

First Biennial Carbon Emissions Review

2024-2025

Executive summary

This first Greenlit carbon footprint of Aotearoa New Zealand's screen sector explores the data from 16 productions from 2024 and 2025.

The analysis highlights that transport and energy use are the main source of emissions for our industry, while production size and type strongly influence both overall footprint size and spread over emission areas. Materials (mainly wood and textiles) are the next largest, followed by generator use.

Only around a third of the productions lodged in the Greenlit carbon calculator were completed and available to analyse for this report. We are still at an early stage of our development, and this completion result will improve.

Priority opportunities include improved travel policies, electrification of on-set energy, and sector-wide training to strengthen sustainability roles, data quality, and material reuse practices.

KEY TAKEAWAYS —

- The largest emissions areas are flights and vehicles. First and business class flights are the biggest contributor within this.
- Wood, textiles and generator use are also significant contributors.
- Productions below tentpole scale need more support with carbon footprinting.

FURTHER ACTION —

- Training and support for sustainability managers and productions.
- Facilitate more resource sharing of sets.
- Facilitate more access to grid and battery power.
- Support productions to complete their carbon footprints.

Moving from intention to measurement

By establishing a baseline, the industry can better understand where emissions are generated, identify opportunities for reduction, and track progress over time.



Introduction

Greenlit supports Aotearoa New Zealand's screen sector to measure, manage and reduce its environmental impact. Through its carbon calculator and industry partnerships, Greenlit provides tools, guidance, and reporting frameworks to embed sustainability into production workflows.

This report represents the first-ever carbon footprint of the New Zealand screen sector based on production-level data. It marks an important milestone: ***moving from intention to measurement***. By establishing a baseline, the industry can better understand where emissions are generated, identify opportunities for reduction, and track progress over time. This first footprint also highlights the challenges of collecting consistent, high-quality emissions data across a diverse production landscape – challenges the sector is now better equipped to address.

Numbers at a glance

Across the productions analysed, total emissions are dominated by a small number of key sources.

The top four emissions areas are:

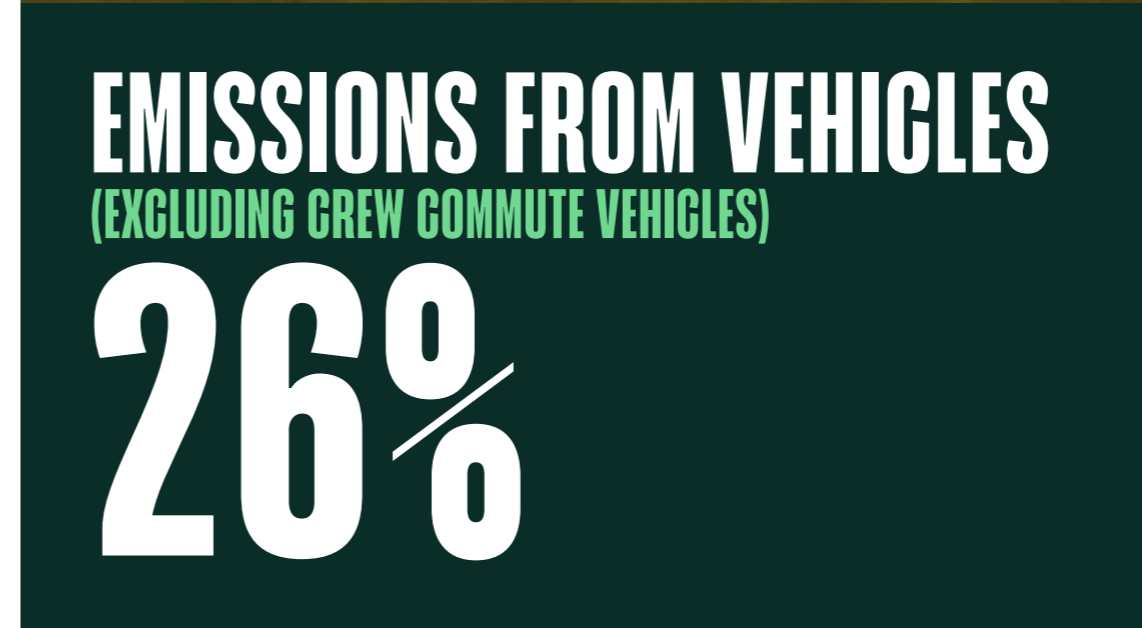
- Flights 34% (mostly first and business class)
- On-road vehicles 26% (excluding crew commute)
- Material use 10% (mostly wood)
- Stationary fuel 8% (mostly diesel)

Together, these four categories represent close to 80% of all measured emissions.

Of the remaining categories, crew commute, freight, work-from-home and data storage are likely undercounted due to being optional or difficult-to-capture reporting categories.



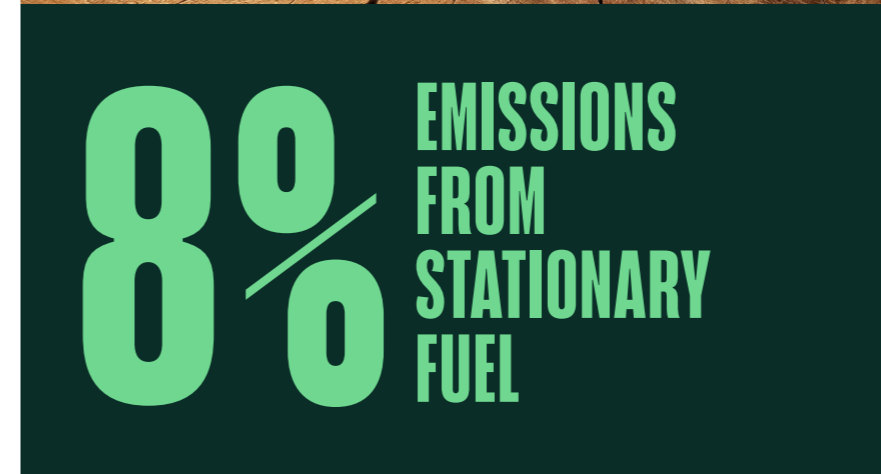
FLIGHTS **34%**
OF TOTAL EMISSIONS



EMISSIONS FROM VEHICLES
(EXCLUDING CREW COMMUTE VEHICLES)
26%



10% **EMISSIONS FROM MATERIAL USE**

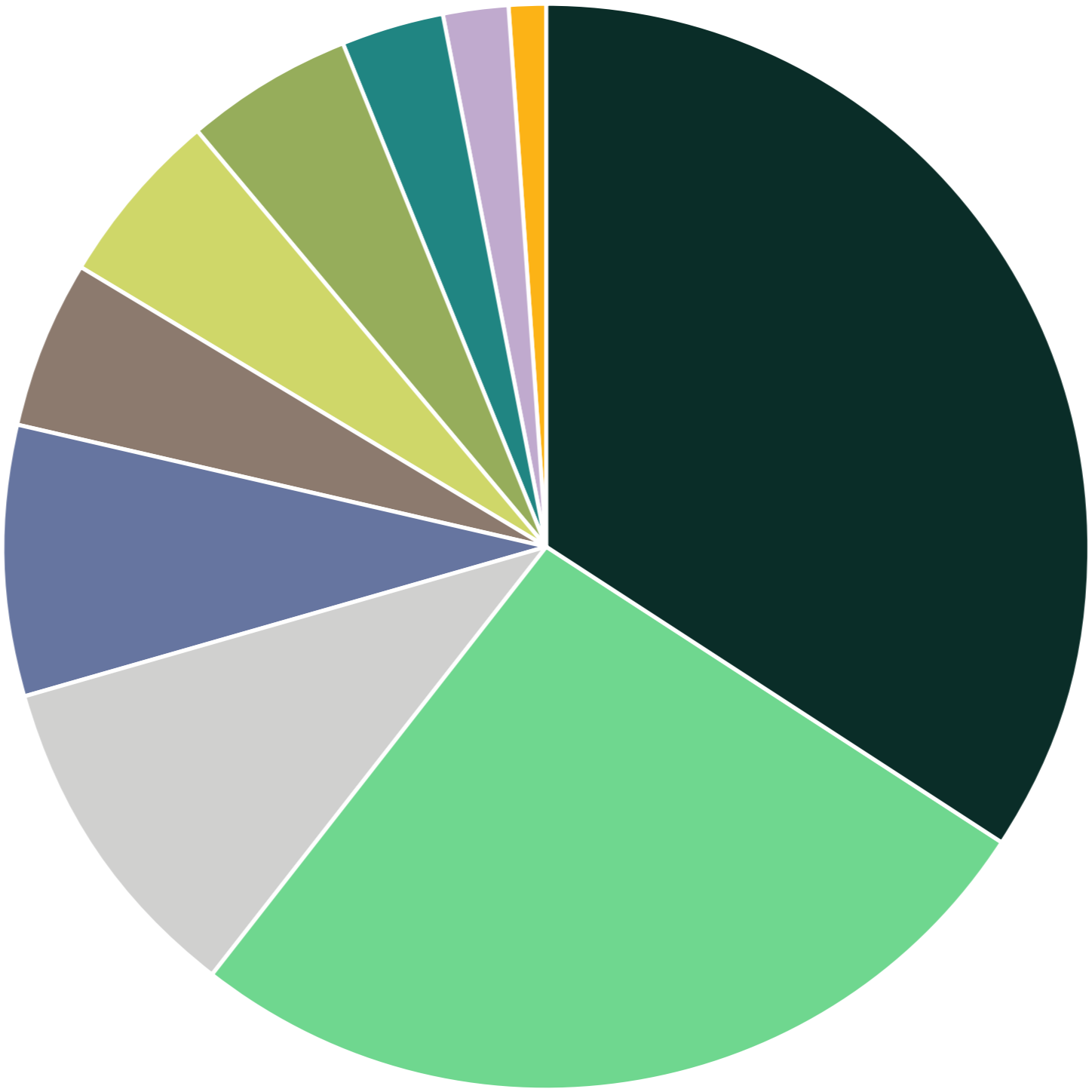


8% **EMISSIONS FROM STATIONARY FUEL**



THE OVERALL PICTURE –

TOTAL CO₂e
(tonnes of carbon dioxide equivalent)
BY AREA (%)



- Flights – 34%
- Vehicles (including taxis) – 26%
- Material use – 10%
- Stationary fuel – 8%
- Freight – 5%
- Food & catering – 5%
- Accommodation – 5%
- Electricity – 3%
- Waste – 2%
- Daily commute – 1%
- Work from home –
- Data storage –

Findings by emission area

The following section provides a high-level overview of each major emission category in descending order of emission impact, drawing on sub-category breakdowns where available.



Flights

Aotearoa New Zealand is geographically isolated, so air travel is expected to represent a large proportion of production footprints, particularly for international productions.

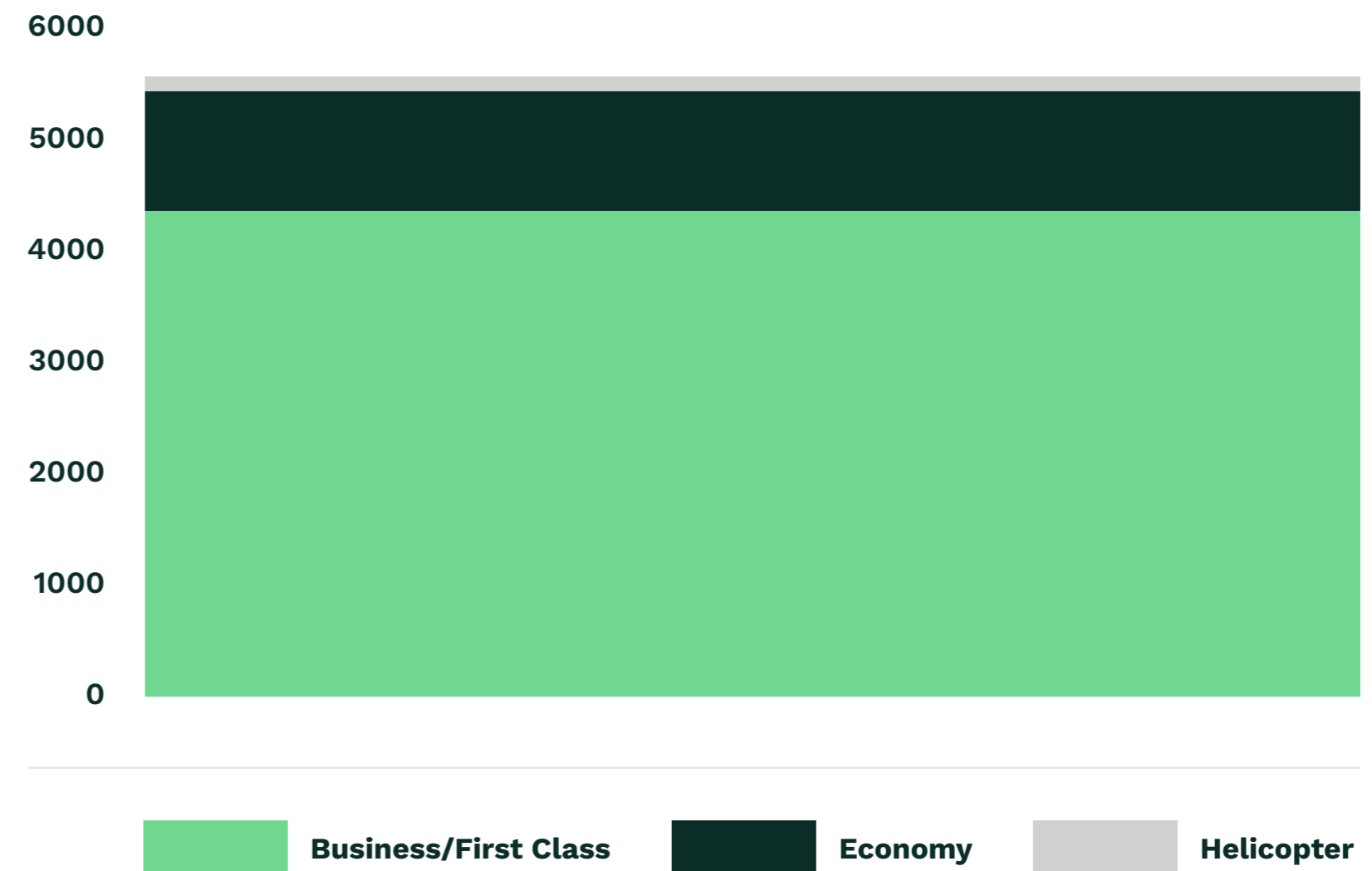
However, the current data shows us that it's the seat class of the flight that is material.

First and business class travel constitutes approximately 75% of the total, with economy class most of the remaining 25%.

The emissions intensity of first class and business class travel — typically between two to four times the per-seat emissions of economy — means that the cabin class split has a substantial effect on the flight total.¹ Helicopter use contributes a small but non-trivial share of just over 1%.

Flight data is among the more reliably captured categories, as productions typically maintain detailed travel records.

Flights CO₂e (tonnes)



1. <https://www.aef.org.uk/uploads/2022/05/AEF-Report-Raising-the-Visibility-5-Sept-2019.pdf>

Fuel

Transport

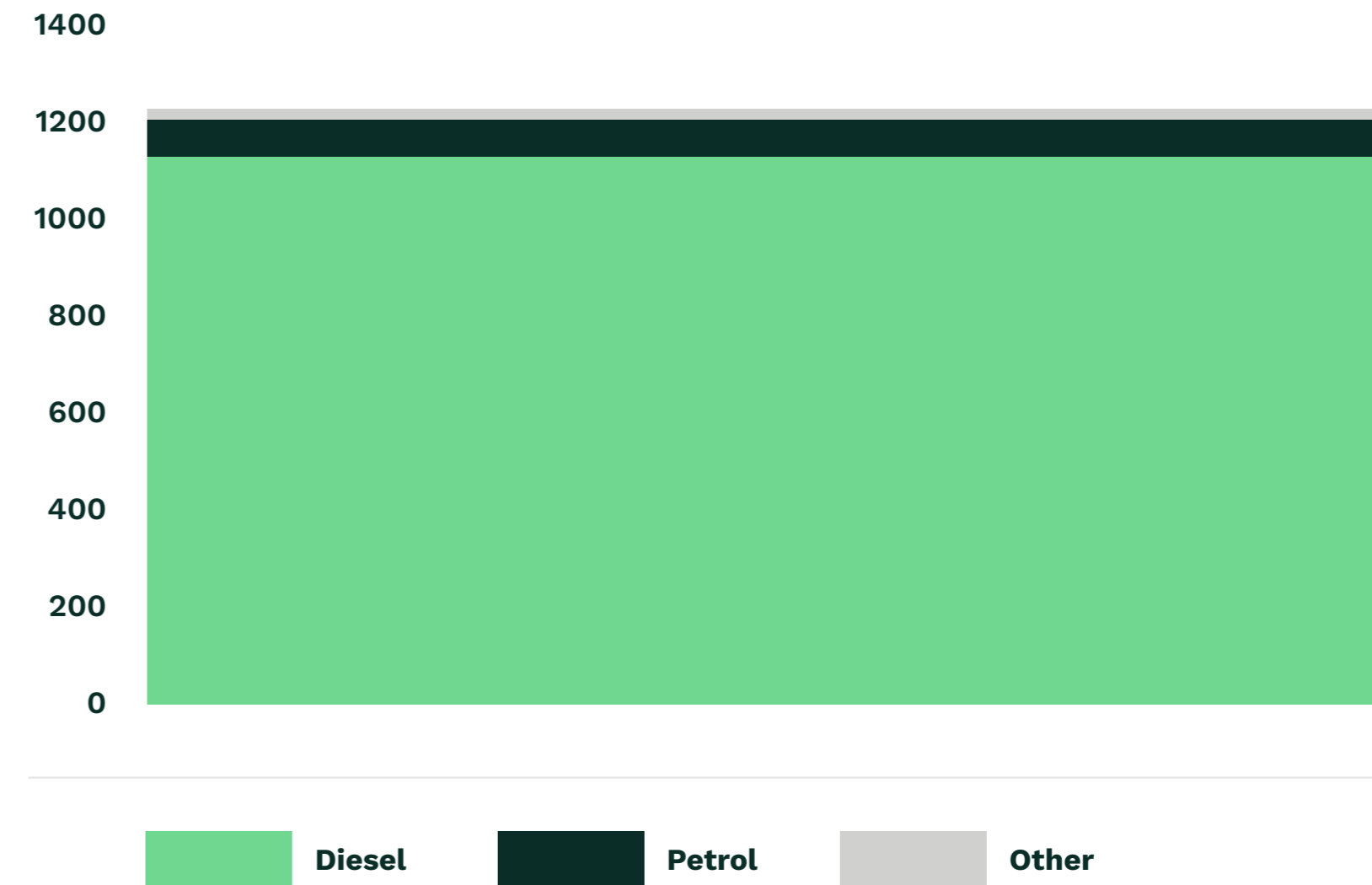
Vehicle use ranks second overall, representing almost all fuel emissions.

Generators

For on-set energy, diesel dominates stationary fuel use — responsible for 91% of emissions.

Petrol and other fuels contribute small shares. These figures highlight the dependency on diesel generators and the pressing opportunity to transition toward grid connections and battery systems.

Fuel CO₂e (tonnes)



Material Use

All materials that are used in the course of production have an associated carbon footprint in their supply chain.

Material use is the third-largest category. Wood accounts for over one-third (37%), as do textiles (35%, 543t). Other materials, including paper, make up the remainder.

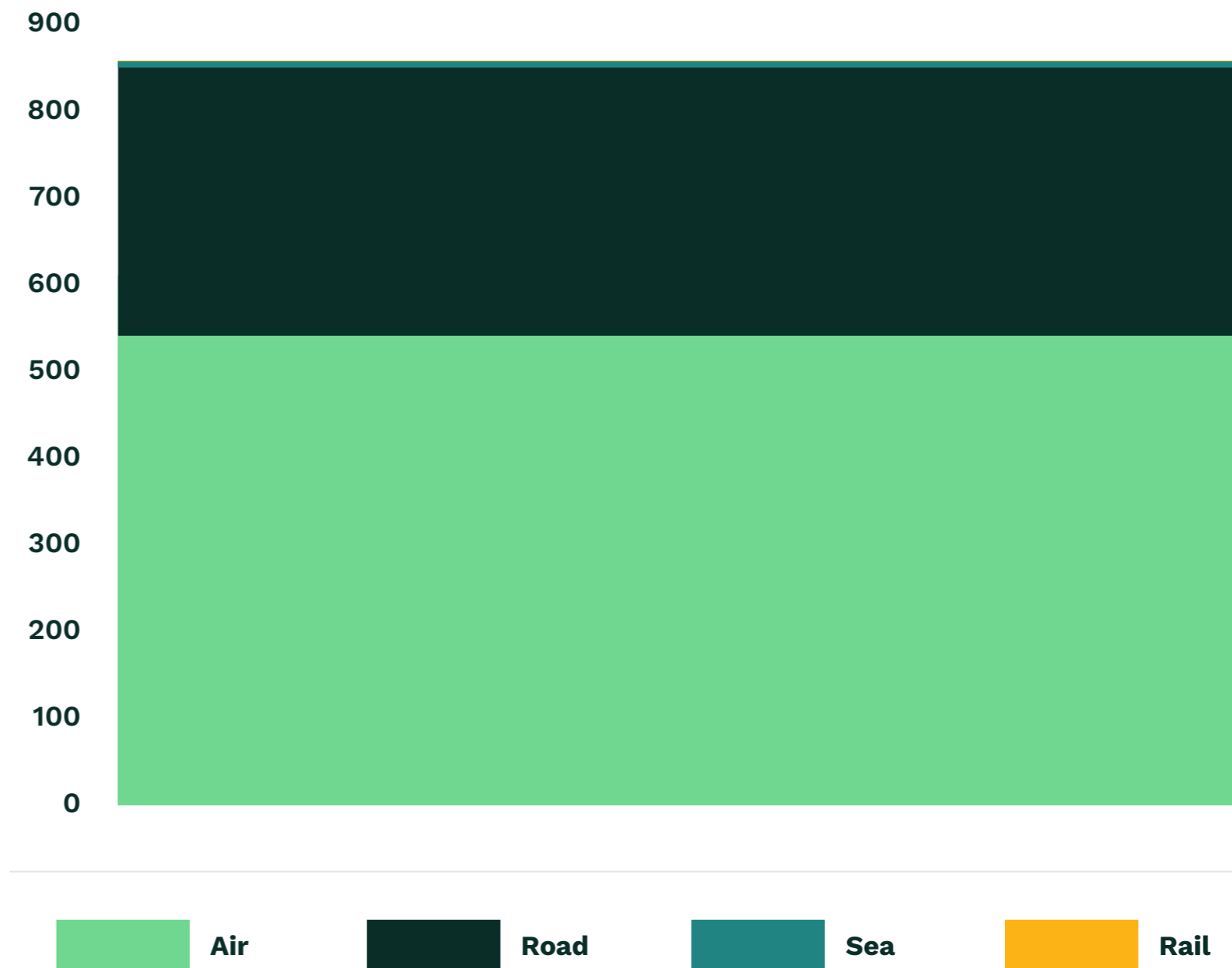
Materials Use CO₂e (tonnes)



Freight

Freight emissions are heavily weighted towards air, which accounts for 63% of the category total; road makes up most of the remainder.

Freight CO₂e (tonnes)



Emission profiles across production type

From tentpole to small productions, the following section provides a high-level overview of emissions by production type taking into account size and budget levels.



Tentpole productions

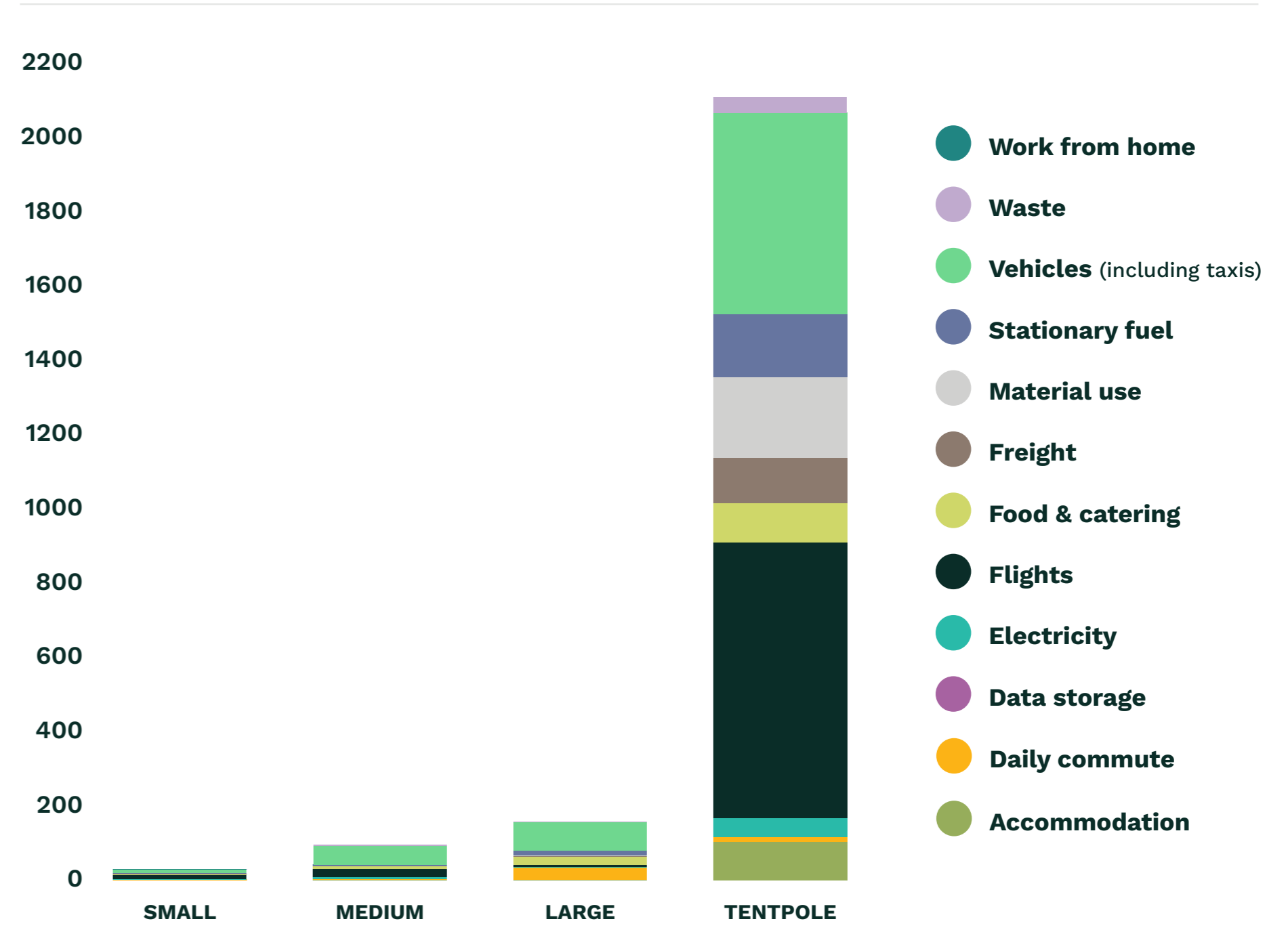
Tentpole productions average approximately 13 times the CO₂e of large productions.

Each budget level has a noticeably different split between emission category areas. This reflects both differing production realities at different budget levels and may reflect different ability levels with data collection. This emphasises the need for sustainability managers at all levels to ensure reliable data across the sector.

Average Emissions and Top Categories by Budget Size

	Small	Medium	Large	Tentpole
Avg CO ₂ e per production (t)	30	96	157	2,104
Top emission category	Flights 38%	Vehicles 53%	Vehicles 49%	Flights 35%
2nd category	Vehicles 35%	Flights 23%	Commute 21%	Vehicles 26%
3rd category	Catering 9%	Catering 8%	Catering 14%	Material Use 10%

Budget Size Average CO₂e (tonnes)

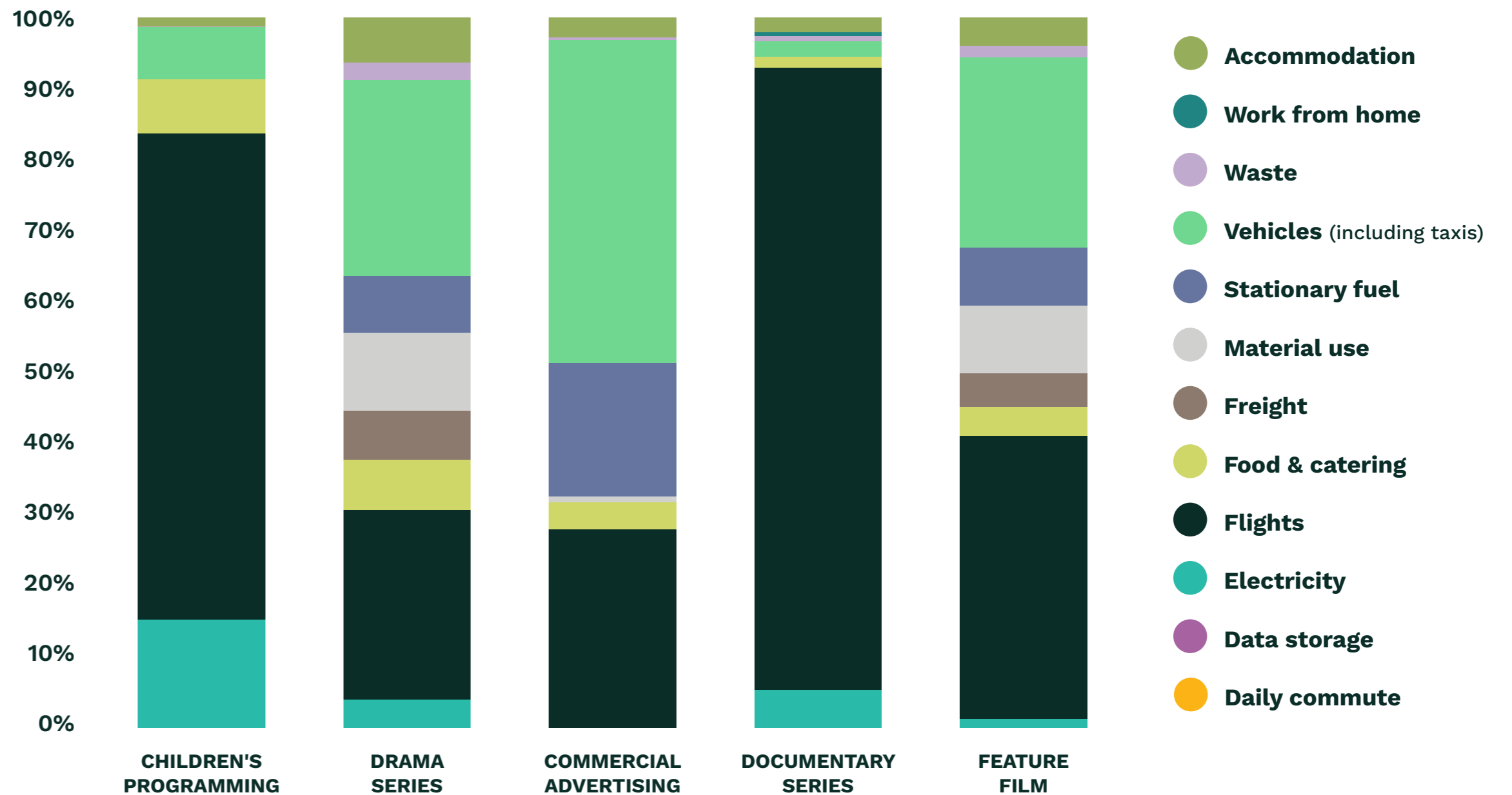


Production footprint

The makeup of production footprints varies greatly by production type, with feature films and drama series being most similar.

While the overall footprint of children's programmes, advertising, and documentary series is much lower than drama series and feature films, their footprint is dominated by flights. This likely reflects the realities of smaller crew sizes, smaller budgets, and lower overall input.

Footprint by Production Type CO₂e (tonnes)

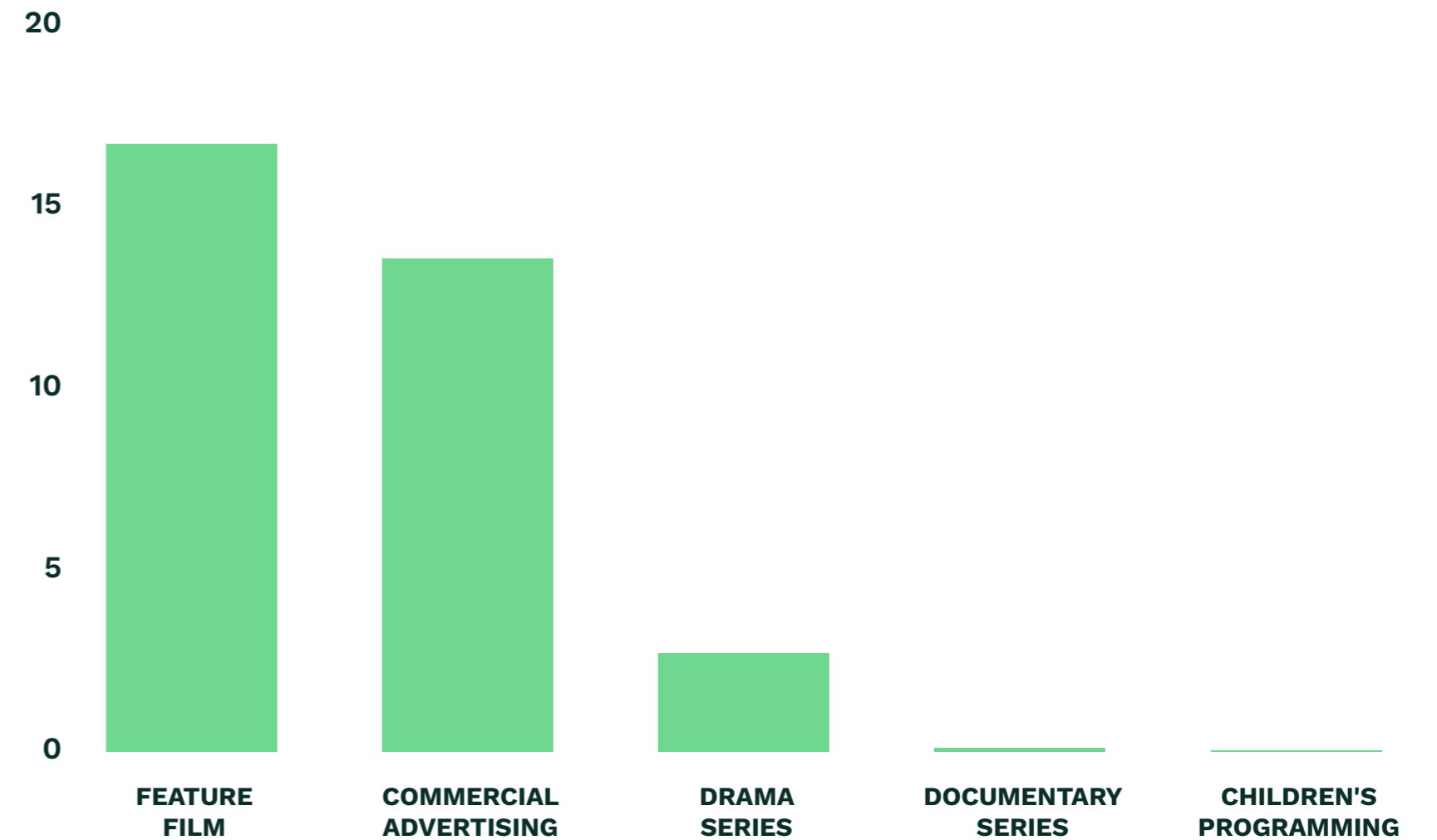


Emissions intensity

When measured by emissions intensity (CO₂e per minute of content), feature films and commercial advertising rank highest.

The differences in emissions profile and intensity across production types and sizes reinforce the importance of having tailored sustainability strategies across the industry.

Emissions Intensity tCO₂e per minute of content



Note: One medium and one tentpole production (both feature films) have been excluded due to incomplete data.
International findings: <https://greenproductionguide.com/wp-content/uploads/2021/04/SPA-Carbon-Emissions-Report.pdf>

Our findings

The following key findings outline clear next steps and targeted recommendations, spanning overall reporting improvements and emissions-specific actions to strengthen clarity, compliance and impact across future sustainability disclosures.



Recommended next steps

A vertical image on the left side of the page shows silhouettes of people in a field at sunset. One person in the foreground is holding a long pole with a light at the end, pointing it towards the sun. Two other people are visible in the background, one with their hand on their head. The sun is a bright, glowing orb in the center of the frame, creating a warm, orange glow.

- 1.** Embed sustainability managers in production teams from development, particularly on local productions.
- 2.** Develop industry mechanisms for sharing sets and materials between productions.
- 3.** Expand access to lower-emission energy solutions, including grid connections and battery systems.
- 4.** Create standardised case studies and reporting to share sustainability learnings across productions.

Recommended next steps

The findings point to clear priority areas where the sector can make meaningful progress. These should be further tested and refined in collaboration with stakeholders.

Sustainability managers have the greatest influence when they are embedded in production teams from the earliest planning stages, shaping procurement and logistics decisions before budgets are locked in. On local productions especially, ensuring their involvement early is essential.

The industry would also benefit from improved mechanisms for sharing resources — including sets and materials — as well as greater access to lower-emission energy solutions such as grid connections and battery systems.

Finally, developing clear, standardised ways to communicate sustainability outcomes through case studies and reporting will be essential in demonstrating both environmental and financial benefits.

Next steps for emissions areas



Transport

Trial electric production vehicles and partner with suppliers to grow low-emission fleet options.

Energy

Reduce reliance on diesel generators by increasing access to grid power and battery technologies on set.

Materials

Improve data capture for material use and encourage sourcing of second-hand materials to reduce waste.

Flights

Develop travel policies that address the outsized impact of first and business class travel, supported by industry-wide engagement.

Next steps for emissions areas

Targeted initiatives are already underway or in development across key emission areas.

In transport, this includes trials of electric production vehicles and partnerships with suppliers to expand low-emission fleet options.

For energy use, efforts are focused on reducing reliance on diesel generators through increased access to grid power and the adoption of battery technologies.

Within materials, improving data capture remains a priority, alongside initiatives to encourage use of second-hand materials and reduce waste.

For flights — the largest single source of emissions — addressing the impact of premium-class travel represents a key behavioural opportunity, supported by policy development and industry engagement.

About the data



The findings in this report are based on data submitted through the Greenlit carbon calculator portal. At the time of analysis, 52 productions had been initiated within the system, with 16 providing sufficient data for inclusion in this footprint.

Data quality varies across submissions. Larger productions typically demonstrate more complete and consistent reporting, often supported by dedicated sustainability roles and, in some cases, external auditing. By contrast, smaller or earlier-stage productions may include partial datasets, reflecting both resourcing constraints and varying levels of familiarity with carbon reporting processes.

Crew commute and freight were included as experimental categories in the Greenlit calculator — most international screen industry calculators do not currently measure these. Reporting for both was optional, and the data for these categories is likely under-represented as a result.

Conclusion

With production-level data now captured for the first time through Greenlit, this review provides the most detailed picture yet of where emissions are generated across Aotearoa New Zealand's screen sector.

Encouragingly, many of the trends identified align with international findings¹.

Reaching this point has been a collaborative effort. Countless crew, sustainability managers, producers and suppliers have contributed towards the data in this report. That willingness to contribute — alongside the everyday pressures of production — is what makes this baseline meaningful.

Looking ahead, the focus will be on improving data completeness and accuracy, expanding participation, and translating these insights into measurable emissions reductions. The foundation is now in place. With continued commitment from across the sector, Aotearoa New Zealand is well positioned to set the standard for sustainable screen production.

1. International findings <https://greenproductionguide.com/wp-content/uploads/2021/04/SPA-Carbon-Emissions-Report.pdf>

Appendix

- Data derived from 16 productions (4 small, 3 medium, 2 large, 7 tentpole).
- Total emissions = 15,450 t CO₂e.
- User errors were corrected in the data clean-up process.
- Crew commute, freight, work-from-home and data storage categories are likely undercounted due to being optional or difficult-to-capture reporting categories.
- Two tentpole films excluded from CO₂e-per-minute analysis owing to missing runtime data.
- Data Analysis by Nihal Sohanpal.
- Report by Greenlit Inc.

Thank you

We'd like to thank our industry supporters in helping bring this report together.



Te Tumu Whakaata Taonga



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