

# Towards net zero

Practical policies to  
reduce transport emissions

Tony Wood, Alison Reeve, and James Ha

July 2021



GRATTAN  
Institute

**Getting to zero: transport**

6 December 2021

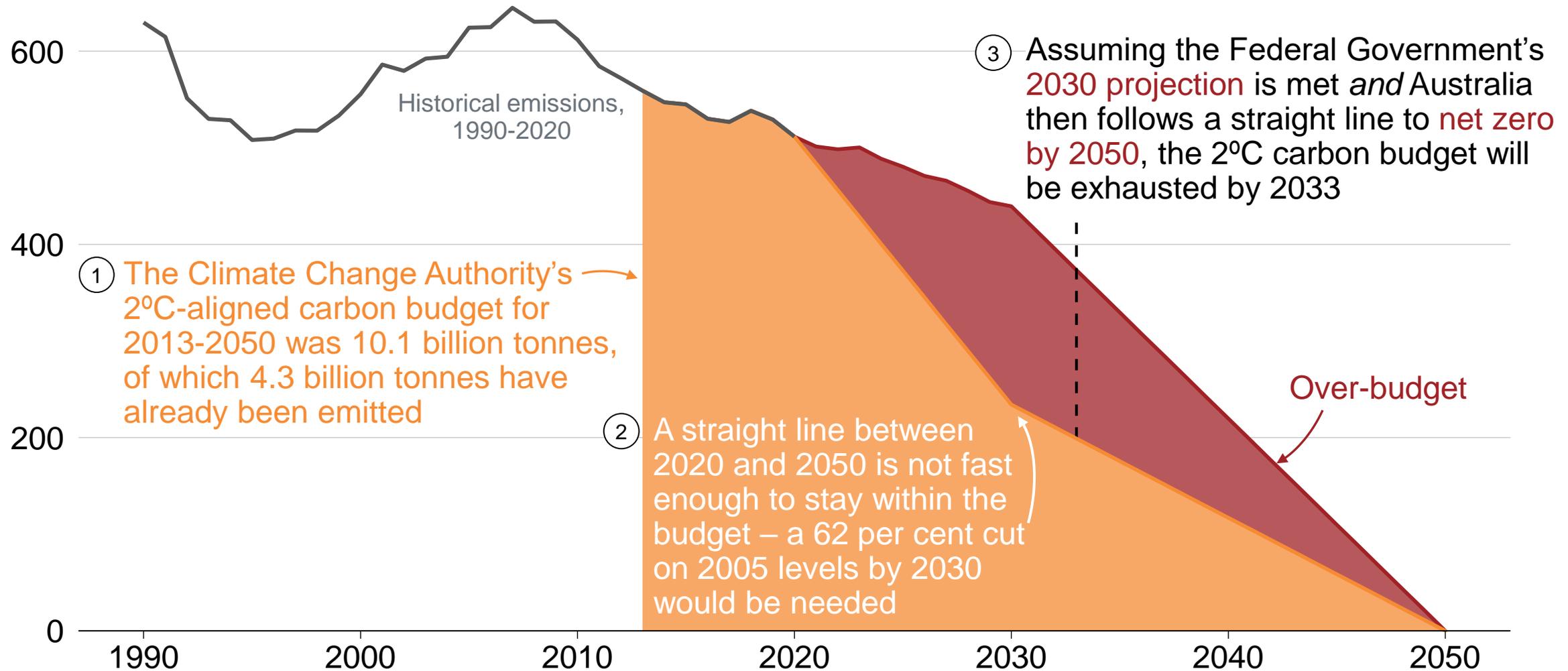
## The world is acting; Australia can't afford to be left behind

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- Net zero commitments from:
  - Federal Government, states and territories
  - EU, US, UK, plus major trading partners Japan, Korea, China (by 2060), India (by 2070)
- Future carbon tariffs (e.g. EU CBAM)
- COP26 in Glasgow: pledges to phase out coal power from several major coal-using countries
- Australia is a small, open economy, highly dependent on trade

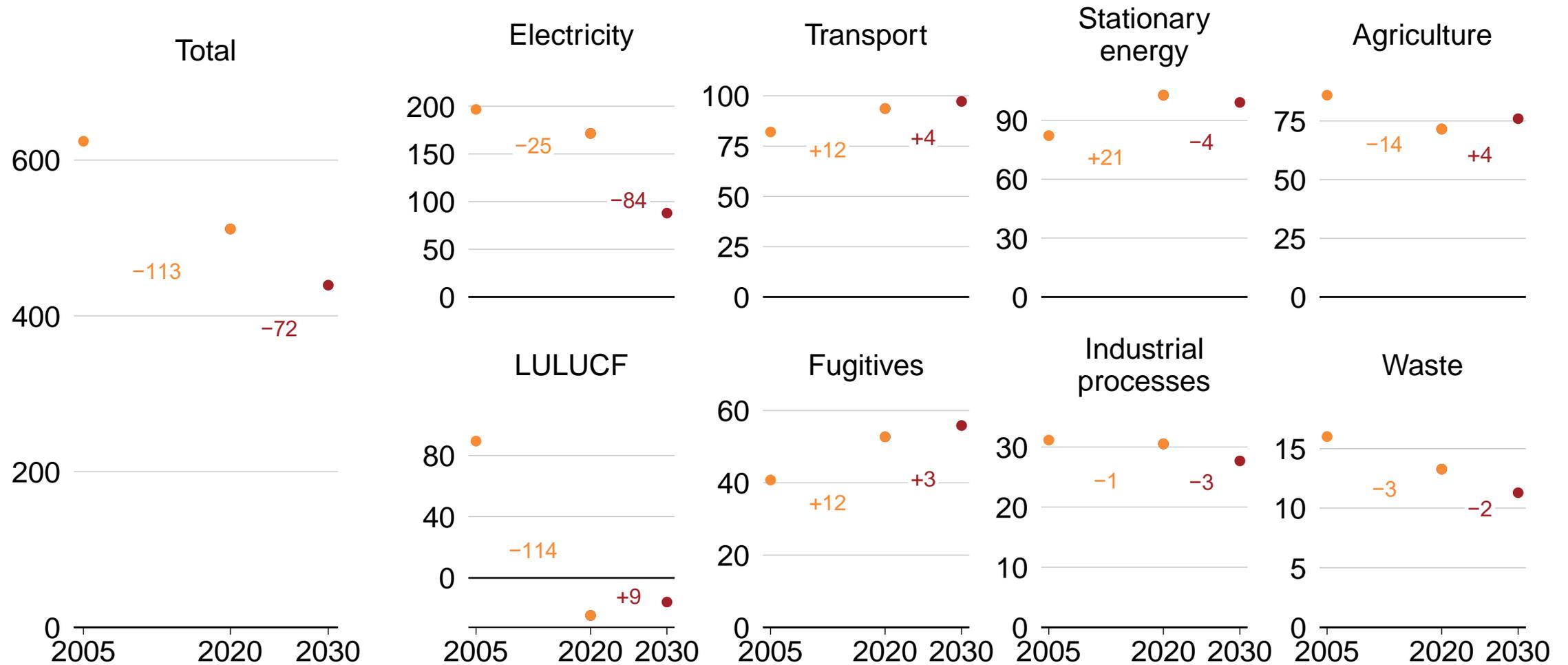
# To stay within a 2°C-aligned carbon budget, Australia would need to cut emissions by 62 per cent by 2030 compared to 2005 levels

Australia's annual emissions (millions of tonnes)



# Apart from electricity, there's very little emissions reduction expected in Australia over the next decade

Emissions per year (millions of tonnes)



# The reports in this series build on three previous Grattan reports to provide fresh analysis and smart policy to reduce emissions across the economy

## Reports in the *Towards net zero* series

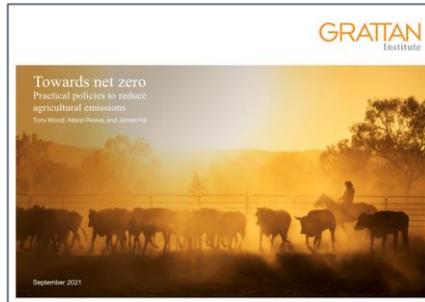
*Towards net zero:  
Practical policies to  
reduce **transport**  
emissions*  
(July 2021)



*Towards net zero:  
Practical policies to  
reduce **industrial**  
emissions*  
(August 2021)



*Towards net zero:  
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*Towards net zero:  
Practical policies to  
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(October 2021)



*Towards net zero:  
**A practical plan** for  
Australia's governments*  
(October 2021)

## Previous Grattan reports

*Start with steel*  
(May 2020)



*Flame out:  
The future of  
natural gas*  
(Nov 2020)

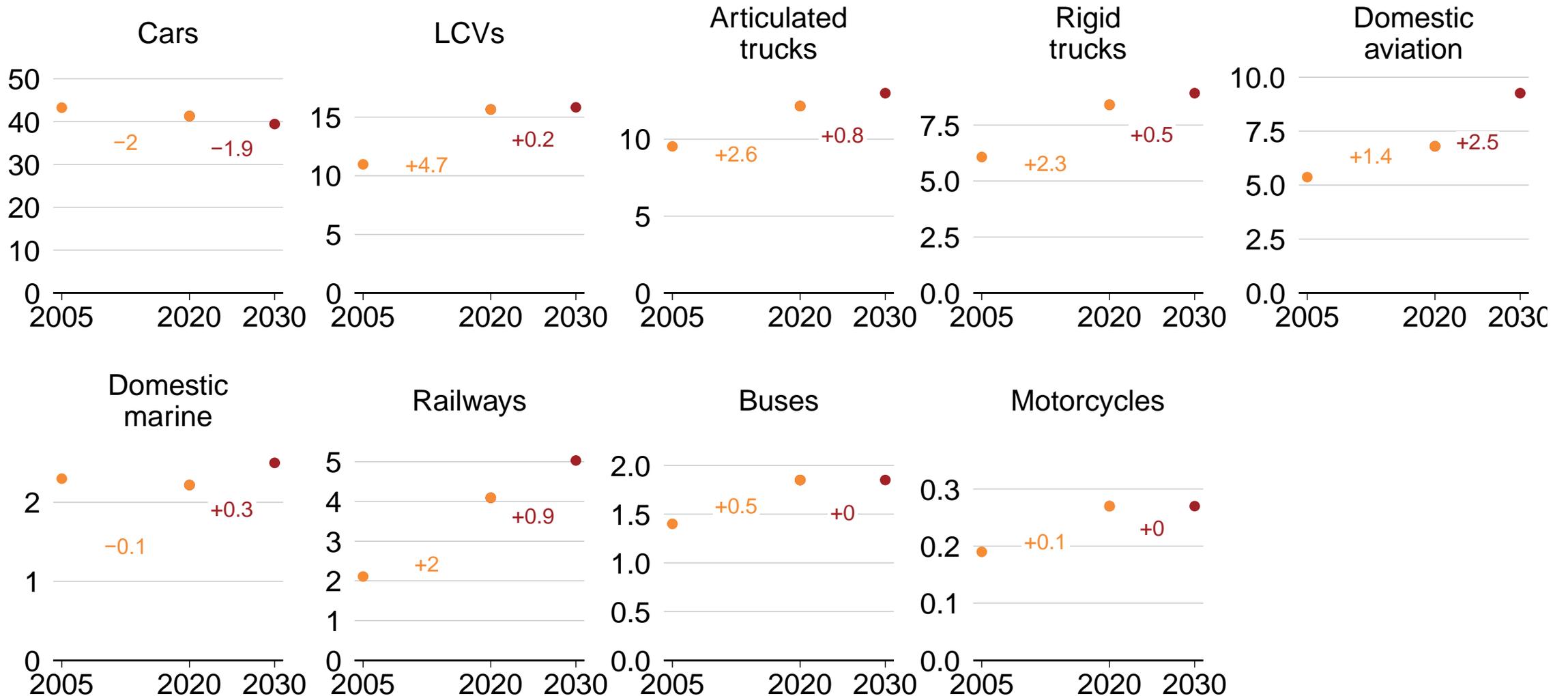


*Go for net zero:  
A practical plan for  
reliable, affordable,  
low-emissions  
electricity*  
(April 2021)



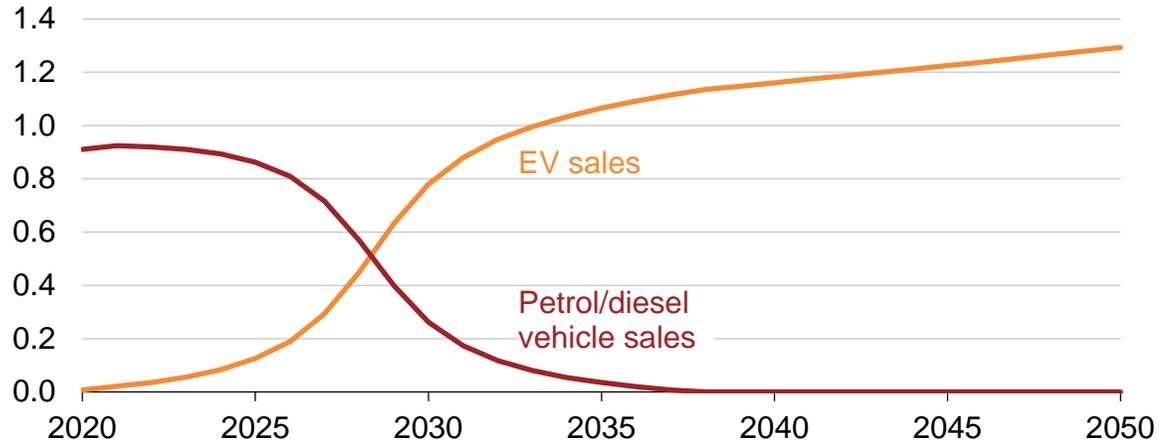
# Transport: Car emissions are expected to fall slightly, but freight and aviation emissions are expected to increase

Emissions per year (millions of tonnes)

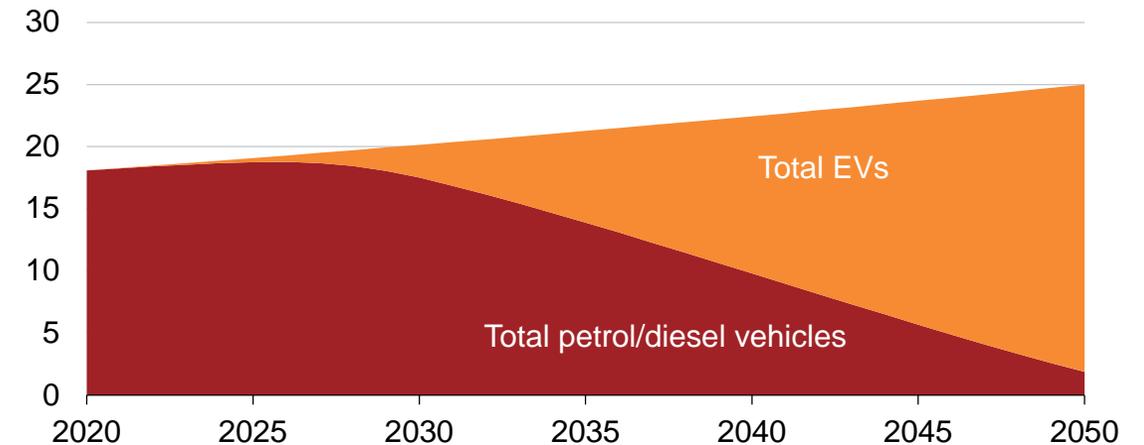


# Achieving 75 per cent electric vehicle sales by 2030 and near-100 per cent by 2035 would get the light vehicle fleet mostly on track for net zero, with just a few million petrol and diesel cars still on the road in 2050

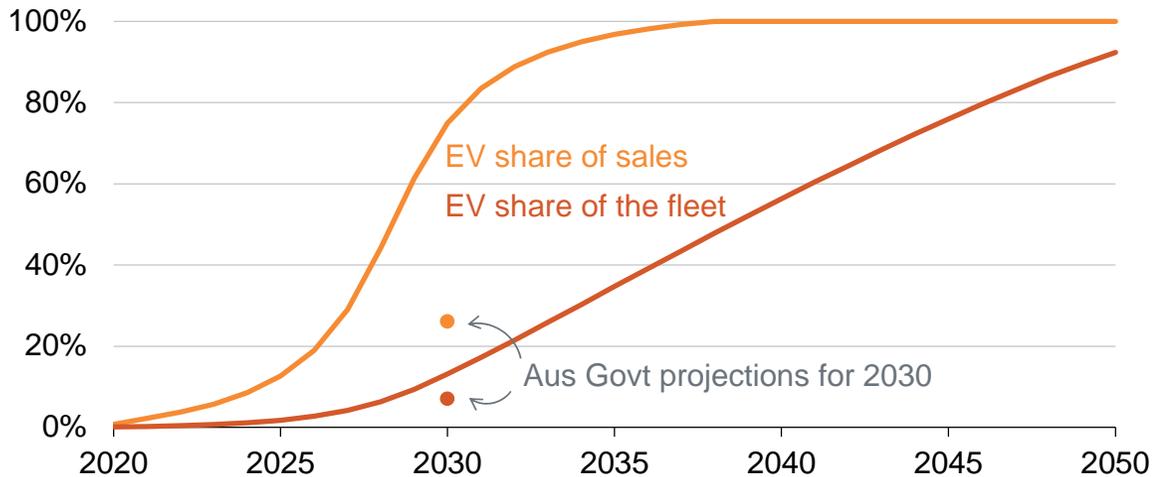
Light vehicle sales (millions)



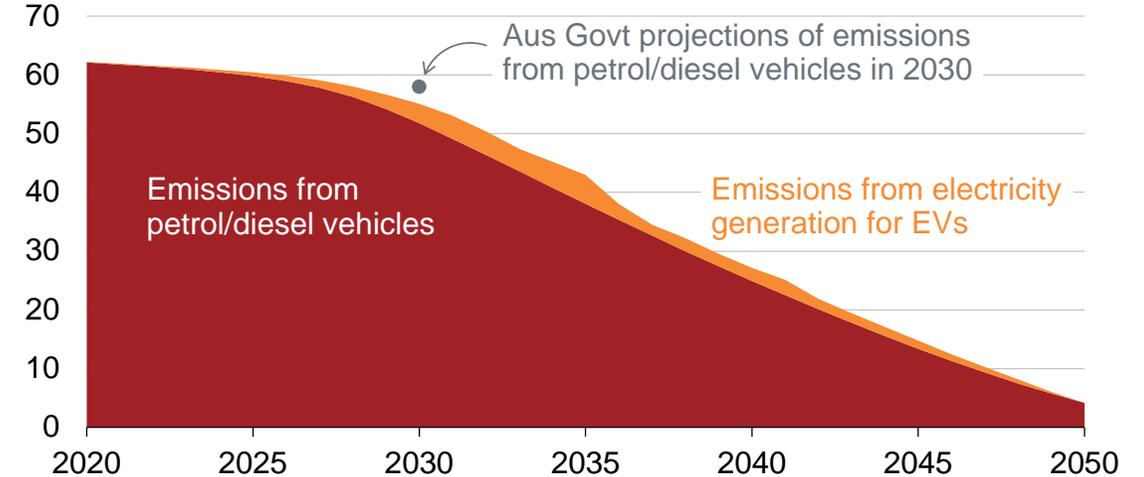
Total light vehicle fleet (millions)



EV share



Annual emissions from the light vehicle fleet (millions of tonnes)



Notes: Adoption curve is stylistic only. Electricity emissions intensity is assumed to decline nationwide at the same rate as the National Electricity Market over 2021-2042, according to AEMO's Step Change Scenario, and then linearly to zero emissions by 2050: AEMO (2020a). 4.1 per cent of the vehicle fleet is scrapped each year, in line with the attrition rate over 2015-2020: ABS (2020b). Based on data from VicRoads (2020), one-fifth of the turnover is assumed to be due to random crashes, with the rest due to vehicle age. Source: Grattan.

## **Grattan's recommendations**

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### **Ensure emissions from light vehicles are systematically reduced, and that Australians have the widest choice of low-emissions and zero-emissions vehicles**

- Set a mandatory fleet emissions standard, applied to the sale of all new light vehicles, tightening to zero emissions by 2035 to set an end date for sales of new petrol and diesel light vehicles.

### **Scrap inefficient taxes and regulations that slow Australians' take-up of zero-emissions vehicles**

- Scrap import duties and stamp duty on zero-emissions vehicles and waive luxury car tax on such vehicles for the rest of the decade.

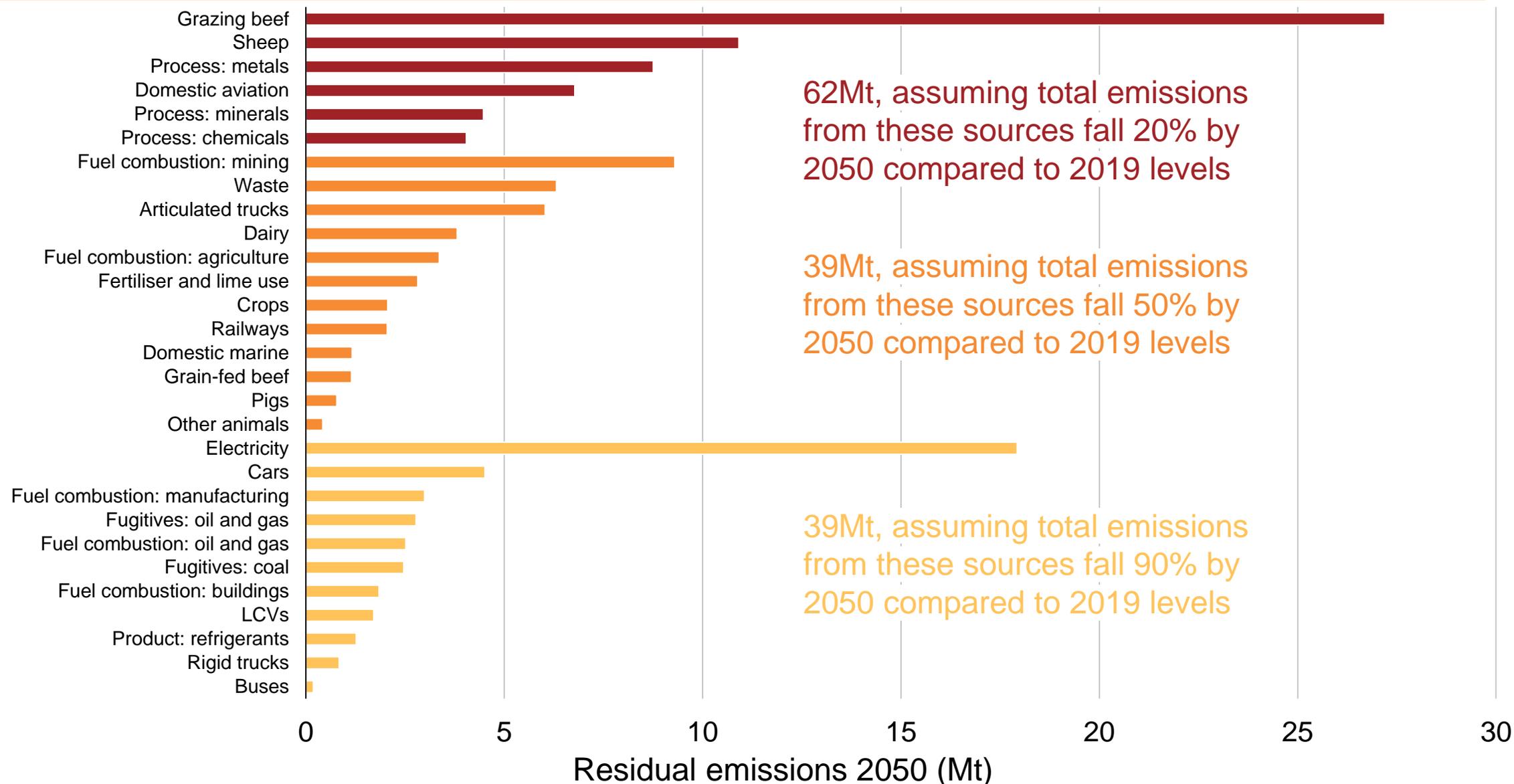
### **Ensure buildings and the electricity grid are electric vehicle-ready**

- Update the National Construction Code
- Require leased dwellings with off-street parking to have electrical access by 2030.
- Plan now to ensure convenient, local vehicle charging is available by 2030 for all residents.
- Plan the electricity tariff reforms necessary for smart management of vehicle charging in future.

### **Test all options for reducing heavy vehicle and aviation emissions**

- Support targeted trials of zero-emissions trucks
- Develop national standards and certification for renewable hydrocarbons
- Establish a renewable fuel standard for diesel, aviation fuel, and shipping fuel

# Net zero by 2050 isn't as simple as it sounds



Notes: Mt = million tonnes. LCVs = Light Commercial Vehicles. Emissions from some very small sources (e.g. motorcycles and military fuel use) are not included. Figures are not a forecast and do not try to account for changes in production and demand across sectors. Source: Grattan analysis of DISER (2020a), using pre-pandemic emissions from 2019.

## Overall key messages

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Achieving net zero by 2050 will require government action today

Technology is not sufficient – policy and markets are crucial to meet targets on time and at lowest cost

Emissions sources are either:

- easy to reduce at low cost
- possible to reduce, but cost or other barriers exist - heavy vehicles
- not yet technically feasible or with unknown costs - aviation

Govts should accelerate deployment for the first two categories, and boost R&D support for the last two

Offsetting will play an important role but cannot be relied on for substantial abatement – reducing emissions remains the priority

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