Climate Dialogues 2020

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Multilateral Assessment

A compilation of questions to - and answers by -
Australia
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Question by New Zealand at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Removals from LULUCF sector

Are there any plans to implement specific policies to increase removals (and/or reduce emissions) from the LULUCF sector? If so, please provide information on these plans.

Answer by Australia

The Emissions Reduction Fund provides an incentive for land managers to undertake a range of activities to increase removals and reduce emissions from the LULUCF sector.

The Government's first Low Emissions Technology Statement identifies reducing soil carbon measurement costs as a priority low emissions technology for investment.

Question by Japan at Monday, 07 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: International cooperation on blue carbon

Australia plays a large role in the global efforts to achieve the climate goal, including protection and restoration of blue carbon ecosystem (e.g. the International Partnership for Blue Carbon contributes to awareness-building, knowledge-sharing and acceleration of practical actions on blue carbon). However, efforts on blue carbon data preparation were not described in Australia's BR. Therefore, please clarify if Australia works on international-level blue carbon data preparation, and if so, what kind of data or approach it is.

Answer by Australia

In addition to the International Partnership for Blue Carbon, Australia is sharing its blue carbon expertise through two programs; one with Indonesia and one in the Pacific focussing on Papua New Guinea and Fiji. The Indonesia Program is a $2 million initiative running from 2019-2022. The Pacific Program is a $6 million initiative running from 2019-2022.

Through these programs, we are working with other countries to build their capacity to collect and prepare relevant data to serve a range of policy outcomes including meeting the requirements of international reporting and national policies.

The Pacific and Indonesian programs focus on enhancing the measurement, reporting and verification (MRV) of greenhouse gas emissions and removals from blue carbon ecosystems. This support includes preparing technical and policy guidance and training material, and designing tools for incorporating blue carbon into greenhouse gas inventories.

Domestically, Australia has undertaken a significant body of research into coastal ecosystems and this information has been important in guiding blue carbon policy and inventory reporting in Australia which we share through these international programs and partnerships.

Through joint research and learning between Indonesian, Pacific and Australian scientists we can strengthen blue carbon capacity and to fill key knowledge gaps. Activities include earth observation approaches, mapping seagrass ecosystems, develop better estimates of carbon stock and sequestration rates, and better understand the additional benefits that blue carbon ecosystems provide.

Australia has prioritised implementing the Wetlands Supplement, as well as the additional guidance on wetlands provided in the 2019 Refinement, as part of our commitment to increase the coverage and accuracy of our reporting of greenhouse gas emissions and removals.

Australian mangrove forests are captured using the same Landsat imagery to map spatial and temporal changes in terrestrial forest cover. Confirmed land conversions are then accounted by using Tier 2 methodology based on regionally appropriate data, and advances in remote sensing may result in Tier 3 modelling in the future.

For further technical details, please refer Australia's national inventory report: https://www.industry.gov.au/data-and-publications/national-greenhouse-gas-inventory-report-2018

Question by New Zealand at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Emissions reduction benefits attributed to energy efficiency information requirements

What emissions reduction benefits can be attributed to the energy efficiency information requirements for commercial offices over 1000 square meters under the *Building Energy Efficiency Disclosure Act 2010* as stated on page 32 of the BR4?

Answer by Australia

As noted in CTF table 3 (p.128), the mitigation impact of the Commercial Building Disclosure program, which was established by the *Building Energy Efficiency Disclosure Act 2010* , is 381 kt CO_2 -e in 2020.

The CBD program helps to improve building stock by encouraging all parties in a purchase or lease transaction to consider energy efficiency. When energy efficiency is disclosed, consumers have access to information of a building's energy performance. This creates a strong market-based incentive for owners to improve the energy performance of their properties.

Question by European Union at Monday, 07 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Trends in GHG emissions in recent years

As it can be seen in Table 4.1 of Australia's Fourth Biennial Report, annual GHG emissions in the energy sector and from industrial processes and product use have increased from 2013 to 2017 and are projected to further increase by 2020. Which are the main reasons why the trends in these sectors run counter to an overall economy-wide emissions reduction?

Answer by Australia

Emissions in the Energy and IPPU sector are driven by a range of factors. Whilst there are strong reductions in electricity production, there are other sectors drivers of emissions trends.

Energy emissions have been increasing from a low of 409.3 Mt in 2014 to 435.6 Mt in 2018. In the year to March 2020, this is estimated to be falling to 431.2 Mt.

Please refer to the Quarterly Update of Australia's National Greenhouse Gas Inventory (https://www.industry.gov.au/data-and-publications/national-greenhouse-gas-inventory-march-2020) for estimates of emissions for 2020.

Falling emissions in 2020 are driven by further decreases in emissions from electricity production associated with strong growth in solar and wind and decreases in coal generation.

Australia's LNG production has risen 122% in the period from 2013 to 2017 – increasing from 23.5 Mt to 52.1 Mt, as four major LNG plants came online. This has driven increases in fuel combustion and fugitive emissions, as a result of fuel use in the gas production and liquefaction to produce LNG as well as fugitive vents, flares and leaks. LNG production is estimated to be around 79.4 Mt in 2020.

Transport is another driver, growing from 92.2 Mt in 2013 to 100.8 Mt in 2018. This is associated with a strong growth in diesel consumption, reflecting increased freight activity and a market trend towards large diesel powered SUV vehicles. This is estimated to have fallen to 99.7Mt in 2020, as a result of decreased automotive gasoline consumption.

IPPU emissions are being driven by the use of refrigerants, Iron and Steel Production, and Nitric Acid Production.

HFC emissions from Refrigeration and Air conditioning – 9.9 Mt in 2013 to an estimate of 12.7 Mt in 2020. This is a steady trend in conjunction with population growth and an increasing use of domestic air-conditioning and refrigeration.

Metal Industry emissions are driven by Iron and Steel production, rising from a low of 6.1 Mt in 2014 to 7.7 Mt in 2018. This is estimated to continue to grow to 7.4 Mt in 2020 in line with increased activity in steel making.

Nitric Acid production is a significant contributors to emissions growth in Australia, associated with an increase in fertiliser production. Emissions have increased from a low of 1.4 Mt in 2014 to an estimate of 2.3 Mt in 2020.

Question by Japan at Monday, 07 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Outreach on policies and measures progress on Climate Change

Japan recognizes that the dissemination of information on the progress of each policy and measure towards achieving the 2020 and 2030 emission reduction targets, as reported in the BR, is very important from the perspective of raising awareness about climate change. Please share any outreach measures you are implementing to publish and communicate the progress of main policies and measures towards the target in 2020 and 2030. Also, if you publish the information online, please provide the URLs of them.

Answer by Australia

Information on Australia's climate change strategies is available at this website: https://www.industry.gov.au/strategies-for-the-future/australias-climate-change-strategies

The following sections of the above website, communicate the progress towards Australia's 2020 and 2030 target:

· Australia fulfils its international greenhouse gas inventory reporting commitments by submitting annual National Inventory Reports to the UNFCCC. All of Australia's National Greenhouse Gas Inventory Reports are available here: https://www.industry.gov.au/data-and-publications/national-inventory-reports

· Quarterly updates of Australia's National Greenhouse Gas Inventory are the most up to date source of information on Australia's national emissions. They provide a summary of Australia's national emissions, updated on a quarterly basis. They give timely information to policy makers, markets and the public to demonstrate how Australia is tracking against its targets. All National Greenhouse Gas Inventory: Quarterly updates are available here:

https://www.industry.gov.au/data-and-publications/national-greenhouse-gas-inventory-quarterly-updates

The Australian Government also produces annual greenhouse gas emissions projections using the latest production and activity levels, commodity prices and macroeconomic assumptions data. The reports estimate the emissions reduction effort required to meet Australia's emissions reduction targets. All greenhouse gas emissions projections reports are available here: https://www.industry.gov.au/strategies-for-the-future/australias-climate-change-strategies/projecting-greenhouse-gas-emissions

On 22 September 2020, the Australian Government released its first *Low Emissions Technology Statement* . This is a key milestone of Australia Technology Investment Roadmap, which will accelerate development and commercialisation of low emissions technologies. The Statement prioritises low emissions technologies with potential to deliver strong economic and emissions reduction outcomes – clean hydrogen, energy storage, low emissions steel and aluminium, carbon capture and storage, and soil carbon. The Statement is available here: https://www.industry.gov.au/data-and-publications/technology-investment-roadmap-first-low-emissions-technology-statement-2020

· The Clean Energy Regulator administers schemes legislated by the Australian Government for measuring, managing, reducing or offsetting Australia's carbon emissions. The Regulator publishes materials on the programs it administers including the National Greenhouse and Energy Reporting Scheme, Emissions Reduction Fund, Renewable Energy Target and the safeguard mechanism. The Clean Energy Regulator's website is: http://www.cleanenergyregulator.gov.au/

The Australian Government will also be submitting its Eighth National Communication on Climate Change and Fifth Biennial Report in December 2021, in line with our reporting obligations to the UNFCCC.

Question by Republic of Korea at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Mitigation actions

1. The 2020 reduction target is 5% reduction over 2000 emissions. Please explain the reason for using 2013-2020 cumulative emission budget instead of 2000-2020 cumulative emission budget.
2. The CTF Table 3 includes the annual mitigation effects of mitigation actions in 2020. Please explain whether Australia also investigates mitigation effects of mitigation actions between the 2013-2020 cumulative emission budget in addtion to the annual mitigation effects of mitigation actions in 2020.

Answer by Australia

Australia's 2020 target to reduce emissions five per cent below 2000 levels by 2020 takes the form of an emissions budget for the period 2013 to 2020.

Australia's first commitment period target (108 per cent 1990 levels by 2012) under the Kyoto Protocol covered the period prior to Australia's 2020 target (2008-2012). Australia also has a seconded commitment period target under the Kyoto Protocol to limit emissions to 99.5 per cent of 1990 levels over the period 2013-2020, which is consistent with Australia's 2020 target.

Australia's emissions inventory and projections systems track progress to Australia's economy specific targets.

Australia's emissions inventory and projections systems capture the effects of policies and measures however these are not separately analysed or reported.

Question by United Kingdom of Great Britain and Northern Ireland at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Energy sector emissions

Australia's Fourth Biennial Report notes that Australia's energy sector experienced the greatest increase in emissions since 1990, largely driven by the expansion of Australia's LNG export industry. Is Australia considering any additional policies and measures to respond to this trend of growing fossil fuel emissions?

Answer by Australia

LNG facilities are covered by the Safeguard Mechanism, which places mandatory emissions limits (called baselines) on Australia's largest emitters (those emitting over 100,000 tonnes of scope 1 emissions each year).

The Government also provides incentives under the Emissions Reduction Fund (ERF) for oil and gas facilities to reduce their emissions. A number of existing abatement calculation methods under the Fund can be used by LNG facilities, and the Government is developing a new carbon capture and storage method that could further incentivise emissions reductions in the sector.

The King Review (https://www.industry.gov.au/data-and-publications/examining-additional-sources-of-low-cost-abatement-expert-panel-report), completed in 2020, provided advice to the Government on how to unlock low cost abatement opportunities from across the economy. The

Government accepted the recommendation to investigate below-baseline crediting under the Safeguard Mechanism to incentivise large emitters to reduce their emissions.

The Government is also finalising baseline (or emissions limit) setting arrangements for new facilities under the Safeguard Mechanism to encourage best practice and the use of least emissions intense technology by facilities, including LNG projects.

The Australian Government is also investing:

· $95.4 million in a Technology Co-Investment Fund to support businesses, including in the industrial sector, to adopt technologies that increase productivity and reduce emissions.

· $50 million in a Carbon Capture Use and Storage Development Fund for piloting carbon capture projects,

· Development Fund for piloting carbon capture projects,

In September 2020 the Government released its first Low Emissions Technology Statement, which brings a strategic and system wide view to future investments in low emissions technologies. The Statement articulates five priority technologies, including CCS, and accompanying 'stretch goals' – ambitious but realistic goals to bring priority low emissions technologies to economic parity with existing mature technologies.

· This includes a stretch goal for CCS (CO_2 compression, hub transport, and storage) under $20 per tonne of CO_2

Question by New Zealand at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Reducing emissions from waste sector

Beyond the National Food Waste Strategy (aiming to reduce food waste landfilled by 50 per cent per capita by 2030), does Australia have planned other measures to reduce total emissions from the waste sector in coming years?

Answer by Australia

The National Waste Policy has set a target of 50 per cent reduction in organic waste by 2030. Organic waste is a broader category than food waste, also comprising garden organics. The National Waste Policy sets out actions by state and territory and the Australian governments, to improve the recovery of organic waste from all waste streams. This includes investigating options to improve

recovery of organic waste, and developing distributed infrastructure solutions to process organic waste.

Under the Climate Solutions Fund, businesses can earn Australian Carbon Credit Units for approved activities that reduce emissions from the decomposition of organic waste to methane, including the capture and combustion of methane to produce renewable electricity. Over 25 million credits have been issued to date for emissions reduction activities under the waste sector.

Through the Fight Food Waste Cooperative Research Centre, the Government has also allocated $30 million in funding from 2018-2028 to reduce food waste in the supply chain, transform unavoidable waste into co-products and influence behavioural change in businesses and households.

Question by New Zealand at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Impacts of National Electric Vehicle Strategy on transport emissions

Given the National Electric Vehicle Strategy, as a part of the Climate Solutions Package, was launched in 2019, what are the expected impacts and effects of this strategy on transport emissions in the 2020 target reporting period? What assumptions were used in estimating the expected impacts & effects of the policy?

Answer by Australia

The Government has announced a $74.5 million Future Fuels package to assist businesses integrate battery electric vehicles, hydrogen fuel-cell vehicles and biofuelled vehicles into their fleets. Emissions reductions resulting from the package were not included in the biennial report as the package had not been announced.

Question by New Zealand at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Vegetation and savannah burning projects under the Emissions Reduction Fund

How have estimated emissions reductions been calculated for the vegetation and savannah burning projects under the Emissions Reduction Fund?

Answer by Australia

Vegetation (http://www.cleanenergyregulator.gov.au/ERF/Choosing-a-project-type/Opportunities-for-the-land-sector/Vegetation-methods) and savanna fire management (http://www.cleanenergyregulator.gov.au/ERF/Choosing-a-project-type/Opportunities-for-the-land-sector/Savanna-burning-methods) methods under the Emissions Reduction Fund describe how projects calculate emissions reductions. The methods set out requirements for calculating baseline and project emissions, and requirements for obtaining inputs to calculation. Depending on the method, this can include: the use of equations and rules applied to directly measured data; the use of models – usually Australia's Full Carbon Accounting Model (FullCAM); the use of freely available calculators that automate some or most of the calculations in accordance with the method rules.

Question by New Zealand at Monday, 07 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Emissions Reduction Fund

Australia mentions that following a review of the ERF by the Climate Change Authority, that 26 recommendations were made to improve the Fund (page 91). BR4 notes that these are largely being actioned. When does Australia think these improvements will be completed, and does Australia anticipate any barriers to the implementation of the changes? Given the voluntary nature of the ERF, does Australia have plans to make the ERF a mandatory scheme for any or all sectors as part of the ERF improvements?

Answer by Australia

The Government is implementing its response to the Climate Change Authority's review of the Emissions Reduction Fund. Of the recommendations that were accepted by the Government, most have been actioned or work is ongoing. Progressing the outstanding recommendations will require legislative change. Implementation of these will depend on the Government's legislative priorities.

Participation in the Emissions Reduction Fund is voluntarily and interest in the program is still strong. The Government has contracted to purchase just under 200 million tonnes of emissions reductions. The latest auction in September contracted 7 million tonnes of abatement, the highest level of abatement since 2017. The auction was highly competitive with 64 new projects registering under the ERF. There are no plans to make the Emissions Reduction Fund mandatory.

Question by New Zealand at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Sub-targets for agricultural sector

Australia's 2020 target is expressed as all inclusive. Within this target, were any specific goals or sub-targets set for the agriculture sector, or for emissions of greenhouse gases to which agriculture has a significant contribution (i.e. CH_4 and N_2O)?

Answer by Australia

The Government has not set specific targets to reduce emissions in the agriculture sector but is working in collaboration with industry to help industry achieve its emissions reduction goals in the agriculture sector. For example, the red meat industry has an aspirational goal to be carbon neutral by 2030 and the National Farmers Federation aims for Australian agriculture to be carbon neutral by 2050.

Question by United States of America at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Emissions Reduction Fund (ERF)

The Biennial Report states that carbon credits issued under the Emissions Reduction Fund (ERF) may be sold to the Australian Government under contract or may be sold to other businesses that are seeking to offset their emissions. (pp. 25-30) In addition, the Biennial Report states that the Safeguard Mechanism, which is designed to prohibit businesses from increasing net emissions beyond baseline levels, complements the ERF. (p. 31) Where a business chooses to sell carbon credits issued under the ERF to another entity rather than the Australian Government, can those credits be used to comply with the Safeguard Mechanism, in instances where carbon emissions by a business exceed its assigned baseline? Alternatively, is purchase of carbon credits by private entities in this circumstance limited solely to voluntary claims about offset emissions (e.g., public claims about meeting a corporate carbon reduction target or corporate carbon neutrality target)?

Answer by Australia

The purchase of ACCUs on the secondary market is not limited to businesses voluntarily seeking carbon neutrality. Safeguard facilities may surrender ACCUs to offset their emissions and stay below

their baseline (emissions limit). Safeguard facilities can either purchase ACCUs from other businesses, or generate their own ACCUs for abatement under the Emissions Reduction Fund.

Question by Japan at Monday, 07 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Utilization of projection

According to page 42 of the BR4, Australia prepares and publishes projections annually. What is the background of preparing the projection more frequently than it is required for the BR? In addition, how do you utilize the projection results for progress management, enhancement, and planning of policies and measures for the achievement of the emission reduction target?

Answer by Australia

The annual *Australia's Emissions Projections* provides an update to Australia's progress to its emissions reduction commitments for 2020 and 2030.

An annual publication allows governments, businesses and communities to understand the effects of policies, developments in the economy and natural events (e.g. drought) on Australia's progress to its emissions reduction commitments.

Question by European Union at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Conditions affecting emissions and removals in the target year 2020

In the year 2020, Australia was affected by large wildfires, and the activities in many sectors of the economy were affected by the Covid-19 pandemic. Hence, it can be expected that actual emissions and removal in the target year 2020 may be different from those projected. Which conditions or assumptions made in the preparation of the Fourth Biennial Report are expected to have changed, and how may they affect total emissions and removals in the target year?

Answer by Australia

Australia highlights that – as set out in its BR – Australia's 2020 target takes the form of an emissions budget for the period 2013-20, rather than a point target for the year 2020.

Bush fires (wildfires) are a large source of emissions in Australia's forest sector. Australia's national greenhouse gas inventory includes all anthropogenic fires. Approaches have been developed to identify non-anthropogenic natural disturbances, and for non-anthropogenic fires, the inventory reports the long-run trend in carbon stock change in the forests, reflecting the balance of the carbon lost in the fire and that re-absorbed by regrowth. Net emissions and removals from all other fires are reported each year. Consistent with this method, the emissions projections include emissions from prescribed burning and assumes that emissions from wildfires average out over time.

Australia updates its national greenhouse gas inventory on a quarterly basis. The most recent update (https://www.industry.gov.au/data-and-publications/national-greenhouse-gas-inventory-march-2020) includes preliminary emission estimates for the year to June 2020; providing some insight into the impact of the COVID-19 pandemic restrictions on Australia's emissions. The impact has been most marked in the transport sector, due to movement restrictions. Emissions from consumption of liquid fuels (petrol, diesel and jet fuel) were 17.9% lower than in the June quarter 2019. The industrial and electricity sectors have been more resilient. Metered electricity demand was down in the month of June 2020, just 1.4% lower than in June 2019. Preliminary estimates of total emissions for the year to June 2020 are as low as 518 Mt CO2-e. If confirmed, this estimate would represent the lowest level of emissions observed since 1998.

Question by European Union at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Changes in projected emissions and removals

As presented in chapter 5.6 of Australia's Fourth Biennial Report, various updates were made to inventory data, sectoral trends and impacts of policies and measures which resulted in lower total emissions projected for 2020, compared to the previous reports. Which are the most important changes in assumptions, conditions or methodologies that caused these changes, for instance in the energy, agriculture and LULUCF sectors?

Answer by Australia

Between BR3 and BR4 Australia's projected emissions for the year 2020 were revised down by 17 Mt CO_2 -e. Sector-by-sector changes are shown in the table below.

The main causes of the downward revision in the estimate for 2020 were:

- Increased uptake of renewable energy in Australia's electricity sector
- The ongoing effect of a drought in eastern Australia on the agriculture sector
- Reductions in native forest harvesting reducing emissions in the LULUCF sector

Report	**BR3**	**BR4**	
	2020	2020	Change between BR 3 and 4
Electricity	176	170	-5
Direct combustion	105	104	-1
Transport	102	102	0
Fugitives	51	60	9
Agriculture	75	67	-8
Industrial processes	34	35	1
Waste	10	12	2
LULUCF	-1	-16	-15
Total (incl. LULUCF)	551	534	-17

Question by New Zealand at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Sector-wide policy interventions for agricultural emissions

The emissions reductions from agriculture are largely attributed to circumstances outside of human intervention (such as climate variation), or discrete projects funded under the ERF. Are any sector-wide policy interventions in place (or being developed for future periods) that target agricultural emissions?

Answer by Australia

The Australian Government is working to develop opportunities to reduce emissions across the agriculture sector. On 22 September 2020, the Government released its first Low Emissions Technology Statement (https://www.industry.gov.au/data-and-publications/technology-investment-roadmap-first-low-emissions-technology-statement-2020). One of the five priority areas was for soil carbon – with a stretch goal of reducing soil measurement costs to below A$3 / ha / year. The Government is undertaking a pilot project to link remote sensing imagery with soil carbon field data and advanced computer modelling.

The Government is finalising a Livestock Roadmap that will identify knowledge gaps and focus research to determine the feasibility of alternative low-methane feeds and supplements, and identify implementation pathways that will likely result in large uptake.

The Government has committed funding to support farmers to move to low-emissions farm practices and collect data that will refine accounting frameworks – i.e. dose-response relationships for low-methane livestock feeds and supplements, and simpler, cheaper soil carbon

measurements and models – to promote participation under the Emissions Reduction Fund and enable all abatement to be included in national accounts.

In addition, the agriculture sector in Australia have set targets to reduce emissions and meet carbon neutral targets (e.g. Red Meat Advisory Council, the National Farmers' Federation and Dairy Australia.

Question by Canada at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: HWP projection extimates

If readily available, could Australia provide the net emissions estimates from harvested wood products for the projection period to 2030? We understand those are included as part of Forest Management and Afforestation/Reforestation activities, but would appreciate seeing the HWP values in a format similar to NIR2020 Table 6.70.

Answer by Australia

These data are not readily available, however, Australia's 2018 National Inventory Submission included an estimate of harvested wood product emissions of approximately -5 Mt CO_2 -e. Australia's emissions projections assume there is no significant shift in wood product consumption in Australia.

Question by New Zealand at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Emissions from wildfires

How does Australia treat emissions from wildfires and are there any policies in place to prevent land-use change after wildfires have occurred?

Answer by Australia

Australia's National Greenhouse Accounts include carbon emissions and post-fire sequestration associated with wildfires, based on satellite monitoring of fires across Australia and advanced carbon modelling of fire-prone ecosystems.

Consistent with the managed land proxy and the 2019 IPCC Refinement, the national inventory applies guidance on natural disturbances to report net emissions from infrequent, extreme wildfires that have been identified as being beyond control despite mitigation efforts and are non-anthropogenic.

For non-anthropogenic fires, the inventory reports the long-run trend in carbon stock change in the forests, reflecting the balance of the carbon lost in the fire and that re-absorbed by regrowth.

Net emissions and removals from all other fires are reported each year.

To ensure transparency, all net wildfire emissions data – both with and without the natural disturbances rules – are reported in the National Inventory Report.

The department actively monitors the forest recovery from the bushfires to ensure that any future human disturbances, such as salvage logging or land-use change, future fire disturbance and the impacts of changes in climate are taken into account.

In general, Australian eucalypt forests are fire-adapted and can recover quite quickly as the trees are not killed. Bushfires mainly affect debris and grasses or understorey vegetation, and sometimes forest canopy (leaves, twigs), which all rapidly build up carbon again following fire – within 10-15 years. Even in rare patches of fire-induced mortality, there is minimal loss of carbon at the landscape level, which is usually balanced within a few years by fast-growing regrowth.

This is quite different to fires used for land clearing in tropical forest or fires occurring in boreal (high-latitude) forests that are less adapted to fire.

Looking at the 2019-20 bushfires as an example, two-thirds of the area affected by this season's fires lies within national parks and conservation areas and changes to land-use in these forests is not permitted under State regulations. A further 25 per cent is in State Forests managed for timber production.

Question by New Zealand at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Alternative technologies for emissions from waste sector

What alternative technologies are expected to play a major role in limiting and reducing emissions from Australia's waste sector?

Answer by Australia

There are a range of technologies at varying stages of development that can be used to reduce emissions from waste. Through the Emissions Reduction Fund the Australian Government is already supporting a range of activities and technologies that reduce emissions from the decomposition of organic waste to methane, including capturing and combusting landfill gas, source separation and anaerobic digestion to produce biogases for combustion, and production of process engineered fuels from mixed solid wastes. There is potential to refine biogases from waste into biomethane for injection into gas networks using existing technology.

The National Waste Policy is looking to halve organic waste generation by 2030, which will prevent the generation of methane emissions. Recycling of metals, particularly aluminium, reduces global emissions by displacing more energy intensive metal production from ores.

There are a range of emerging technologies to produce biofuels from a range of organic and non-recyclable inorganic waste sources (eg. mixed plastics), which can displace fossil fuel consumption. These technologies are still under development globally.

Question by Canada at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: GHG emission trends

Australia's net greenhouse gas emissions data indicate that emissions decreased between 2007 until 2014, and increased after 2014. Australia's BR cites Liquid Natural Gas (LNG) exports as a major factor leading to an increase in emissions since 2014.

- What other policy or economic dynamics are also responsible for the observed trend in Australia's emissions since 2014?
- With regards to oil and gas operations, what policy tools besides government expenditure (e.g. regulation, carbon pricing) have been considered to address fugitive emissions?

Answer by Australia

In addition to increased LNG exports, which was a major factor leading to an increase in emissions since 2014, other policy and economic dynamics include:

· In the stationary energy sector – increases due in part to increasing population, household incomes and resource sector exports.

· In the transport sector – increases due to continuing growth in the number of passenger vehicles, along with an increase in diesel consumption in heavy vehicles and an increase in air travel.

· In the fugitive emissions - increases largely due to increased production from open cut coal mines and increased gas production.

· In the industrial processes and product use sector – increases primarily driven by growth in hydrofluorocarbons (HFCs) used in refrigeration and air-conditioning equipment, as they replaced ozone depleting chemicals phased out by the Montreal Protocol.

· In the agriculture sector – from 2011 to 2017, as Australia saw wetter conditions over this period, increases driven by high levels of crop production, and increased livestock populations.

With regards to oil and gas operations, large oil and gas facilities are covered by the Safeguard Mechanism. That Mechanism places mandatory emissions limits (called baselines) on Australia's largest emitters (those emitting over 100,000 tonnes of scope 1 emissions each year).

The Government also provides incentives under the Emissions Reduction Fund (ERF) for oil and gas facilities to reduce their emissions. A number of existing abatement calculation methods under the Fund can be used by oil and gas facilities, and the Government is developing a new carbon capture and storage method that could further incentivise emissions reductions in the sector.

Question by New Zealand at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Composition and proportion of waste directed to different landfill types

Can Australia provide more information about the overall composition and proportion of waste directed to different landfill types (I.e. municipal, construction and demolition, farm fills and rural waste)?

Answer by Australia

Information about sources, flows and fates of waste in Australia can be found via the national waste

reporting page at http://www.environment.gov.au/protection/waste-resource-recovery/national-waste-reports . From that page, you can access the National Waste Reports, the national waste reporting tool and the national waste database. These provide explanations about the composition of wastes going to landfill in Australia. Australia has national databases and maps of waste infrastructure, including different types of landfill, but does not yet have a full account of material flows to each landfill, or landfill type. Work is underway to improve this.

Question by New Zealand at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Approach for future targets

BR4 mentions that Australia has overachieved their 2020 target, and noted that a sector-by-sector approach is the best way to meet emissions reduction targets. Is this how Australia intends to approach the abatement task for its future targets?

Answer by Australia

Like the 2020 target, Australia's 2030 target to the Paris Agreement is an absolute economy wide target.

Australia has a comprehensive set of policies that support the adoption of transformational low-emission technologies across the economy.

Australia will continue to develop and implement policies in line with meeting our emissions reduction targets. A summary of Australia's climate change policies including recently announced new measures can be found in the following link:

https://www.industry.gov.au/strategies-for-the-future/australias-climate-change-strategies

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Question by Singapore at Monday, 07 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Updates to National Greenhouse and Energy Reporting (Measurement) Determination 2008

In 2018, Australia updated the National Greenhouse and Energy Reporting (Measurement) Determination 2008 to improve the estimation of emissions from legacy waste at landfills, carbon capture and storage activities and decommissions underground coal mines. Could Australia share how it identified these topics as areas for improvement, and how these methodological refinements were developed or considered?

Answer by Australia

Australia's National Greenhouse and Energy Reporting (NGER) Scheme legislation is reviewed annually to ensure that it remains fit for purpose while imposing minimal regulatory burden on reporting companies.

Prospective amendments are identified and developed in consultation with reporters and the Clean Energy Regulator, and are customarily made available in a public consultation process for comment by interested stakeholders.

- : 2018 update (https://www.legislation.gov.au/Details/F2018L00923/Download) In the
    - Methods for estimating emissions from decommissioned underground coal mines were updated to more accurately estimate emissions from mines which are decommissioned part-way through a reporting year;
    - Carbon capture and storage provisions were updated for clarification and to avoid potential double counting of fugitive emissions;
    - Domestic and commercial wastewater handling provisions were amended to clarify their scope.

Question by New Zealand at Monday, 07 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Reducing transport emissions

What additional policies or steps is Australia undertaking to reduce transport emissions to support the achievement of the 2020 and future targets? What is the projected total abatement of these policies?

Answer by Australia

As outlined in Australia's Biennial Report the transport sector is covered by the Emissions Reduction Fund, Climate Solutions Fund and the Safeguard Mechanism at the national level. Transport measures at the State and Territory level are listed in Appendix 2 of the Biennial Report.

Additional measures have been announced in Australia's 2020-21 Budget:

· a $74.5 million Future Fuels Package to assist businesses to integrate battery electric, hydrogen and biofuelled vehicles into their fleets, including by co-investing in charging and refuelling infrastructure

· the $95.4 million King Review Technology Co-investment Fund, which includes a program to increase heavy vehicle energy productivity.

The mitigation impact of existing measures were reported in CTF Table 3 to the Biennial Report and the mitigation impact of new measures will be reported in subsequent National Communications and Biennial Reports.

Question by European Union at Monday, 07 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Trends in GHG emissions from electricity generation

GHG emissions from electricity generation are projected to show important decreases by 2020 and beyond. As explained in chapter 5.4 of Australia's Fourth Biennial Report, these decreases are driven by large amounts of renewable generation entering the market, supported by the large-scale renewable energy target (LRET). Is the LRET of 33,000 gigawatt hours of additional renewable electricity generation by 2020 expected to be achieved, and are there plans for a follow-up to the LRET in order to support the achievement of future targets?

Answer by Australia

- Under Australia's Renewable Energy Target (RET) scheme, the legislated Large-scale Renewable Energy Target (LRET) peaks in 2020 at 33,000 gigawatt hours and remains at that level until 2030.
- The Clean Energy Regulator has advised that in 2019 sufficient capacity was delivered to exceed the LRET target of 33,000 gigawatt hours in 2020.
    - The CER will be able to formally assess achievement of the LRET 2020 target in early 2021.

- The RET scheme will continue to provide support for both large and small-scale renewables until the scheme ends in 2030.

The key challenge to ensuring continued strong growth in new renewable capacity in Australia is to drive down the cost of storage and backup as well as transmission and grid upgrades. That's why the Government has invested $1.4 billion in reliable renewable generation and storage, supporting a high-tech expansion of the Snowy Hydro scheme and the development of Marinus Link, the second Bass Strait interconnector needed to turn Tasmania's Battery of the Nation vision into reality.

Question by European Union at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Hydrofluorocarbon emission reductions in 2018-2020

On page 31 of its Fourth Biennial Report, Australia states that it commenced its legislated hydrofluorocarbon (HFC) phase down in 2018, which will result in important emission reductions between 2018 and 2036. However, in the CTF table annexed to the report (page 125), it is stated that the impact of this measure is estimated to be after 2020 only. Although HFC emissions occur with a delay over the lifespan of their use, it can be expected that some emission reductions can be achieved early on. Can the emission reduction resulting from this measure be estimated for the period that is relevant for the target, i.e. for 2018-2020?

Answer by Australia

Prior to 2021 no abatement is estimated from the legislated phase down of HFCs because the bulk imports of HFCs included in Australia's emission projections were lower than the amount permitted in the legislated phase down. The measure will reduce Australia's HFC emissions from 2021 onwards.

Question by New Zealand at Monday, 07 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Methodology used to determine the emissions avoided

The Emission Reduction Fund rewards projects that avoid emissions by offering an Australian carbon credit unit for every tonne of emissions avoided. Could Australia please describe the methodology it uses to determine the emissions avoided?

Answer by Australia

Under the Emissions Reduction Fund (ERF) (https://www.industry.gov.au/funding-and-incentives/the-emissions-reduction-fund) the rules for eligible activities are set out in methodology determinations (methods). Methods outline eligibility criteria for projects and how to calculate the emissions reductions achieved. There are currently 34 methods available to measure emissions reductions across all sectors of the Australian economy such as agriculture, coal mining, energy efficiency, vegetation, transport, and waste.

Some of these methods calculate abatement from removing carbon from the atmosphere and storing it in soil or vegetation.

Other methods calculate abatement from projects that avoid greenhouse gases being emitted, such as crediting the emissions reductions achieved by improving the energy efficiency of industrial equipment or installing/upgrading a landfill gas collection system. These methods typically compare emissions from before the installation/upgrade to project emissions.

ERF methods are developed in line with methods used to compile the National Inventory Report to ensure abatement credited can be counted towards Australia's climate change targets.

Question by United States of America at Monday, 07 September 2020
Category: All emissions and removals related to its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Seagrasses and related GHG emissions

We commend Australia's inclusion of seagrasses in their inventory based on the methodological guidance in the 2013 Wetlands Supplement. We note that you have estimated these emissions using an activity-based approach that accounts for excavation of seagrass habitat due to dredging for port construction or expansion. Given that significant damage to seagrass habitat can also occur as a result of human activities in the adjacent watershed (agricultural activities, land clearing, road construction, etc.), is Australia investigating the possibility of including the emissions resulting from

the impacts of these activities in the watershed on seagrass habitat in a future inventory?
Answer by Australia

Australia progressively implements the methodological guidance in the 2013 Wetlands Supplement, and the Wetlands chapter in the 2019 Refinement. This is in line with our commitment to continuous improvement.

The estimation of greenhouse gas emissions or removals associated with wetland habitats are undertaken by tier 1 or tier 2 models. These involve selected activities covered in the guidance, with common features that include:

(a) Their impact on a wetland habitat is directly attributable (e.g. removing or establishing mangroves results in a direct loss or gain of carbon),

(b) The spatial and temporal extent of the activity can be determined (mostly through the analysis of satellite imagery),

(c) It is possible to estimate the carbon losses or gains associated directly with that activity using IPCC guidance, and

(d) Regionally relevant statistic and parameter values are developed, where possible, based on the national scientific literature and in consultation with Australian wetland experts.

The current Australian seagrass account is limited to estimating carbon losses due to capital dredging consistent with IPCC Guidelines and because, on available information, it is possible to directly ascribe and quantify, spatially and temporally, the impact of this specific activity on Australian seagrass meadows.

Additionally, the IPCC has not established guidance on accounting for catchment-based activities that may contribute to downstream impacts on coastal wetlands, including seagrass meadows, due to elevated sedimentation rates, or higher herbicide, nutrient, or petrochemical inputs.

Australia will continue to review the science related to watershed inputs into coastal wetlands, but monitoring and reporting on such activities at a national scale is not being considered at this time.

Question by China at Friday, 04 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Estimation of PaMs

In BR4, Australia introduced a set of significant PaMs, Could Australia provide more information on the estimate of the mitigation effects of the main reported PaMs?

Answer by Australia

Australia has estimated the mitigation impact in 2020 of policies and measures in CTF Table 3. In addition, cumulative abatement from 2021-2030 was estimated from policies and measures announced in the Climate Solutions Package. These estimates are published at:

https://www.environment.gov.au/system/files/resources/bb29bc9f-8b96-4b10-84a0-46b7d36d5b8e/files/climate-solutions-package.pdf

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Question by China at Friday, 04 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: COVID-19 impacts on emission decline

In BR4, the projections of the energy sector (electricity)'s emission declines are driven by the projected continued decarbonization of electricity generation, What measures will Australia take to maintain this trend considering the effects of COVID-19?

Answer by Australia

Emissions from Australia's electricity sector are projected to decline to 2030 under current policies and measures. The impact of COVID-19 on Australia's electricity emissions is expected to be small and not impact on the trend reported in BR4.

Question by China at Friday, 04 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Carryover utilisation

In BR4, we noticed that if Australia's carryover of 128 MtCO2-e from the first commitment period of the Kyoto Protocol is included, the overachievement of the 2020 targets is 411 Mt CO2-e. Could Australia provide the basis for utilizing the carryover from the Kyoto Protocol?

Answer by Australia

Australia has a history of overachieving on our emission reduction targets. We overachieved on our first target under the Kyoto Protocol by 128 million tonnes and Australia is expected to overachieve on its 2020 target by around 300 million tonnes. This overachievement reflects meaningful action to meet our successive targets and is underpinned by rigorous emissions monitoring and accountability systems. Australia will use past overachievement only to the extent absolutely necessary.

Question by China at Friday, 04 September 2020
Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Market-based mechanism

According to the TRR, Australia did not mention in its BR4 whether it includes use of market-based mechanisms towards achieving its target. Could Australia provide more information on this issue?

Answer by Australia

Australia did report the scale of market based mechanisms in table 2(e) of the Biennial Report by cross reference to CTF Table 2(f), we understand this cross reference and use of custom footnotes did not translate well in the excel format of the CTF tables.

As reported in the custom footnotes at CTF table 4(b), Australia understands “units surrendered” (used) as distinct from holding. Surrender is when an entity or Party retires a unit for compliance purposes. Australia did not surrender units of MBMs in 2017-18. The review acknowledged Australia will report any relevant surrender of units in its final Biennial Report, when completing reporting on achievement of the 2020 target.

CTF Table 2(e)II of the Biennial Report was left blank because Australia does not anticipate using ‘other market-based mechanisms’ and thus has nothing to report. This approach is consistent with Australia’s previous biennial report submissions.

Question by Norway at Thursday, 03 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Mitigation impact of the Emissions Reduction Fund

Australia's BR4 states that the Emission Reduction Fund has delivered 44.8 million tonnes of abatement and that it is expected to deliver 61 million tonnes to 2020. This seems to be the cumulative effect, can you provide information on how you in CTF Table 3 have estimated the effect in 2020 to be 5.053 million tonnes CO2 eq?

Answer by Australia

The Emissions Reduction Fund is projected to contribute 61 Mt CO_2-e of abatement over the period 2015 to 2020. The abatement from the Emissions Reduction Fund in 2020 is 17 Mt CO_2-e. The 5 Mt CO_2-e in CTF Table 3 is a transcription error.

Question by Norway at Thursday, 03 September 2020
Category: Progress towards the achievement of its quantified economy-wide emission reduction target
Type: Before 07 September
Title: Mitigation impact of the Renewable Energy Target

The mitigation impact of the Renewable Energy Target in 2020 is in CTF table 3 reported to be almost 20 million tonnes CO2 eq. Can Australia provide some information on how this mitigation impact has been estimated?

Answer by Australia

The mitigation impact is calculated as the difference between the 'with measures' emission projection of electricity generation and emissions in a counter-factual scenario. where the Large-scale Renewable Energy Target did not exist. In this counter-factual scenario, in the absence of a policy to incentivise large-scale renewable build, the electricity market was left to determine the least cost plant mix to meet electricity demand – which generated a higher level of emissions (by almost 20 million tonnes in 2020) than in the 'with measures projection'.

Climate Dialogues 2020

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