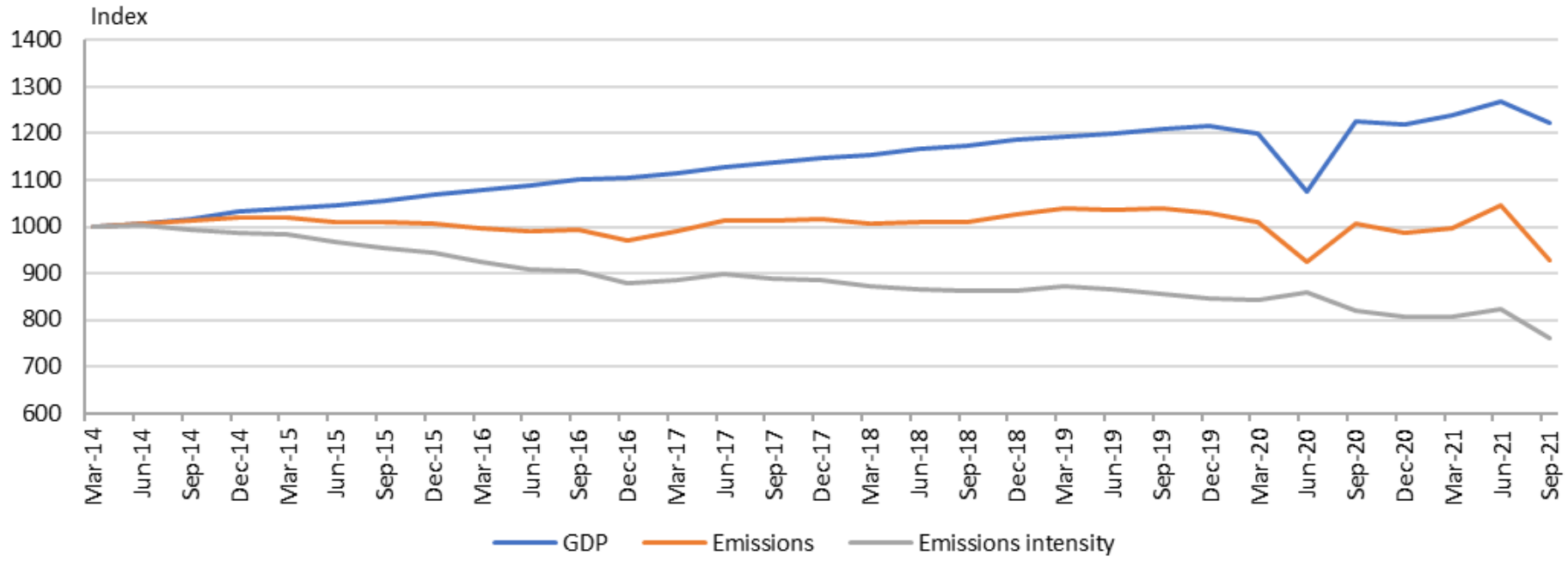
Applications and uses

- Media
- Emissions modelling and research
- Regional monitoring and reporting
- Central agency reporting
- Education
- Advocacy/public debate

Providing timely data: quarterly GHG statistics

- COVID-19 highlighted the need for timely information across the economic, social, and environmental domains
- Enables a focus on reducing GHG emissions to be made every quarter
- Educates users of environmental accounts and on the connection between environmental and economic development

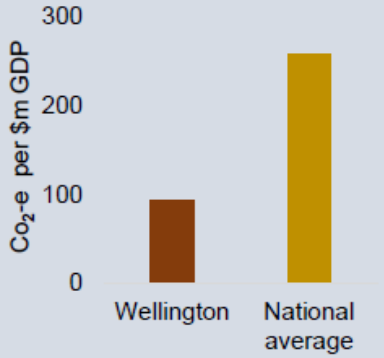
GDP, emissions, and emissions intensity, seasonally adjusted, March 2014-September 2021 quarters



Wellington

Emissions and the economy[1]

Tonnes CO_2-e per million $ GDP



Contributed **4.6%** to total national emissions

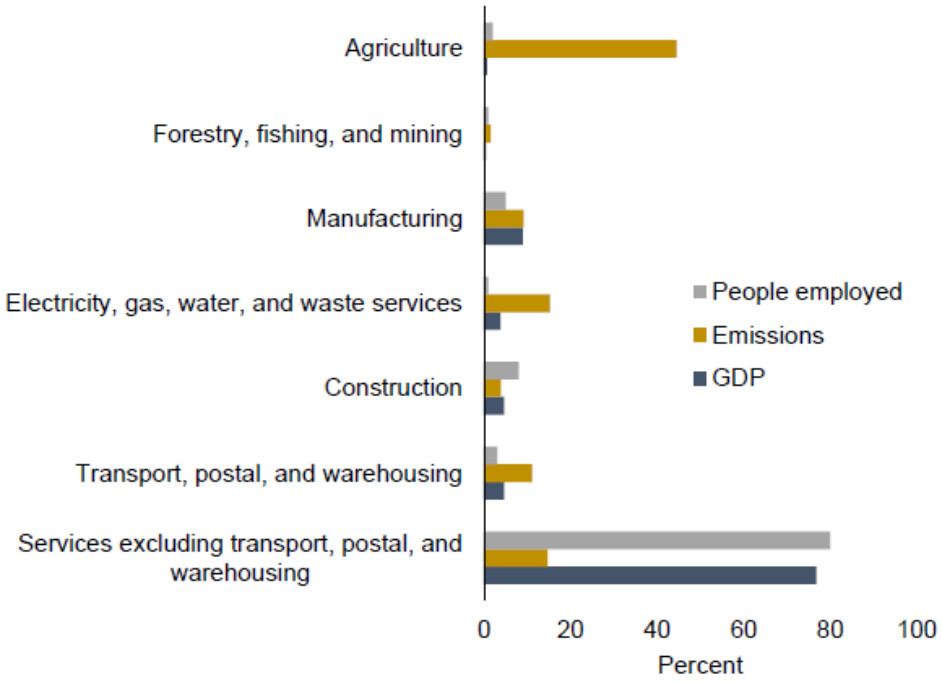
Generates **13%** of national GDP

7 tonnes emitted per person

9th largest regional contributor to NZ's emissions

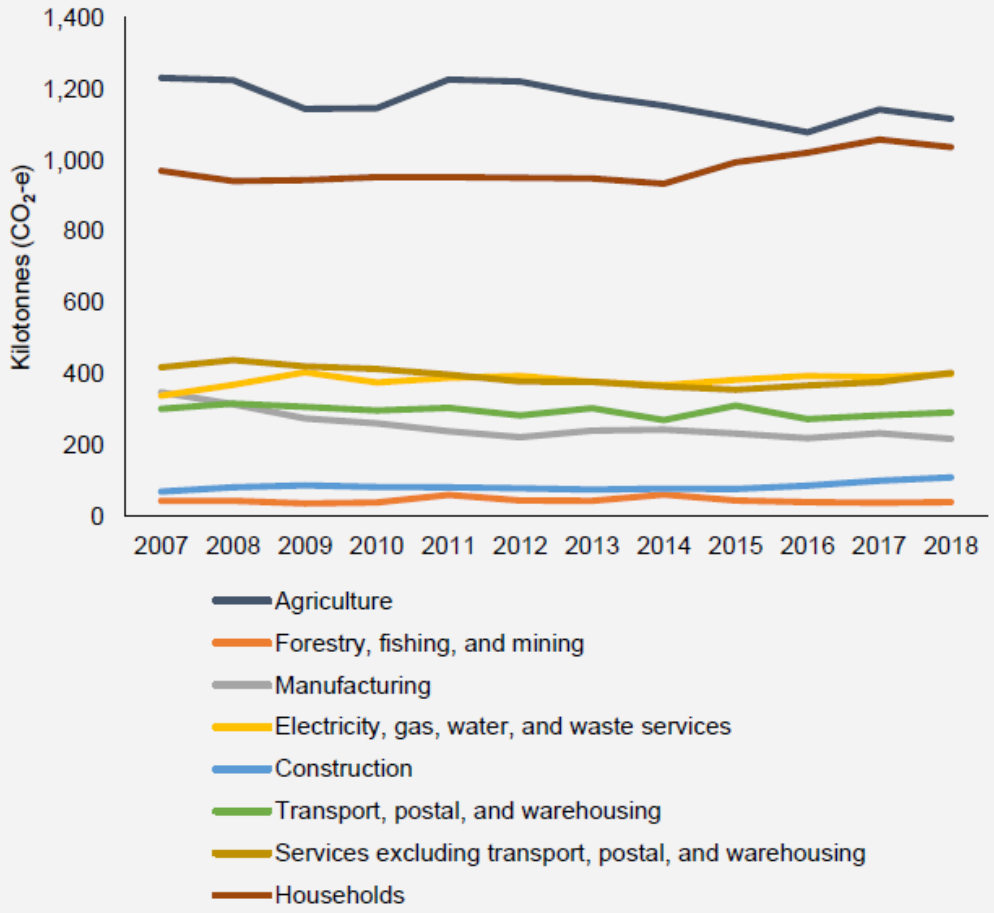
CO_2 is the main gas emitted

Wellington - percentage contributions of industries to its emissions, GDP and people employed, 2017



- Wellington's industry emissions profile is largely made up of agriculture, 44 percent; electricity, gas, water and waste services, 15 percent; and service industries, 15 percent.
- While services contributed 15 percent to emissions, they also contributed 77 percent to GDP and 80 percent to the number of people employed. As the services industries have a low emissions intensity and form a significant part of Wellington's GDP, Wellington has an emissions intensity below the national average.
- Services includes industries such as retail and wholesale trade; food and beverage services; health care and social assistance; and financial and insurance services.

Wellington's emissions by industry, 2007-18

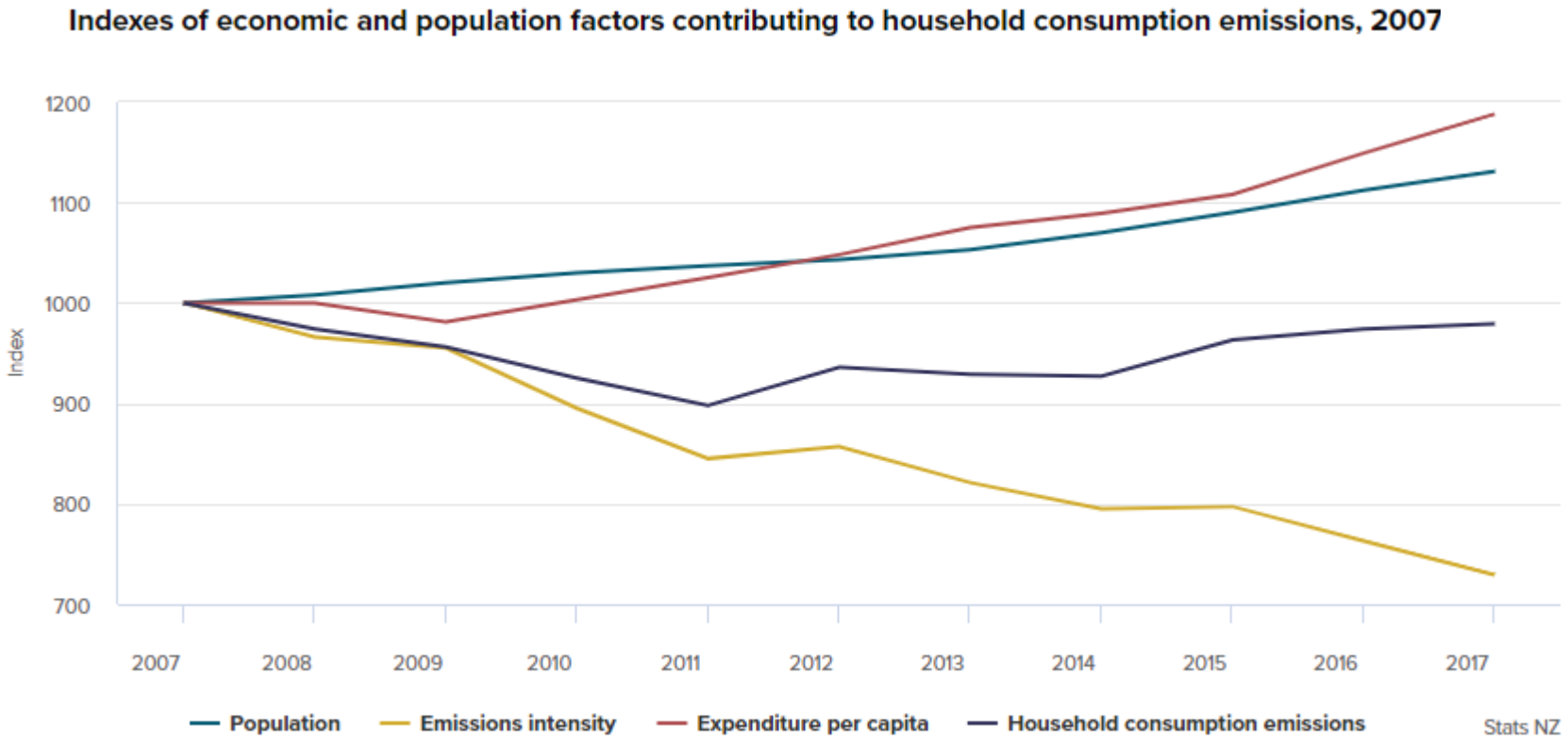


- Total emissions fell 2.9 percent from 2007-18. This was driven by falls in manufacturing industries, down 37 percent (130 kilotonnes); and agriculture, down 9.3 percent (115 kilotonnes).
- During this period Wellington's population rose 11 percent, while household emissions rose 6.9 percent.

Note: 1 When comparing emissions to GDP and persons employed by industry, we use the 2017 emissions and 2018 GDP and persons employed. This is because emissions are

Consumption-based emissions

- Allocates total production emissions to final users, including overseas users (exports)
- Shows role of trade on carbon footprint
- SEEA framework allows for decomposition analysis to explain broader drivers of emissions trends



Summary

- SEEA framework opens up opportunities for gaining further insight into emissions sources and understanding emissions from different perspectives
- Integrated emissions statistics have value both for NSOs and for customers, and utilises the conceptual advantages of the SEEA

Where to find our information

Industry and households (annual) emissions

https://www.stats.govt.nz/information-releases/greenhouse-gas-emissions-industry-and-household-year-ended-2020

Industry and households (quarterly) emissions

https://www.stats.govt.nz/experimental/greenhouse-gas-emissions-industry-and-household-september-2021-quarter

Consumption-based emissions

https://www.stats.govt.nz/information-releases/greenhouse-gas-emissions-consumption-based-year-ended-2019

Regional emissions

https://www.stats.govt.nz/information-releases/greenhouse-gas-emissions-by-region-industry-and-household-year-ended-2019

Approaches to measuring New Zealand's greenhouse gas emissions

https://www.stats.govt.nz/methods/approaches-to-measuring-new-zealands-greenhouse-gas-emissions