Australian Government

Comparability of effort – an Australian perspective

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Australian Government

Outline

Australian policy context and commitments

Comparability of effort

Australia's economic modelling

a. Overview of scenarios

b. Global and national economic impacts

c. Other key findings

Questions, discussion

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Australian policy context

Climate change is a key priority for the Australian Government.

Australia's policy is built on 3 pillars:

- Reducing Australia's emissions.
- Adapting to change that cannot be avoided.
- Helping to shape a global solution.

Global financial crisis is not a reason to delay:

- Economic stimulus measures provide an opportunity to invest in basis of future prosperity.

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Australia's mitigation goals

Global action to stabilise at 450ppm or lower.

Australia will play its full and fair part, including by:

- Meeting our Kyoto commitment.
- Unilaterally going beyond it: minimum 5 per cent cut on 2000 levels by 2020.
- Going further if ambitious global action: up to 15 per cent cut on 2000 levels by 2020.

Will continue to play our part post-2020.

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Commitment, not aspiration

Australia is implementing robust credible policies to meet its goals:

- A cap and trade Carbon Pollution Reduction Scheme from 2010.
- Complementary measures targeting renewables, energy efficiency, research and development for new technologies.

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Australia's CPRS

Very broad coverage:

- 6 gases, 75% of national emissions from the start.

Permit allocation:

- Majority of permits auctioned from the start.
- 100% of revenue returned to households and industry to aid adjustment.

International links:

- Unlimited use of eligible Kyoto units.

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Comparability of effort

No single metric or formula – range of factors are relevant.

Key factors include:

- Effort relative to existing commitments.
- Reductions in per capita emissions.
- Economic cost of meeting targets.

Domestic mitigation potential is relevant but not key – flexibility mechanisms expand mitigation options.

Australian Government

Australia's level of ambition

Australia's 2020 target range is:

- 12-22 percentage points below its Kyoto commitment.
- 34-41 per cent reduction in per capita emissions on 1990 levels.

Australia faces higher costs to meet its target than major developed economies:

- Due to high share of energy- and emission-intensive sectors.

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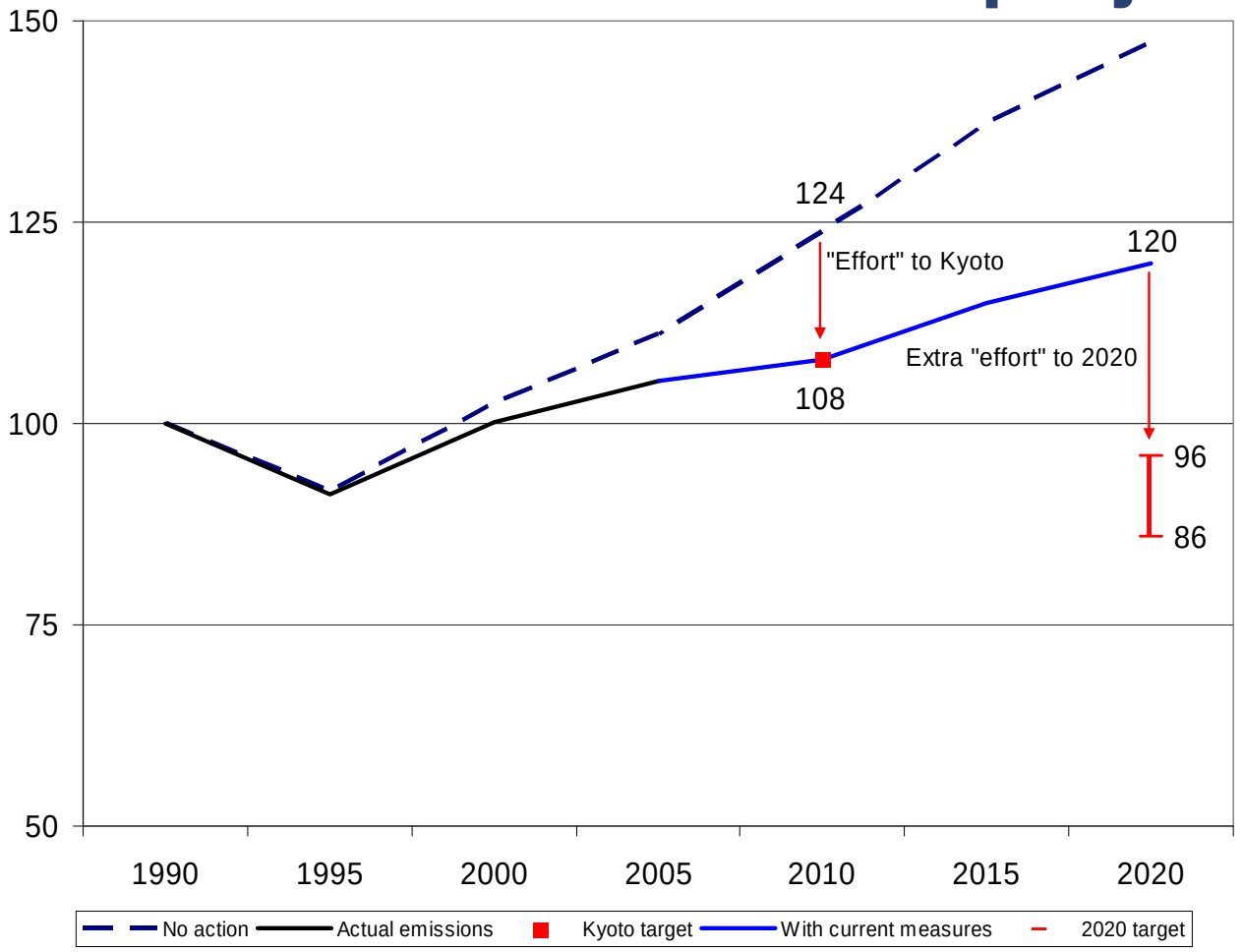
Australian emissions and projections



Source: Australia's National Inventory 2006 (2008); Tracking to Kyoto 2007 (2008).

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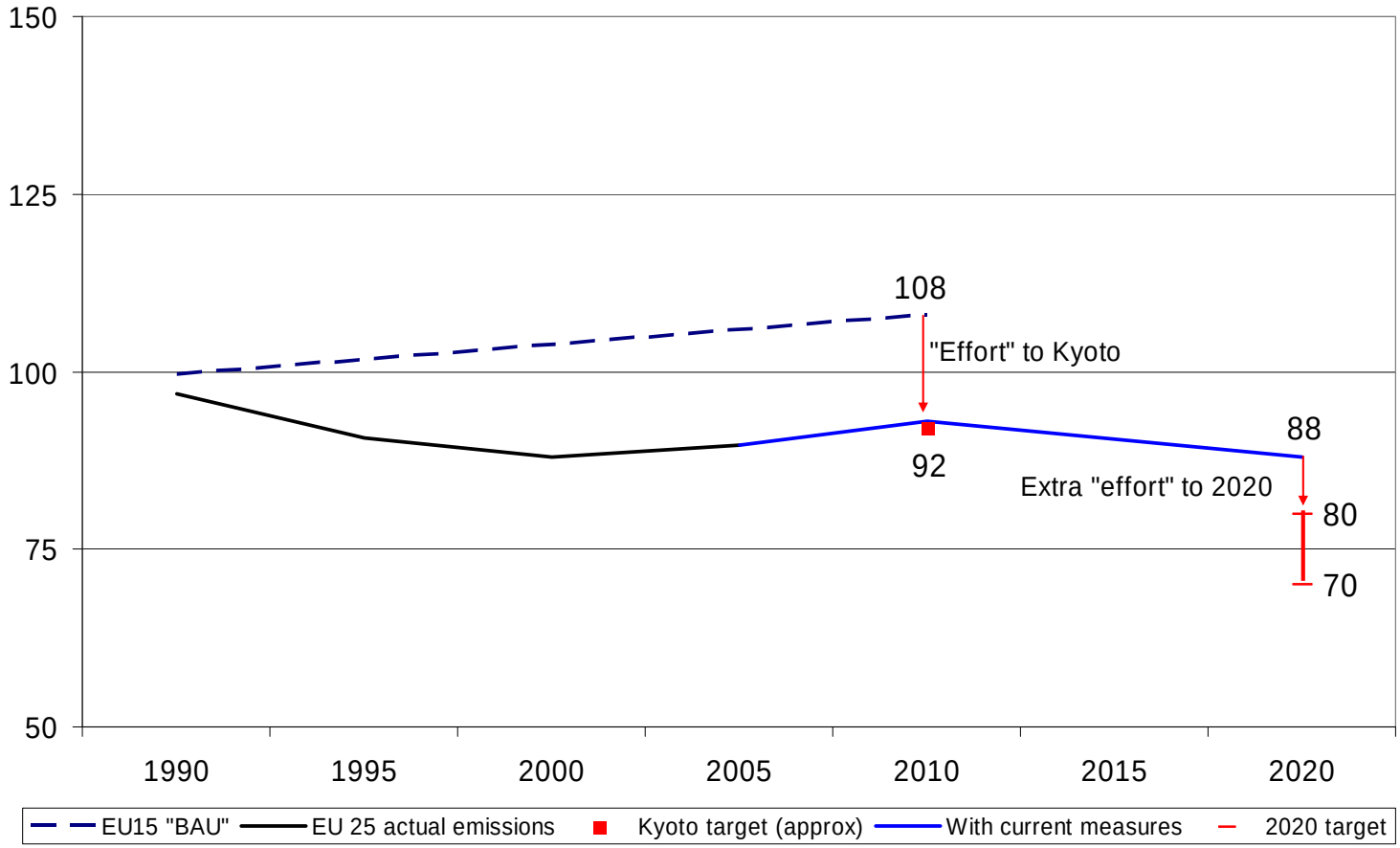
EU emissions and projections



Source: EU 4th National Communication (2006); EEA CSI010 (2009)

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Australia's economic analysis

Australia conducted very detailed economic analysis to inform its decisions on targets.

- Part of a comprehensive policymaking process.

Published detailed report including full results and underpinning assumptions.

Input to Garnaut Climate Change Review:

- Major independent study of costs and benefits of climate change action for Australia.

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Treasury's modelling approach

Economic cost of mitigation only.

Suite of economic models used to generate an integrated set of projections:

- Spanning global, national, sectoral and household scales.

Australia positioned in a global context:

- Global action sufficient to stabilise concentrations at 450-550ppm CO_2-e.

Australian Government

What is ‘economic cost’?

Economy-wide cost captures overall impact of mitigation effort on national economic welfare.

Costs vary across economies:

- Reflects different national circumstances including population growth, sectoral mix, mitigation opportunities.

GNP/GNI measures includes effects of international emissions trading.

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Scenarios modelled

Reference and four policy scenarios:

- Reference assumes no new mitigation action
- Two CPRS policy scenarios assume staged global action from 2010: developed countries lead, other countries join over time.
- Two Garnaut scenarios assume unified global action from 2013.

Input assumptions represent central estimate within range of possible values:

- Sensitivity analysis to explore key variables.

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Reference scenario

Continued strong trend economic growth:

- Rising per capita incomes.
- Slowing population growth.

Continued reliance on fossil fuels for energy.

Strong emissions growth:

- Global emissions more than double current levels by 2050.

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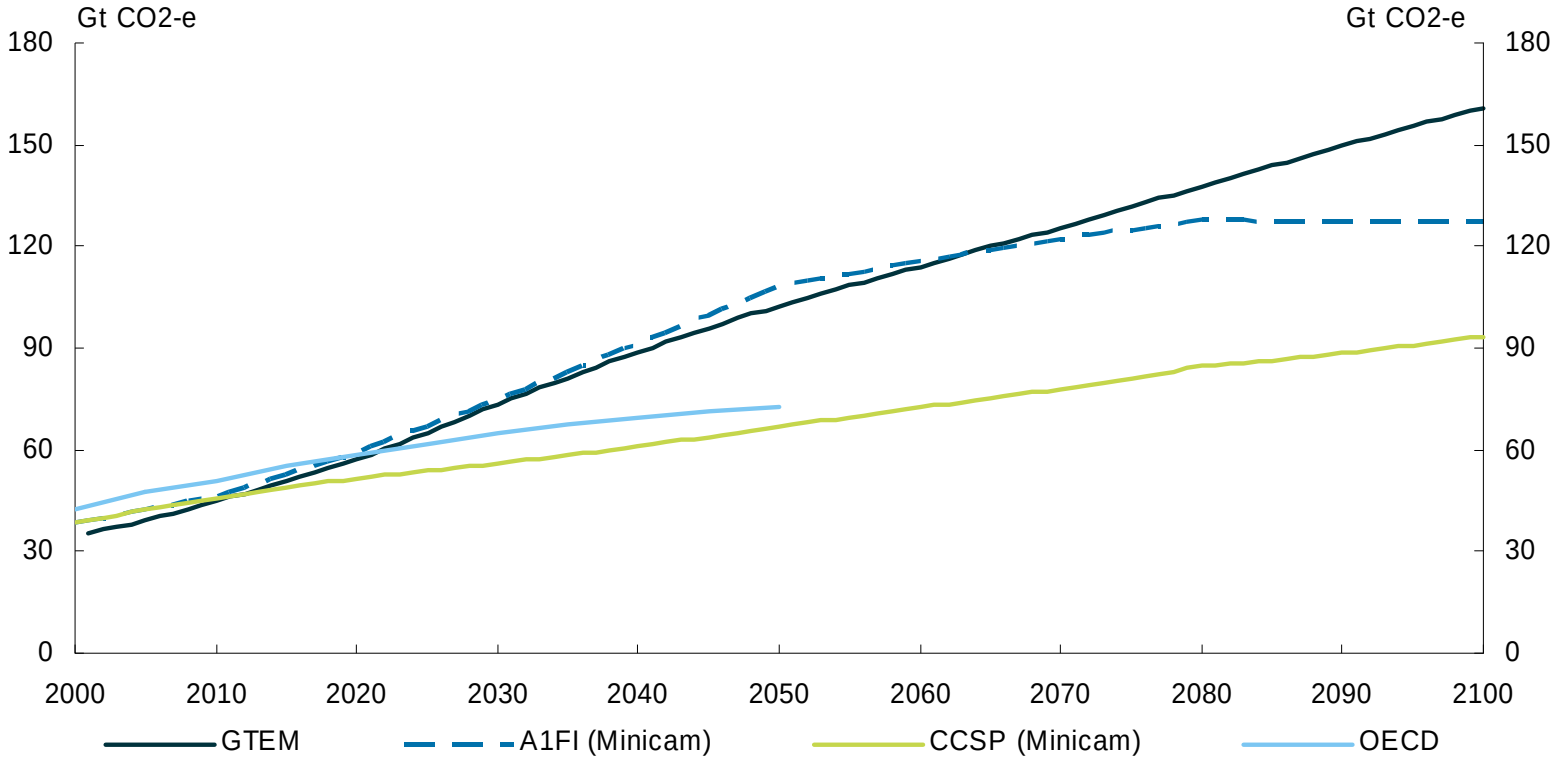
Global emissions
(reference scenario)



Source: Treasury estimates from GTEM; CCSP, 2007; OECD, 2008; IPCC, 2000.

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Policy scenarios

Two CPRS scenarios:

- Assume global action evolves in stages over period 2010-2025.
  - Starting with developed, expanding to include developing countries.

Two Garnaut scenarios:

- More stylised unified global action from 2013.

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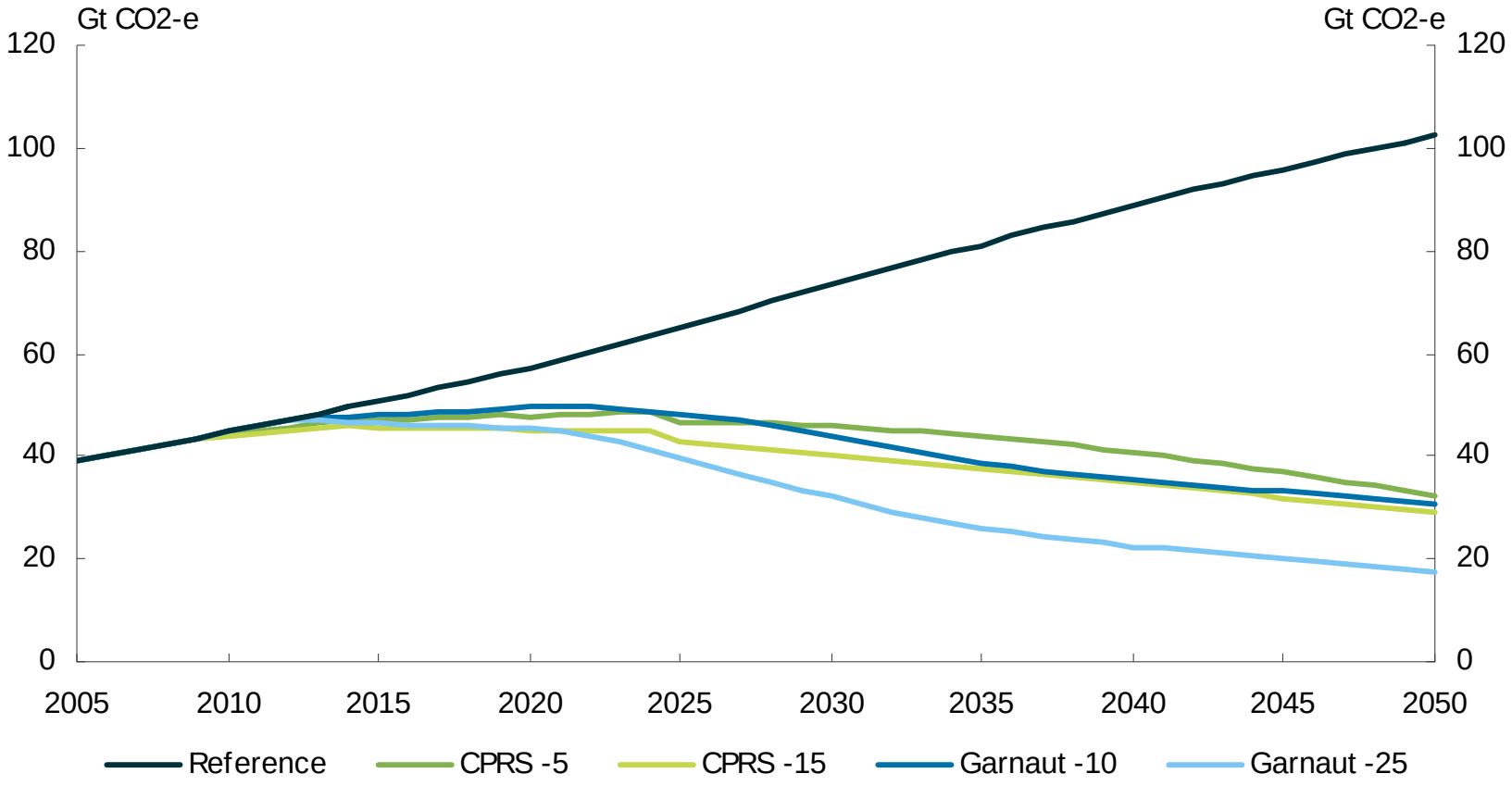
Global emission pathways
(all scenarios)



Source: Treasury estimates from GTEM.

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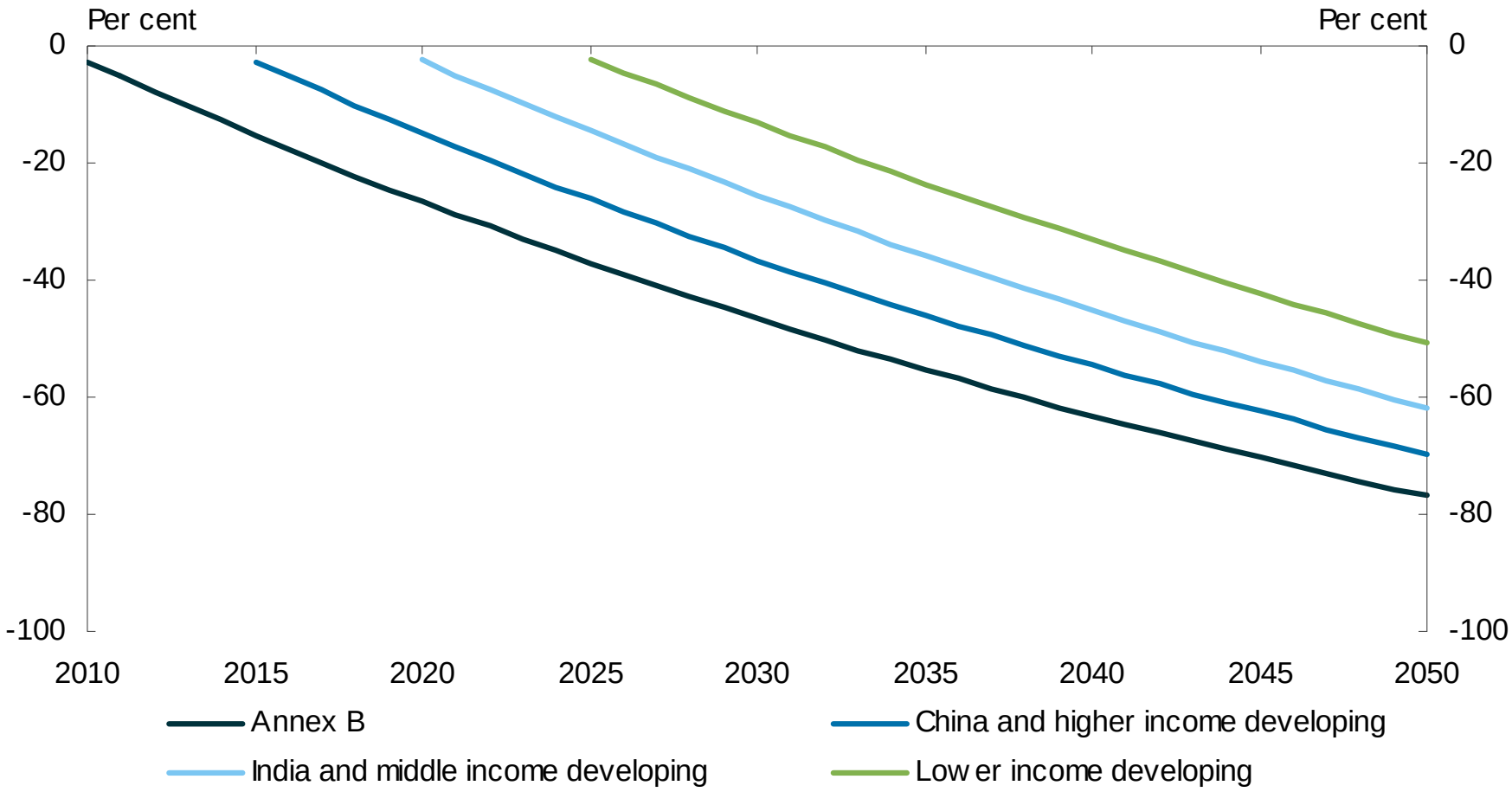
CPRS scenarios: national targets



Source: CPRS -5 scenario

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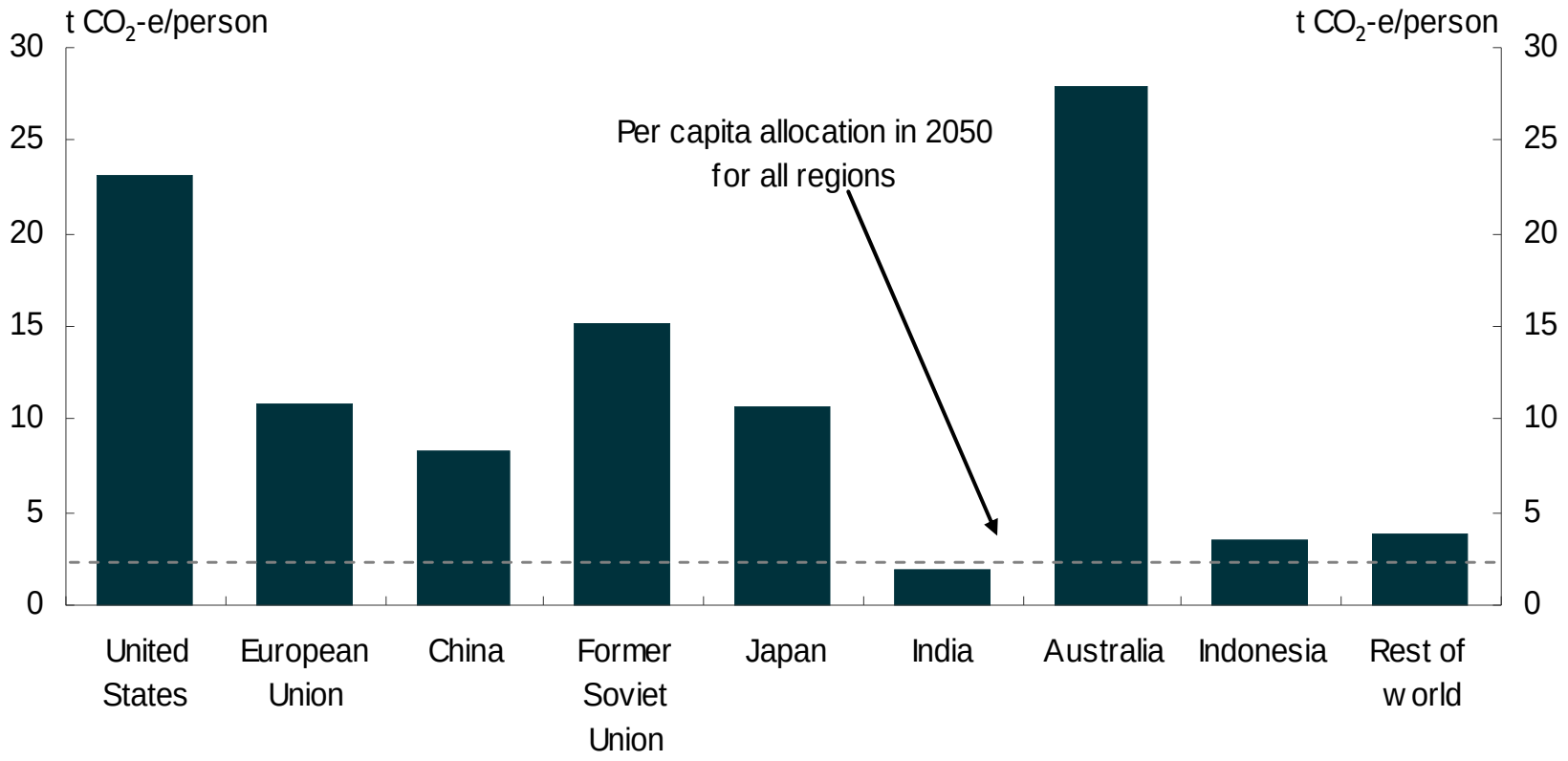
Garnaut scenarios: national targets



Source: Garnaut -10 scenario

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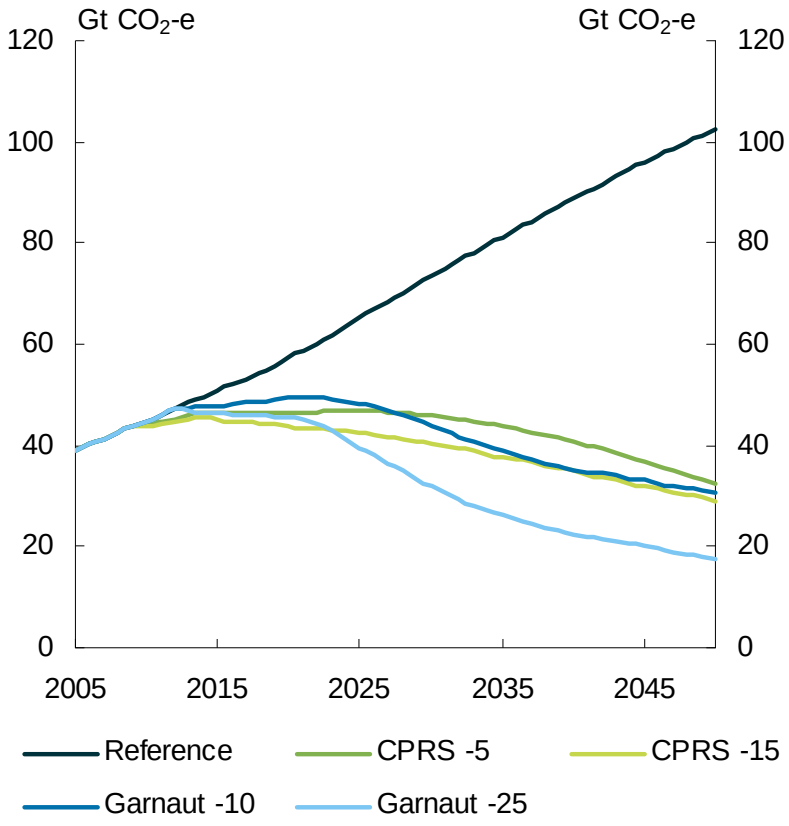
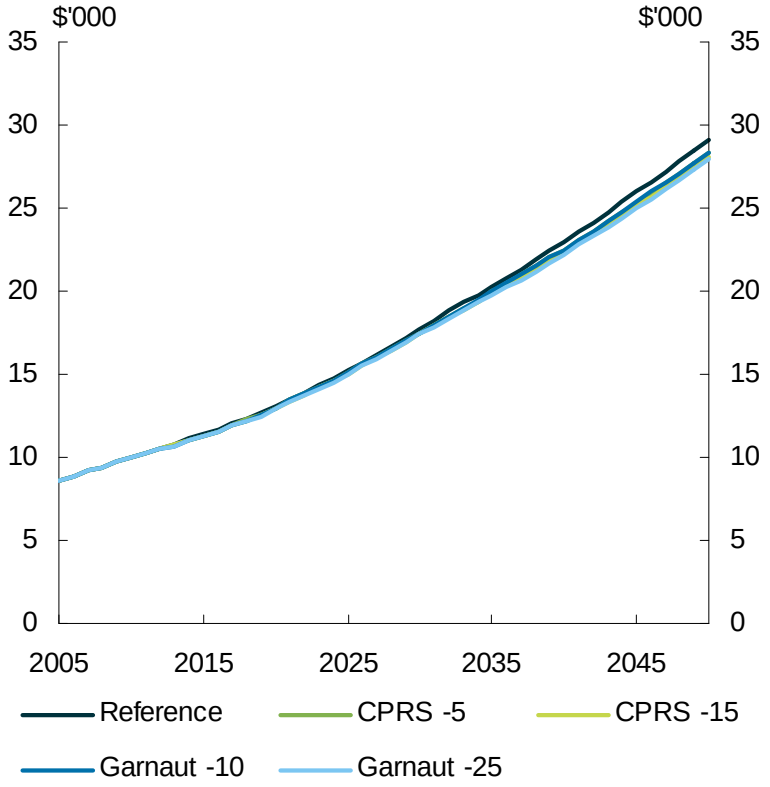
Headline global results

Global emissions



GWP per capita



Source: Treasury estimates from GTEM.

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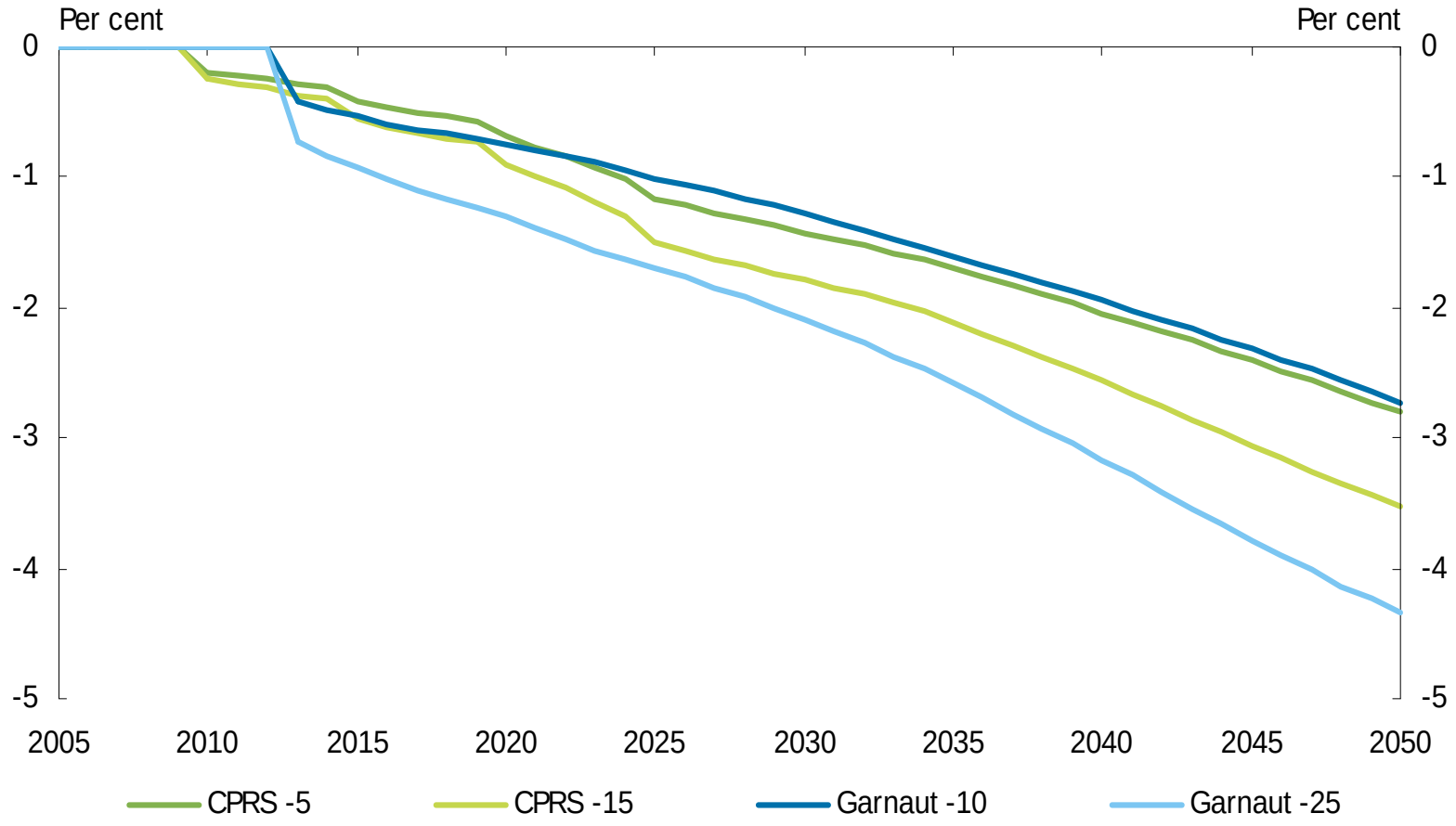
Headline global results
(GWP relative to reference)



Source: Treasury estimates from GTEM.

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Headline global results
(relative to reference)

Scenario/source	GWP reduction in 2020 per cent	GWP reduction in 2050 per cent	Target ppm CO_2e
CPRS -5	0.7	2.8	550
CPRS -15	0.9	3.5	510
Garnaut -10	0.7	2.7	550
Garnaut -25	1.3	4.3	450

Source: Treasury estimates from GTEM.

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Costs across developed countries
(GNP at 2020 relative to reference, CPRS -5 scenario)

	Cost	Target (% vs Kyoto)	Target (% vs 1990)
Australia	-1.1	-11	-4
Canada	-1.1	+18	+11
Japan	-0.2	-16	-21
EU	-0.4	-29	-34
Russia + CIS	-3.6	-25	-25
US	-0.3	na	+5

Source: Treasury estimates from GTEM.

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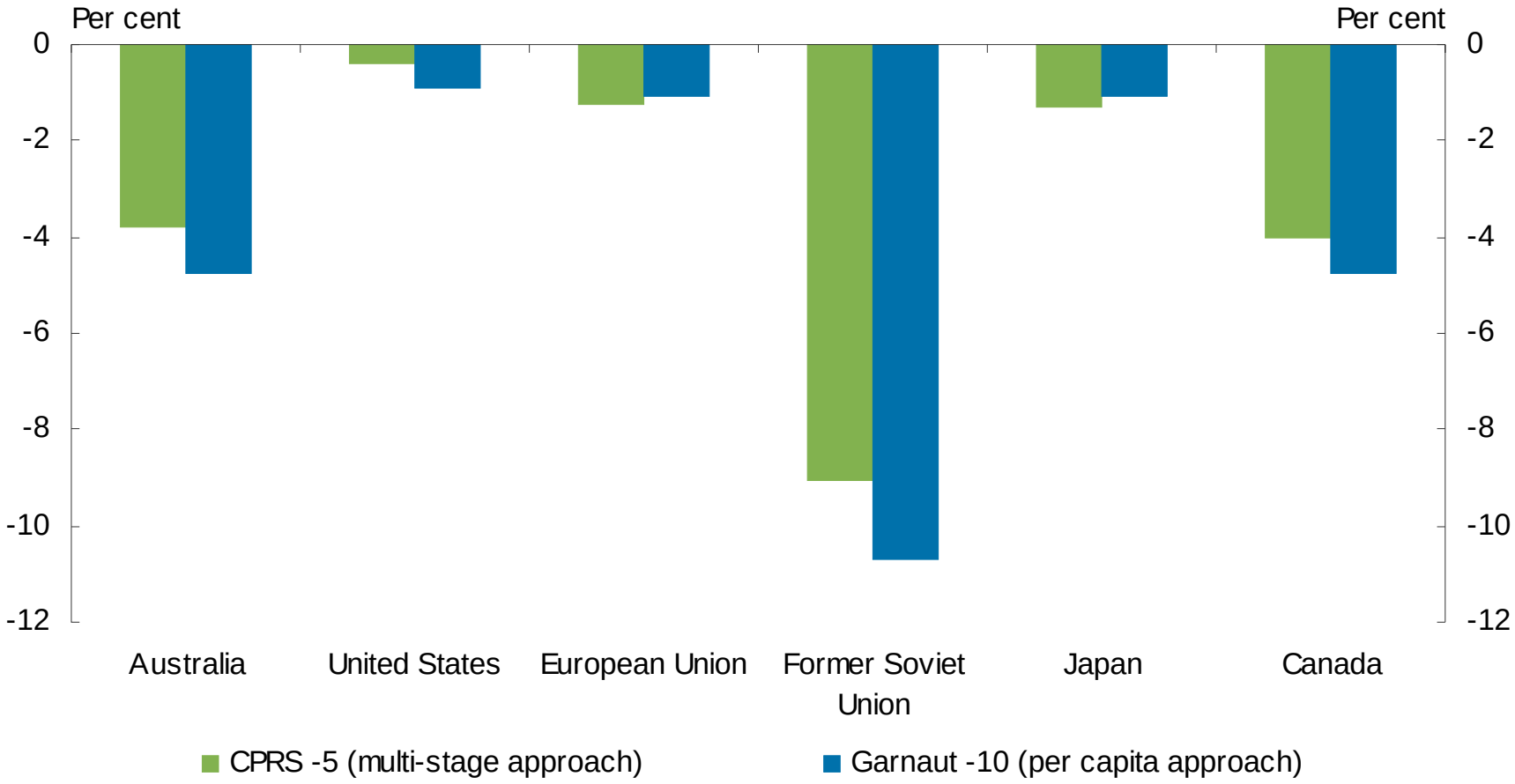
Costs across developed countries
(GNP at 2050 relative to reference)



Source: Treasury estimates from GTEM.

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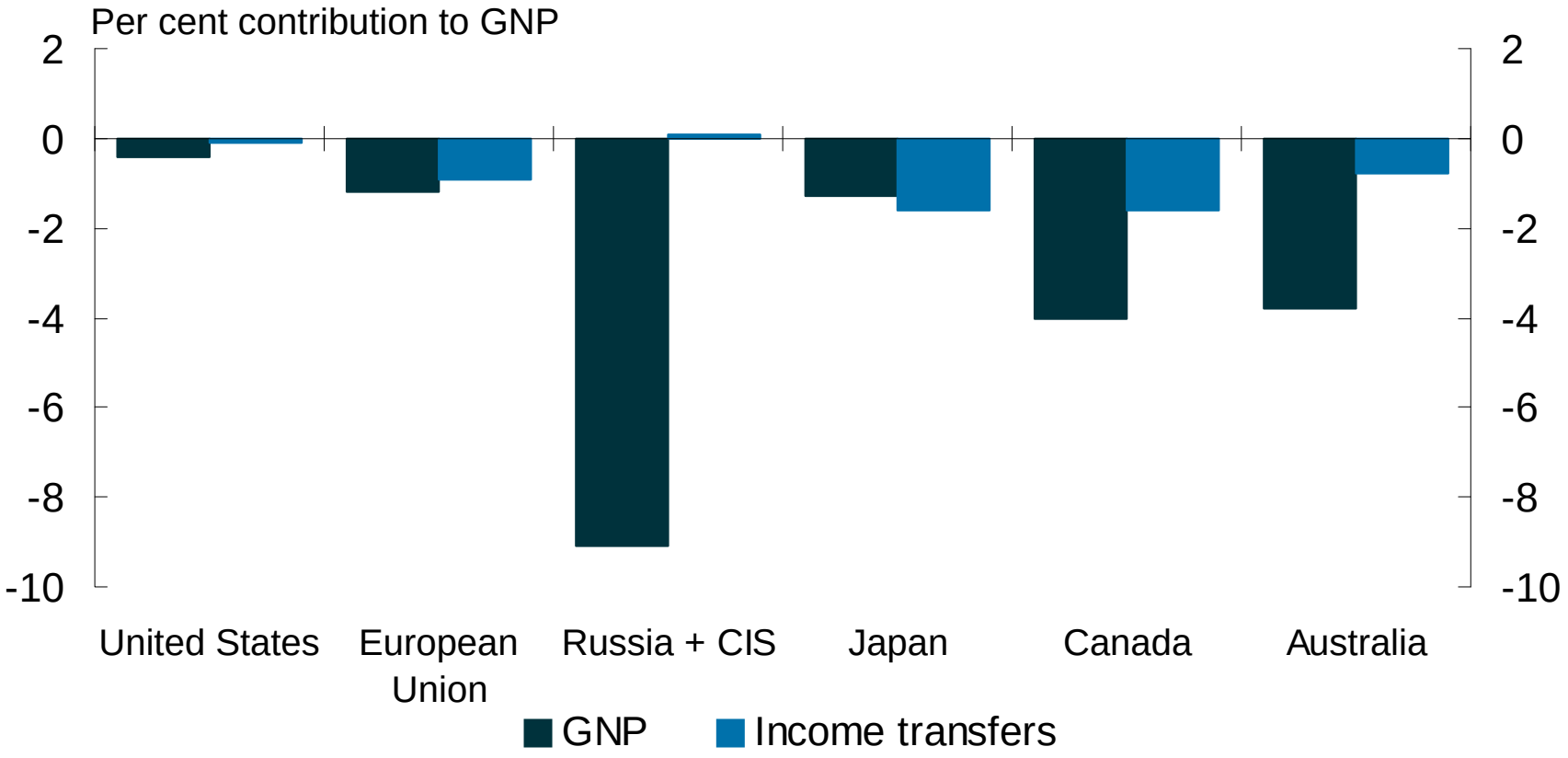
Role of international transfers
(GNP at 2050 relative to reference, CPRS-5 scenario)



Source: Treasury estimates from GTEM, CPRS -5 scenario.

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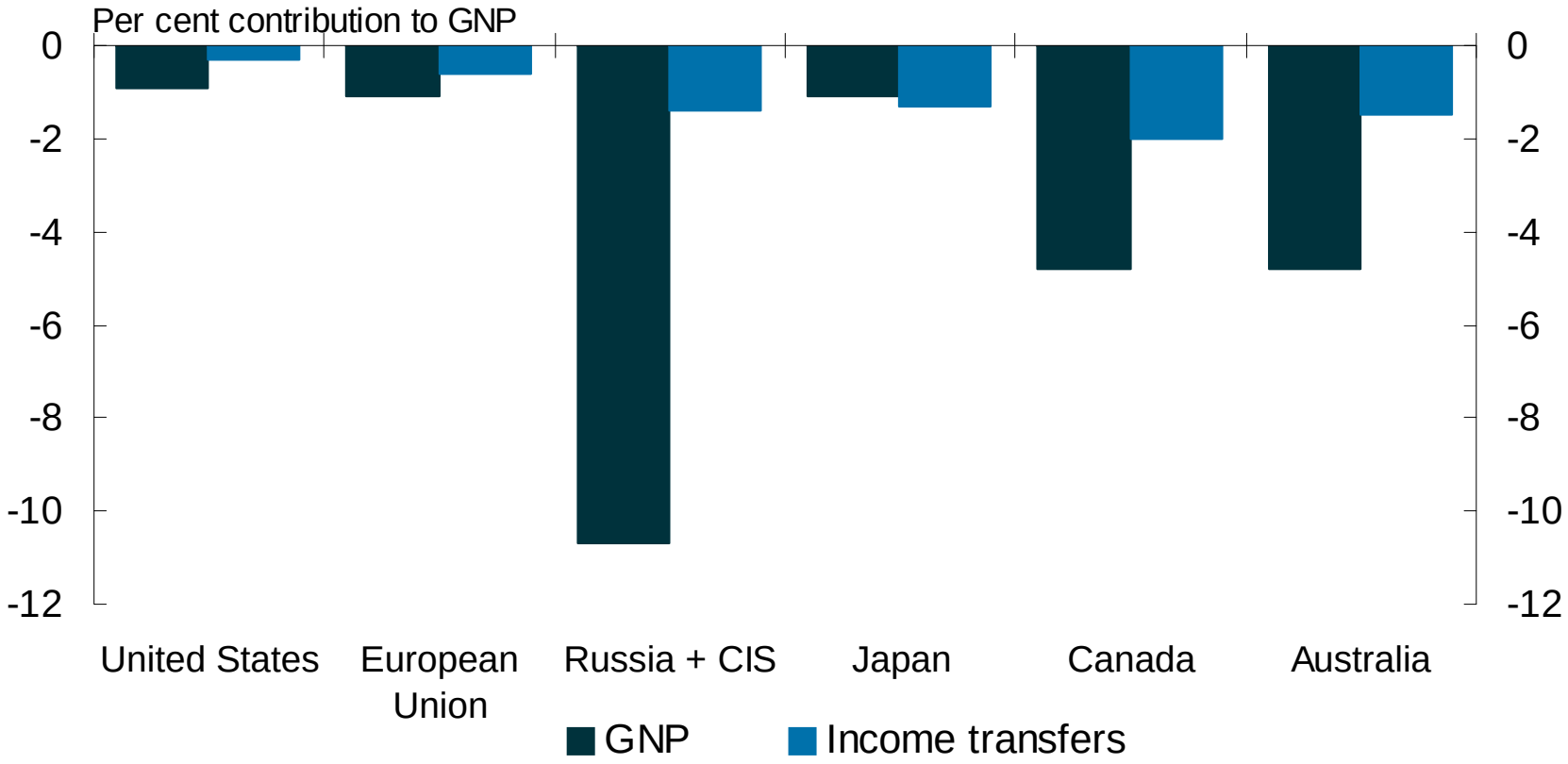
Role of international transfers
(GNP at 2050 relative to reference, Garnaut -10)



Source: Treasury estimates from GTEM, Garnaut -10 scenario.

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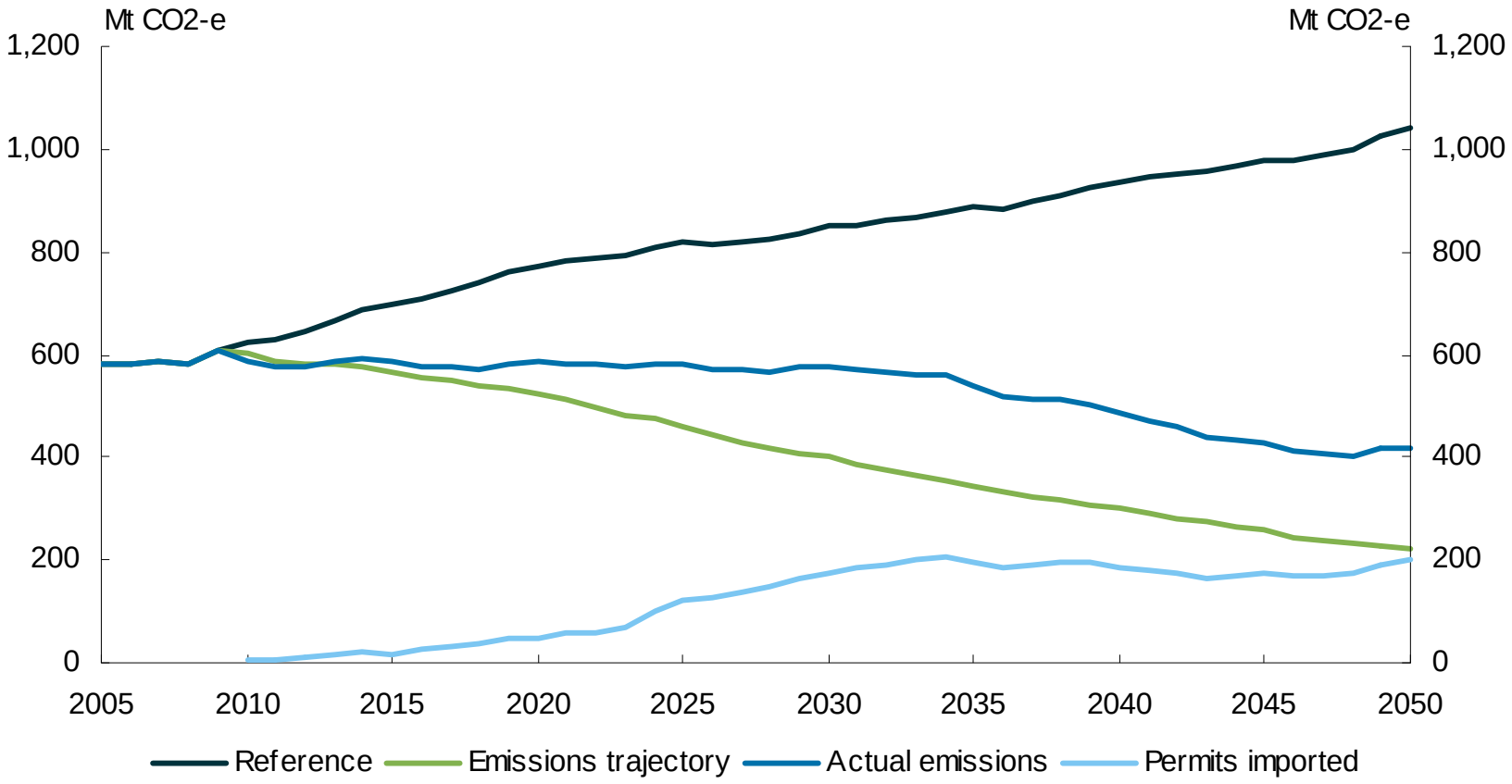
Australian emissions and trade



Source: Treasury estimates from MMRF, CPRS -5 scenario.

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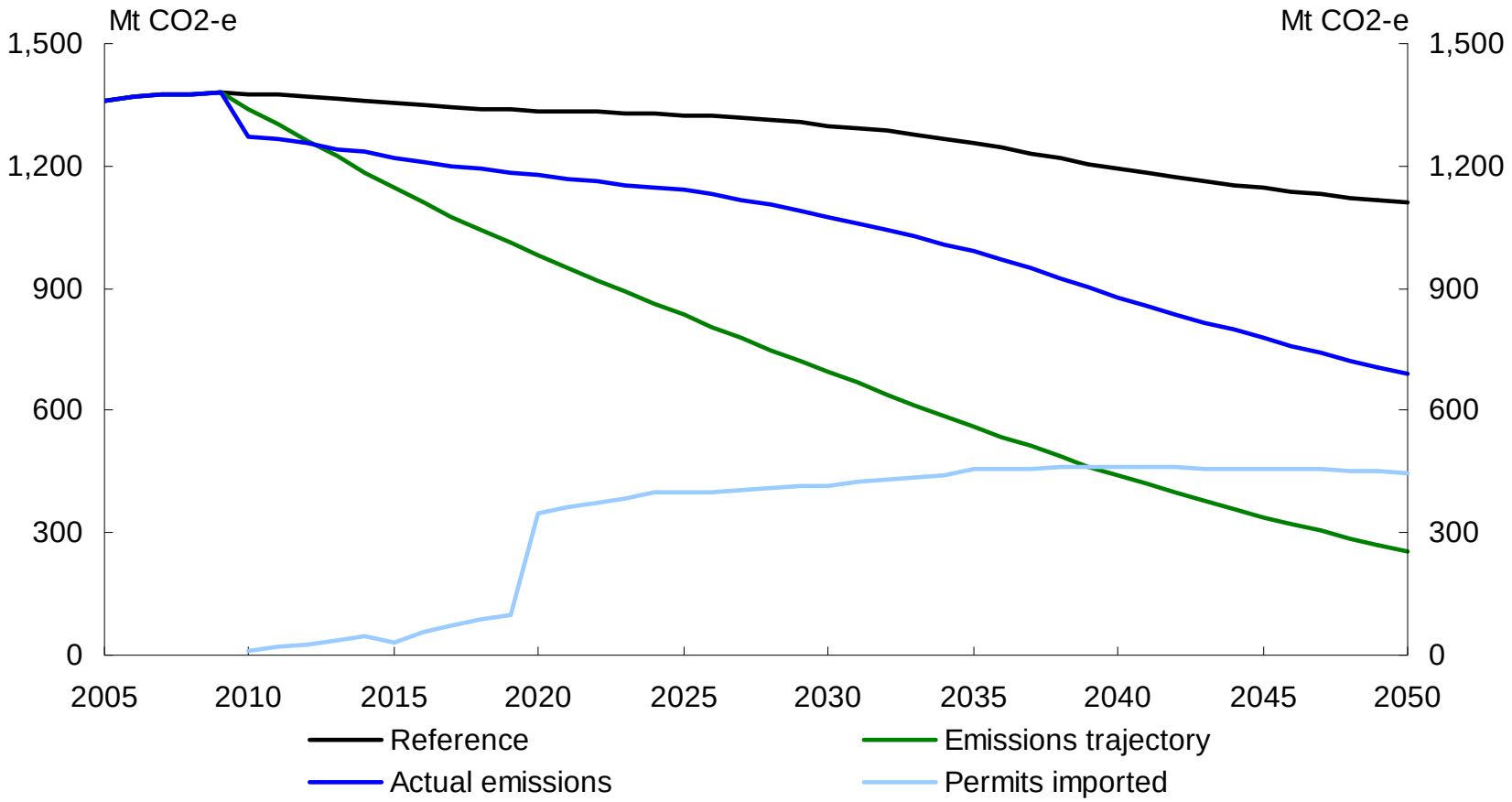
Japan's emissions and trade



Source: Treasury estimates from GTEM, CPRS -5 scenario.

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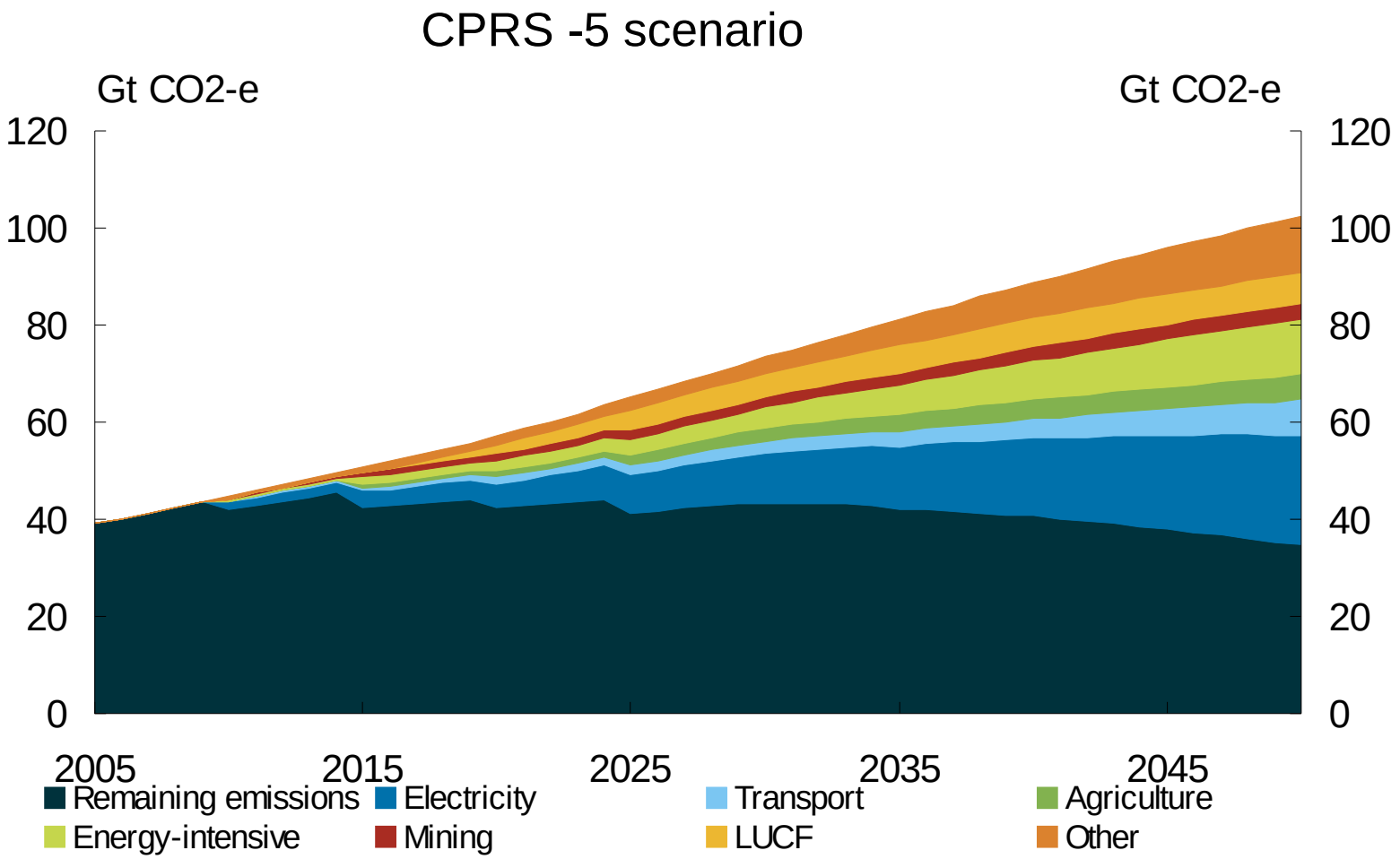
Global mitigation by sector



Source: Treasury estimates from MMRF, CPRS -5 scenario.

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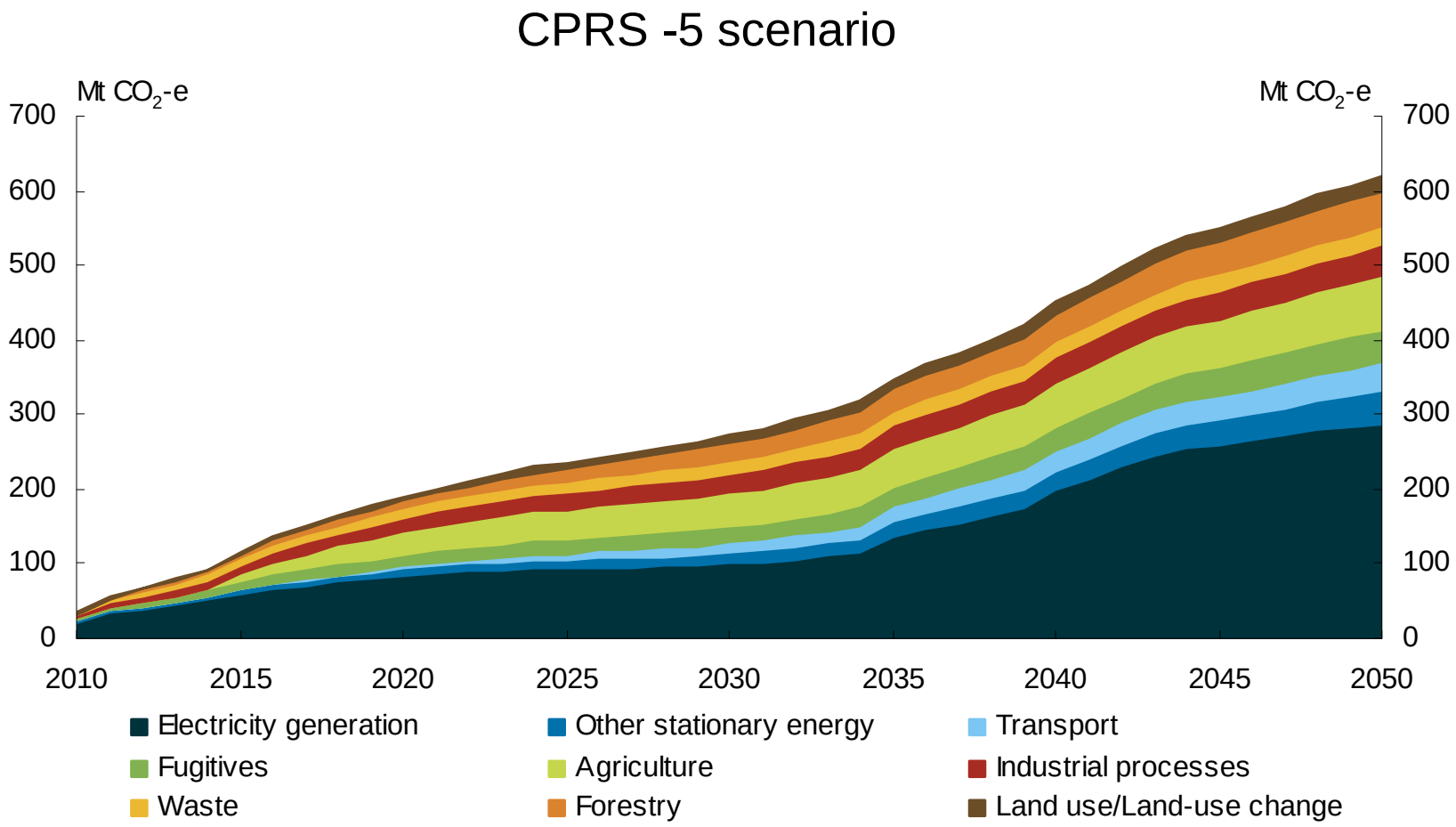
Australian mitigation by sector



Source: Treasury estimates from MMRF, CPRS -5 scenario.

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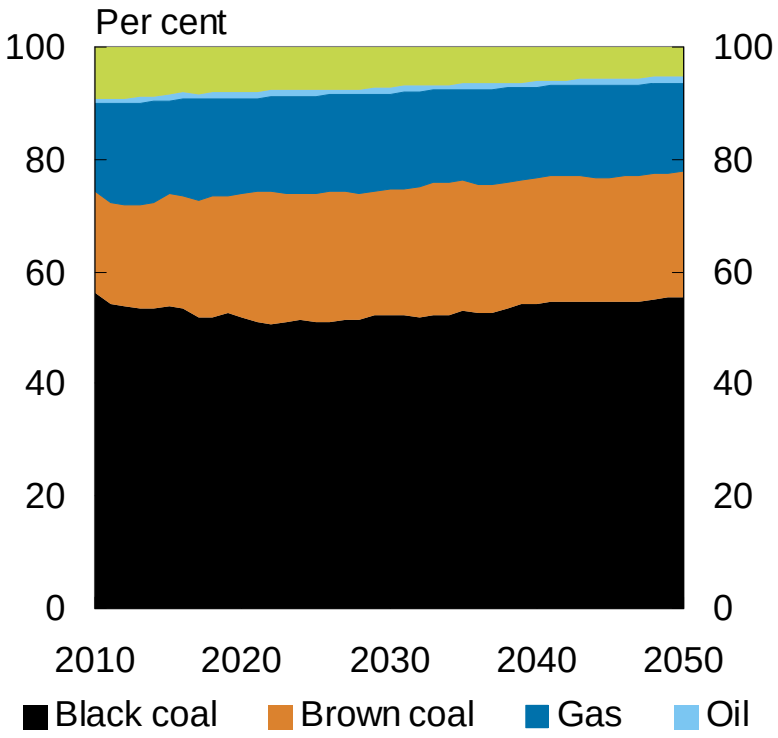
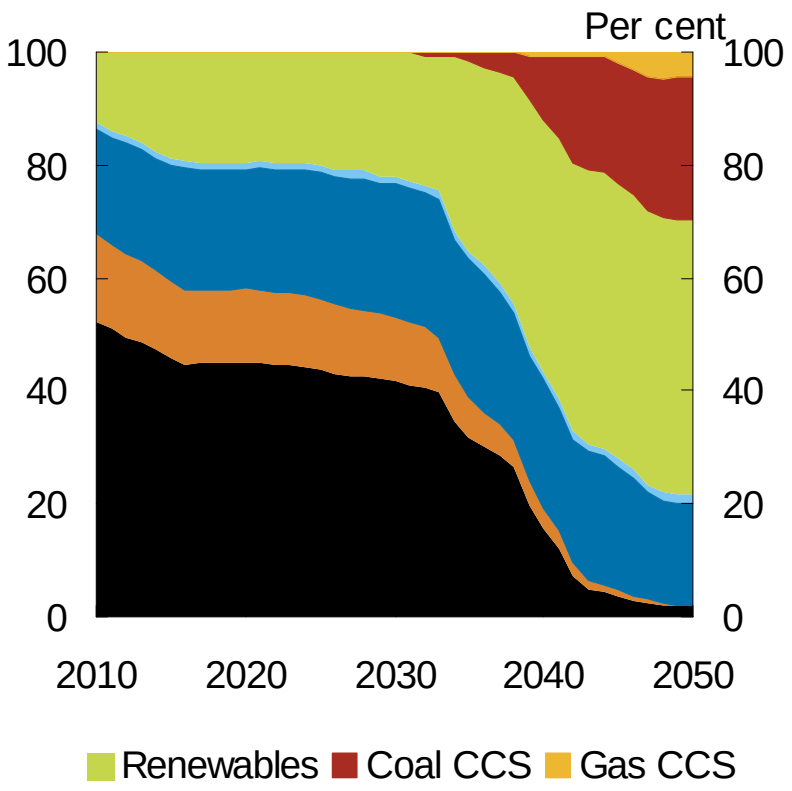
Australian electricity generation

Reference



CPRS-5 scenario



Source: MMA.

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Further information

The full report is available at

www.treasury.gov.au/lowpollutionfuture

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Key points

Australia 2020 target range is ambitious:

- Big step beyond existing commitments
- Requires substantial restructuring of the Australian economy and big cuts in per capita emissions.

Australia faces higher economic costs than many developed countries:

- Differentiation of national emission targets helps reduce cost differences.

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