Appendix to Annex II Methodologies used to estimate the greenhouse gas emission reduction or removals associated with Australia's mitigation policies and measures, actions and plans

This annex provides the sources to the methodologies that underpin the emissions estimates of specific policies and measures, as required in guideline 86.

Federal government measures

Safeguard Mechanism Reforms

The methodology used to estimate greenhouse gas reductions for the Safeguard Mechanism is outlined in Australia's emissions projections 2024 and Methodology for Australia's emissions projections 2024: https://www.dcceew.gov.au/climate-change/publications/australias-emissions-projections-2024

Australian Carbon Credit Unit Scheme

The methodology used to estimate greenhouse gas reductions for the Australian Carbon Credit Unit Scheme is outlined in Australia's emissions projections 2024 and Methodology for Australia's emissions projections 2024: https://www.dcceew.gov.au/climate-change/publications/australias-emissions-projections-2024

Climate Active

The emissions offset by the Climate Active program is determined by the sum of the emissions from each certified brand in 2023. Participating businesses measure their emissions in accordance with the Climate Active Carbon Neutral Standard, supplemented by technical guidance, tools and calculators.

The Climate Active Carbon Neutral Standard for Organisations can be found here: https://www.climateactive.org.au/be-climate-active/tools-and-resources/climate-active-carbon-neutral-standard-organisations.

Greenhouse Energy Minimum Standards

The methodology used to estimate greenhouse gas reductions for the Greenhouse Energy Minimum Standards is provided in the GEMS Data Modelling Project 2022 Final Report: GEMS Data Modelling Project 2022 | Energy Rating.

Large-scale Renewable Energy Target (LRET) & Small-scale Renewable Energy Scheme (SRES)

The Clean Energy Regulator has estimated emissions saved from investment in renewables from the Renewable Energy Target. It is published as part of the Quarterly Cabon Market Report (December 2023 edition). Below is an excerpt from the report which outlines how the emissions reduction is calculated:

In 2023, the Renewable Energy Target (RET) contributed 48.3 million tonnes of CO_2-e emissions reduction, a 9% increase from 2022. Of which:

- 29.3 million was from the Large-scale Renewable Energy Target (LRET)

- 19.0 million was from the Small-scale Renewable Energy Scheme (SRES).

This is based on multiplying megawatt hours (MWh) of renewable energy, that is incentivised by the RET, by the declining emissions intensity of the grid. The RET added an additional 7.9 million MWh of renewable energy to the grid in 2023 compared to 2022. Renewables produce zero emissions. This means as renewable energy is added to the grid, the emissions intensity of the grid declines. In 2023, the emissions intensity of the grid was 0.58 tonnes of CO_2-e per MWh. In comparison to 0.70 tonnes of CO_2-e per MWh in 2019, when we first produced this analysis.

Clean Energy Finance Corporation

The CEFC's estimation of avoided emissions is over a project's total expected life. Emissions for a clean energy project are compared against a counterfactual business-as-usual scenario, with the delta being the project's estimated avoided emissions. For grid-related renewable generation projects, forecast emissions intensity factors are used to reflect the declining emissions intensity of the grid.

HFC management – regulations

The emissions impact of this measure was calculated by modelling hydrofluorocarbons emissions in the absence of the phase down regulations and then in a scenario with the regulations implemented. The difference in emissions between the 2 scenarios is the considered to be the impact of the policy.

State and territory measures

ACT

Energy Efficiency Improvement Scheme

The Scheme has transitioned from an emissions based metric to an energy saving metric in 2020 to align with the transition of the ACT achieving 100% renewable energy. Emission savings are estimated using a grid-average emission factor from the National Greenhouse Energy Reporting (NGER) scheme.

Regulation preventing new gas network connections

Historical new connection and gas demand per customer trends were used to model the number properties that would otherwise have connected to the gas network if the Regulation was not in place. The modelling included allowances for transition periods and some exemptions being granted.

Queensland

Land Restoration Fund

The Land Restoration Fund Trust currently holds 31,903 ACCUs (Q4 FY23-24). They have not been retired.[i]

Western Australia

Government Emissions Interim Target

Emissions estimates are for Scope 1 and Scope 2 emissions only, measured in accordance with the Australian National Greenhouse and Energy Reporting (NGER) scheme. Primary assumptions/approaches to emissions reduction include: closure of government owned coal fired power stations and elimination of associated Scope 1 emissions; government organisations implementing a range of projects to reduce emissions; and offsets used for remaining hard to abate emissions.

Synergy's Decarbonisation Plan

Emissions estimates are for Scope 1 and Scope 2 emissions only, measured in accordance with the Australian National Greenhouse and Energy Reporting (NGER) scheme. Primary assumptions/approaches to emissions reduction include:

- Closure of all government owned coal fired power stations and elimination of associated Scope 1 emissions.
- Procurement of certified renewable energy and elimination of all associated Scope 2 emissions from government electricity use.
- Procurement and retirement of certified carbon offsets to address any residual emissions shortfall.

Clean Energy Future Fund

Applicants complete a detailed financial and emissions model. Eight applications funded in rounds 1 and 2 for $12 million will save 3.1 million tonnes over project lives. If a funded pilot results in scaled implementation, savings increases to 71 million tonnes.

Carbon Innovation Grants Program

A financial and emissions abatement model is completed as part of the applications process. Round 1 supported 7 feasibility studies and 2 pilot projects, 9 projects in total shared grants funding of $4.24 million. If these projects progress to full scale deployment they have potential to reduce lifetime emissions by more than 74 million tonnes.

Carbon Farming and Land Restoration Program

1 ACCU = 1 tonne of CO_2-e emitted. Expected emissions estimated between 2021–2047 (projects have a 25 year crediting period)

South Australia

Green Iron and Steel Strategy

The assumptions regarding the reduction of carbon emissions from the ironmaking and steelmaking processes are based on South Australia's Green Iron Supply Chain Study, conducted in collaboration with the Port of Rotterdam and Monash University, as well as the Green Iron Opportunity Research Paper by the Minerals Research Institute of Western Australia.

New South Wales

Net Zero Plan Stage 1: 2020–2030

The NSW Government publishes annually the methodologies and assumptions used to estimate the GHG emission reductions for NSW by sector. The latest report published in 2023 is available.

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[i] 1 ACCU = 1 ton CO_2 equivalent.