



Australian Government

Australian Government response to the Climate Change
Authority's 2023 Review of the National Greenhouse
and Energy Reporting legislation

August 2024

Introduction

The Australian Government welcomes the Climate Change Authority's (CCA's) review of the operation of the National Greenhouse and Energy Reporting (NGER) legislation, which establishes:

- a national framework for reporting and disseminating company information about greenhouse gas emissions, energy production and energy consumption;
- the Safeguard Mechanism, which places emissions limits on large industrial facilities; and
- the framework for administration and compliance, including auditing requirements.

The CCA is required to review the NGER legislation every five years. In the context of the review, the government wrote to the CCA in 2023 to ask it to consider opportunities to improve NGER scheme methane emissions measurement, reporting and verification, noting the recent reforms to the Safeguard Mechanism and the increasing importance these changes place on the accuracy of emissions reporting under the NGER scheme.

The independent CCA found the legislation is “performing well and continues to be integral to meeting Australia’s international energy and emissions reporting obligations” and that “the domestic and global contexts are changing [making it] important to consider how the scheme may need to evolve”.

The CCA made 25 recommendations, focussed on further enhancements to the NGER scheme’s methane emissions measurement, reporting and verification; as well as enhancements to data transparency; coverage; and administration.

The government is progressing an ambitious policy agenda to reduce Australia’s emissions and seize the opportunities of a net zero world. It has legislated Australia’s emissions reduction targets of 43 per cent below 2005 levels by 2030 and net zero by 2050, and implemented policies and measures to reduce emissions across all sectors of the economy. These include initiatives to help reduce methane emissions.

The government has reformed the Safeguard Mechanism to put large emitters in the mining, manufacturing, transport, oil, gas and waste sectors on a pathway to net zero by 2050. These reforms provide a strong incentive for facilities to reduce their own emissions, including methane emissions from fossil fuels. These reforms also mandated the publication of emissions from carbon dioxide, methane and nitrous oxide for each Safeguard facility. The government is also helping expand the set of technology solutions, with over \$41.2 million awarded through the Resources Methane Abatement Fund and the Powering the Regions fund to develop and demonstrate technologies to cut methane emissions from Australia’s coal industry.

Looking forward, the government’s Net Zero Plan and sectoral decarbonisation plans, the Future Made in Australia plan will realise further methane emission reductions to help meet Australia’s national emission reduction targets.

Australia was one of the first countries in the world to legislate a mandatory, company-level emissions reporting scheme. The NGER scheme remains one of the most sophisticated and comprehensive schemes of its type in the world. It is a key data source for Australia’s

domestic and international reporting of its greenhouse gas emissions. Through the NGER scheme, Australia is currently the only country in the world to use methods equivalent to the highest (most sophisticated) Intergovernmental Panel on Climate Change (IPCC) method tier for estimating fugitive methane and carbon dioxide emissions from underground and open-cut coal mines. The NGER scheme also makes Australia one of only eight developed countries in the world to currently use methods equivalent to the IPCC highest method tier to estimate fugitive emissions from oil and gas extraction.

The NGER scheme is continuously improved based on the latest available science, data, research and independent reviews such as the CCA's five-yearly review. As a key data source for Australia's national greenhouse gas inventory, NGER scheme methods and data are also subject to annual technical review under the Paris Agreement Enhanced Transparency Framework.

As part of the government's commitment to continuous improvement, the Department of Climate Change, Energy, the Environment and Water (the department) engages with domestic experts and international counterparts to stay abreast of any new developments in emission estimation, including the rapid evolution of atmospheric measurement technologies and modelling techniques.

Given the importance of the NGER scheme to the design and implementation of Australia's climate change and energy policies as well as Australia's emissions reporting obligations, the government is committed to ensuring the scheme remains world class. The government will ensure that any regulatory changes arising from the CCA's recommendations are underpinned by sound science, implementable and informed by stakeholder consultation and regulatory best practice.

The government has already acted on some CCA recommendations, as part of the annual improvements to the NGER scheme. Following consultation, the government has implemented changes to the scheme to:

- introduce market-based reporting arrangements for renewable liquid fuels in the NGER Measurement Determination from 1 July 2024;
- phase out the use of Method 1 for the estimation of fugitive emissions from the extraction of coal from open-cut coal mines covered by the Safeguard Mechanism (this captures the vast majority of relevant fugitive emissions);
- introduce an additional Method 2 for the estimation of fugitive emissions from natural gas flaring activities; and
- incentivise on-site abatement through refinements to the existing Method 2 for the estimation of fugitive methane emissions from produced formation water arising from oil and gas sector activities.

Building on this early work the government has asked the Chief Scientist to lead an expert panel to provide advice on the potential role that atmospheric measurement technologies and practices could play in further enhancing methane emissions estimation in the NGER scheme and Australia's National Greenhouse Accounts more broadly.

The government will also commission a scientific study to test the capability of a range of atmospheric measurement technologies and practices to measure controlled methane releases in a simulated open-cut mine. The study's design will be informed by an ongoing

integrated atmospheric measurement study commissioned by the government that is testing satellite, plane, vehicle and ground-based approaches in an operational open-cut mine setting. Together these studies will inform the work of the expert panel and provide valuable insights into how these new approaches operate in the Australian context. The studies' key findings will be published to inform all countries' efforts to improve emission estimation.

In parallel, the department will review Method 2 for estimating fugitive methane emissions from the extraction of coal from open-cut mines. Given the range of views on the method and its technical complexity, the department will consult with stakeholders including industry, interested community groups and the scientific community to determine the scope and timing of the review, including considering opportunities to reflect onsite emission abatement activity.

The government's response to each of the CCA's recommendations is set out below.

Where the recommendation would enhance the NGER scheme and could be feasibly implemented within existing resources or is being considered for additional resourcing in the near term, the government has *agreed* to the recommendation.

Where the recommendation would enhance the NGER scheme but further consideration is required on implementation, resourcing and prioritisation, the government has *agreed-in-principle*.

Where the recommendation is still being considered through ongoing government processes or further analysis is required to establish an evidence base the government has *noted* the response.

Where relevant, the government will consider resourcing arrangements in relation to the recommendations through future processes, including through the development of the Net Zero Plan and six sectoral decarbonisation plans.

Government response to the CCA's recommendations

Recommendation 1

The proportion of each sector's emissions reported under the NGER scheme must, at a minimum, be maintained at current levels.

Response: Agree.

NGER scheme coverage supports detailed understanding of Australia's emissions by Commonwealth, state and territory governments, businesses and the broader community and is a key enabler of actions and policies to reduce emissions. The government will continue to monitor the emissions coverage of the NGER scheme, noting that the CCA assessed that the benefits of reducing the thresholds to capture more companies did not outweigh the costs at this time. The CCA also noted that due to the current energy threshold, it is unlikely that entity coverage of the NGER scheme will decline materially before the next review of the scheme in 2028.

Recommendation 2

a. The NGER scheme be expanded to include methods for calculating emissions from the UNFCCC-defined agriculture and land sectors. The government should work with interested parties in the agriculture sector on the most appropriate way to include these emissions sources under the same thresholds as for other sectors and develop robust estimation methods for facility-level emissions reporting in these sectors.

b. Introduce mandatory reporting requirements for agricultural sector emissions by the 2026-27 financial year and for land sector emissions by the 2027-28 financial year.

Response: Noted.

The government is committed to enhancing estimation approaches and reporting on emissions by businesses in the agriculture and land sectors. Standardised accounting frameworks and tools will support farmers and land managers to understand the emissions profile of their business and make decisions around abatement opportunities. They will also support reporting to supply chains and the finance sector.

In support of this commitment, in the 2024-25 budget the government announced \$23.1 million over four years from 2024-25 (and \$0.9 million per year ongoing) to develop voluntary standards for estimating farm-level emissions, support a digital accounting platform that incorporates the standards, and enhance the methods underpinning the National Greenhouse Accounts.

The CCA estimates that including emissions from agricultural sources under the NGER scheme could cover approximately 5-10 per cent of emissions from the agriculture sector (1-2 per cent of Australia's total emissions). Only larger agri-businesses within the agriculture sector are likely to run cattle herds large enough that their emissions alone could exceed the facility reporting threshold. The government considers that any additional regulatory burden associated with expanding mandatory reporting requirements to the agriculture sector would need to be justified by the benefits. The government will consult on

options to further improve estimation and transparency of agricultural emissions as part of the agriculture and land sector decarbonisation plan.

Recommendation 3

Seek agreement with state and territory governments on a framework that will allow for consistent reporting of emissions by government entities. In the absence of an agreed framework, the government should explore the potential to extend coverage of the NGER scheme to government entities.

Response: Agree

The government recognises the benefits of consistent emissions reporting. The government will engage with state and territories through existing fora such as the Energy and Climate Change Ministerial Council to seek states' and territories' agreement on a consistent framework for reporting emissions by government entities. This could potentially build on existing reporting frameworks used by states and territories and the Commonwealth's APS Net Zero in Government Operations Strategy.

Recommendation 4

Extend NGER coverage to publicly owned landfills where legally possible.

Response: Agree-in-principle.

Currently, around 65 per cent of solid waste disposal activity in Australia is covered by the NGER scheme. Publicly owned landfills that are not constitutional corporations do not report under the scheme. Covering the direct emissions of large landfills not operated by corporations would help to ensure accountability and transparency of these emissions and actions to reduce them. The government will consult states and territories on options to cover the scope 1 emissions of the largest publicly owned landfill facilities, and seek to implement changes from 1 July 2026 where practicable.

Recommendation 5

Undertake a study to investigate the use of the emissions data reported through the NGER scheme to facilitate estimation of scope 3 emissions at the entity level in Australia.

Response: Agree-in-principle.

As the world moves to net zero there is growing interest in understanding the emissions embodied in goods and services and through supply chains. The NGER scheme may be a useful input to tools and measures to support better estimates.

The government will consider opportunities to undertake a study to explore approaches to the estimation of scope 3 emissions at the entity level, including through the use of NGER data. This would build on work currently underway by the Council of Financial Regulators to examine opportunities to overcome sustainability-related data challenges, including the calculation of scope 3 emissions by large businesses and financial institutions for the purposes of climate-related financial disclosure.

Recommendation 6

Develop a framework to approve certifications that can guarantee the renewable status of renewable liquid and gaseous fuels. This framework should be informed by a review of existing international certification schemes. The certifications approved under the framework need to guard against adverse impacts.

Response: Agree.

The government recognises the importance of facilitating the uptake of low emissions fuels and will consider the role of existing international certification frameworks for low-carbon liquid and gaseous fuels.

In the 2024-25 Budget, the government committed \$20.9 million over four years from 2024–25 (and \$1.2 million per year ongoing) to undertake further consultation on incentives to support the production of, and demand for, low carbon liquid fuels, as well as the development of a low carbon liquid fuels certification through the GO scheme.

In undertaking this expansion, the government will consider best practice approaches to the certification of these fuels and identify any opportunities to leverage off existing frameworks.

Recommendation 7

Introduce optional market-based reporting of renewable liquid and gaseous fuels once a framework for approving certifications for renewable fuels is operational.

Response: Agree-in-principle.

The government supports market-based reporting of renewable fuels, where it is feasible. By allowing reporters to reflect their purchases of renewable fuels in their NGER scheme reports, market-based reporting strengthens incentives to adopt these fuels.

The government considers market-based reporting can be progressed in advance of a certification scheme. To this end, the government has made amendments that introduce market-based reporting arrangements for renewable liquid fuels in the NGER Measurement Determination from 1 July 2024.

The government has implemented these arrangements through a compulsory rather than optional approach. This is necessary for scope 1 emissions reporting, because an optional approach would allow reporters to use a mix of market-based and existing sampling-based blended fuel provisions, leading to risks of double-claiming. A compulsory approach also helps to ensure the comparability and consistency of emissions information reported under the scheme, and streamline reporting requirements for scheme participants. Implementing the proposed reform in a compulsory manner does not create additional reporting burden for scheme participants who do not purchase drop-in renewable fuels.

The government will consider further market-based accounting opportunities for scope 1 emissions over time, in light of experience and stakeholder feedback. This will include considering the potential for expansion to other fuel types such as renewable gaseous fuels. The government will also consider amending the NGER scheme in future to link market-based accounting for renewable fuels with renewable fuel certifications developed

under an expanded Guarantee of Origin scheme. This would provide additional assurance of the emissions reduction claims made using market-based accounting as the domestic low carbon fuel market grows and more complex shared supply chains emerge.

Recommendation 8

Engage with the IPCC to create guidance on the definition and emissions factors of renewable synthetic fuels. Subsequently amend the definition for renewable fuels in the NGER Regulations to include renewable synthetic fuels once there is clear guidance from the IPCC.

Response: Agree-in-principle.

The department will consider whether there are opportunities to support the inclusion of synthetic renewable fuels as reportable fuel types under the NGER scheme, and enable reporters to reflect the Scope 1 emissions benefit of these fuels in their NGER scheme reporting.

The government notes that IPCC's high-level work program for its seventh assessment cycle (to 2029) has been agreed by member governments, and does not currently include development of methods for estimating emissions from renewable synthetic fuels. The government will continue to seek opportunities to engage with the IPCC on this matter.

Recommendation 9

As a first step in increasing the transparency of NGER data, the NGER scheme requires that the regulator publish, starting with data for the 2023-24 financial year, the following data at the facility level for facilities which produce annual emissions greater than or equal to 5,000 t CO₂-e:

- a. Scope 1 emissions by greenhouse gas as a consistent time-series.
- b. Scope 2 emissions as a consistent time-series.
- c. The method used in each financial year to estimate scope 1 and scope 2 emissions.

Response: Agree-in-principle.

The government supports increased transparency and reporting of NGER scheme data to support scheme integrity and community confidence.

The government has consulted on amendments to the Safeguard Rules to require the Clean Energy Regulator to publish, by 15 April each year, the methods used by Safeguard Mechanism facilities to estimate scope 1 fugitive methane emissions from coal mining, and oil and gas activities in the preceding year. The first publication would be completed by 15 April 2025 and cover data from the 2023-2024 reporting cycle.

The government will explore options to publish time-series data and estimation methods used by facilities noting that amendments to the NGER Act would be required to establish the legal basis for publication of certain data.

Recommendation 10

Resource the regulator to publish relevant NGER datasets through an application programming interface (API) so that users can download and programmatically query the data using their own software. This should be implemented for the publication of the 2024-25 NGER data.

Response: Agree-in-principle.

The government recognises that improving access to the NGER dataset will support a wide range of stakeholders to make best use of this resource. The Clean Energy Regulator is progressively becoming more API-enabled and making its data more accessible and interactive. The Clean Energy Regulator will build on this work in the 2024-25 financial year.

Recommendation 11

Resource the regulator to improve the accessibility and usefulness of the published data by exploring opportunities to present data in additional formats on its website. This should be implemented for the publication of the 2024-25 NGER data.

Response: Agree.

The Clean Energy Regulator has already initiated the progressive roll out of additional data formats commencing with the 2022-23 dataset on its website. Further improvements will be made over time.

Recommendation 12

Resource the regulator to collect the necessary information from reporters such that it can link facilities reported under the NGER scheme across time.

Response: Agree-in-principle.

The Clean Energy Regulator will consider the best way to enable the publication of facility-level data that can easily be examined across years as part of their ongoing improvements to data publication.

Recommendation 13

Monitor the future utilisation of section 25 of the NGER Act and whether it is impacting upon the overall effectiveness of the publication regime in section 24 of the Act.

Response: Agree.

The government supports transparency in reported emissions to enhance scheme integrity and public confidence in greenhouse gas emissions reporting. The government will continue to monitor the use of section 25 of the NGER Act. The government notes advice from the Regulator that this section of the Act is rarely used by reporting entities, and that no

applications to withhold data have been accepted since 2012-13. This indicates it is not impacting the overall effectiveness of the NGER scheme publication regime at this time.

Recommendation 14

Consider measures to provide additional guidance and streamline the process for making and deciding non-publication applications under section 25 of the NGER Act, including through legislative amendment if needed.

Response: Agree.

The government will continue to monitor the use of section 25 of the NGER Act and consider the development of further guidance on its application as needed. The government notes that Section 25 of the NGER Act does not apply to a range of publications mandated by the Act, such as certain data about Safeguard facilities.

Recommendation 15

Phase out Method 1 estimation methodologies for fugitive methane emissions, including as a matter of urgency for the extraction of coal in open cut coal mining.

Response: Agree-in-principle.

The government is committed to the continuous improvement of the NGER scheme to ensure estimation methods are fit for purpose, based on the latest available science and regulatory best practice.

As a first step in giving effect to this recommendation, as part of this year's annual NGER scheme update the government has made changes to phase out Method 1 estimation methods for fugitive emissions from the extraction of coal from open-cut mines covered by the Safeguard Mechanism. This phase out will commence on 1 July 2025 for Safeguard facilities that produced more than 10 million tonnes of coal in 2022-23, and expand to all Safeguard facilities from 1 July 2026. The amendments cover over 90 per cent of the fugitive emissions from open-cut coal mines reported using Method 1 in financial year 2022-23.

The government will monitor implementation of the new reporting requirements carefully and the Clean Energy Regulator has advised it will make the application of the open-cut mine methods a priority for their NGER scheme audit activities. The government will also consider extending the phase out to open-cut mines not covered by the Safeguard Mechanism, taking into account the practical experience of Safeguard facilities, and the costs and benefits of such an extension.

As a next step, the government will identify priorities for phasing out Method 1 estimation methods for fugitive methane emissions from other sources. Noting the number and diversity of sources, the government will prioritise those with higher emissions and those for which the estimates have greatest uncertainty, and take account of factors such as the availability of higher order methods, nature of the source, regulatory burden and safety. In some cases, it may not be possible or reasonable to develop higher order methods due to practical issues such as safety, or because costs would be disproportionate to the scale of the emissions.

Recommendation 16

Resource the department to establish higher order estimation methods for all fugitive methane emission sources included in the Measurement Determination.

Response: Agree-in-principle.

Higher order methods generally deliver more accurate data, including by providing more scope to reflect onsite activity, including abatement action. However, some fugitive methane emissions sources may not be amenable to higher order methods – for example, due to logistical and safety issues, or disproportionately high compliance costs. As noted by the CCA, development of some higher order methods for these emissions sources may also require further scientific studies to address current information gaps.

The government will prioritise assessment of larger fugitive methane emission sources to determine whether higher order methods should be established and existing higher order methods refined, based on an understanding of the costs and benefits, and consistent with Paris Agreement rules and guidelines.

In undertaking this work, the department will consider existing and emerging international frameworks for methane emission measurement, reporting and verification. This includes those being developed by the United Nations Environment Program and industry - the Oil and Gas Methane Partnership (OGMP) 2.0 and the Steel Methane Partnership (SMP); and the international working group on international gas supply chain emissions Measurement, Monitoring, Reporting and Verification (MMRV) framework which Australia has joined alongside 11 other countries and the European Commission.

Recommendation 17

As a matter of urgency, review Method 2 for extraction of coal in open cut coal mining with respect to sampling requirements and standards.

Response: Agree.

The government recognises that, as Method 1 for the estimation of fugitive methane emissions from the extraction of coal in open cut coal mining is phased out, there will be greater use of Method 2 for that activity. The current approach to emission estimation under Method 2 is equivalent to the highest (most sophisticated) IPCC method tier. Australia is currently the only country in the world to use methods of this tier to estimate fugitive methane and carbon dioxide emissions from both underground and open-cut coal mines.

The government notes that stakeholders have raised some concerns regarding Method 2. To ensure the method remains fit for purpose and based on the best available science, technologies and practices, the government will review Method 2.

Noting both the nature of stakeholder concerns and the technical complexity of the method, the government will consult with stakeholders including industry, interested community

groups and the scientific community to determine the scope and timing of the review, including considering opportunities to reflect onsite emission abatement activity.

The government will prioritise legislative amendments identified through the review in future annual NGER scheme updates, with their application taking into account implementation of recommendation 15.

Recommendation 18

Review the requirement for integrated gas facilities to use the same method across activities to allow for flexibility to use higher order methods for larger emission sources, while ensuring integrity of estimated emissions.

Response: Agree.

The government recognises the value of reporters using higher-order methods where possible. The government has commenced work on the review of requirements for estimating fugitive methane emissions from integrated gas facilities, in consultation with interested stakeholders. The review will identify options for removing unintended barriers to the use of higher order methods for larger sources of leaks across those facilities. It will prioritise opportunities to amend the higher order methods, or introduce new higher order methods, to better capture the impact of onsite abatement activity. The government will prioritise legislative amendments identified through this review in future annual NGER scheme updates.

Recommendation 19

Commission a panel of Australian and international experts to establish a best practice process to document the standards and requirements for making transparent, repeatable and credible top-down measurements of fugitive methane emissions from Australian facilities. This panel should evaluate whether any further research studies are needed and should be resourced to conduct required studies. The panel of experts should be commissioned in the first quarter of 2024, and the guidelines for making top-down verification measurements published as soon as practicable.

Response: Agree.

The government is committed to continuously improving Australia's approach to estimating greenhouse gas emissions informed by the best available science, data, practices and technologies.

The CCA identified that a rigorous scientific and technological review of the range of atmospheric sensor technologies, sample collection processes and analytic methods (top-down approaches) is needed to develop top-down emission estimates.

In this context, the government will establish an expert panel led by the Chief Scientist to provide advice on the current scientific understanding of top-down approaches, their application in Australia, and research needs to fill information gaps. Based on this

information, the panel would advise the government on the potential role current top-down approaches could play in the NGER scheme and Australia's National Greenhouse Accounts more broadly, and identify what technological advancements, and investments in domestic capability, would enable appropriate use of top-down approaches into the future.

The panel would be informed by international and domestic research on the use of these approaches, including the studies funded by the Australian Government (see response to Recommendation 22). In forming its advice, the panel will also consider examples of international practice in both mandatory and voluntary schemes, Paris Agreement requirements for estimating and reporting emissions, and the NGER scheme's role in supporting Australia's domestic and international emissions reporting and target tracking obligations and the reformed Safeguard Mechanism.

Once the panel has provided its advice, the government will consider whether top-down approaches to fugitive methane emissions estimation should be implemented through the NGER scheme and/or the National Greenhouse Accounts more broadly.

Recommendation 20

Develop a top-down verification policy framework for the verification of bottom-up estimates of fugitive methane emissions reported under the NGER scheme. This should be phased in on a trial basis as soon as practicable, with mandatory verification using top-down measurements commencing the year after. If any discrepancies are found between bottom-up estimates obtained using an NGER method and the top-down verification measurement, the bottom-up measurement approach should be refined by the reporting entity to reconcile the emission estimates.

Response: Agree-in-principle.

If the panel established under recommendation 19 recommends the use of top-down approaches for verification of bottom-up fugitive methane estimates, the government will seek the panel's further advice on guidelines and policy settings to support implementation of that process.

Recommendation 21

Determine the appropriate requirements to be met for future use of satellite technology in detection of fugitive methane emissions, and for verification of estimated fugitive methane emissions.

Response: Agree-in-principle.

The CCA review observed current limitations to the use of satellite-based measurements for emission estimation at the facility level. It also noted that, in the future, satellite technologies may reach the standards required to verify emissions from some high emitting facilities within the NGER scheme.

As part of the work outlined in the response to recommendation 19, the expert panel will consider the role that top-down technology, including satellite technology, could play in improving Australia's understanding of fugitive methane emissions, both through the NGER scheme and more broadly. The panel will also identify what research or technological advancements would enable best use of top-down approaches into the future.

Recommendation 22

Prioritise and support the development of Australia's sovereign capability in methane emissions measurement and quantification, by building on existing expertise and leveraging international partnerships where appropriate.

Response: Agree.

The government is committed to enhancing Australia's methane emissions measurement and reporting, consistent with its status as a signatory to the Global Methane Pledge and obligations under the Paris Agreement. The government is leveraging international partnerships to improve Australian and global understanding of methane emissions measurement and quantification. At the 2023 United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties, the government committed to provide \$1.5 million over two years to support the work of UNEP's International Methane Emissions Observatory (IMEO) to better understand methane emissions. As a member of IMEO's Implementation Committee, the department will seek opportunities for the Australian government, industry, scientific and academic community to collaborate on IMEO initiatives including its Methane Science Studies, trialling and testing of methane emission detection and quantification methods and techniques, and engagement with the national inventory community on the future role of satellites and other observational data in the context of emissions reporting under the UNFCCC and Paris Agreement.

Domestically, the government has commissioned leading Australian academics to conduct field surveys to detect and estimate methane emissions from an operational open-cut mine using plane, car and ground-based atmospheric measurement instruments and data from a high-resolution satellite over the same site and time period.

The government will commission a further study using controlled releases of methane to test the capability of atmospheric measurement approaches at a simulated open-cut mine. Together these studies aim to improve understanding of these different measurement approaches in the Australian context. They will inform the work of the expert panel and their key findings will be published to inform all countries' efforts to improve emission estimation.

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) continues to develop capability in methane emissions estimation, building on historical regional scale work such as those documented in Luhar et al, 2020¹ for the Surat Basin. CSIRO is expanding observations of urban methane sources (in Melbourne) and developing inverse

¹ Luhar, A., Etheridge, D., Loh, Z., Noonan, N., Spencer, D., Day, S. 2018. Characterisation of Regional Fluxes of Methane in the Surat Basin, Queensland. Final report on Task 3: Broad scale application of methane detection, and Task 4: Methane emissions enhanced modelling. Report to the Gas Industry Social and Environmental Research Alliance (GISERA). Report No. EP185211, October 2018. CSIRO Australia.

modelling approaches to infer fluxes, with sectoral attribution, from atmospheric observations.

The government is aware of proposals for the establishment of an integrated greenhouse gas monitoring network over Australia using ground based, in-situ and remote sensing technologies, and satellite measurements in combination with inverse modelling. The government notes that such a proposal could have applications well beyond methane emissions measurement. These include informing our understanding of carbon and nitrogen budgets, and how to manage natural carbon sinks in a changing climate, and could be augmented in future for air quality monitoring. Given the scale of the proposal and potential range of applications, further consultation with the research and scientific community and other stakeholders is required to determine its relative priority in Australia's science infrastructure investment strategy.

Recommendation 23

Authorise the regulator to deregister corporations in liquidation from the NGER scheme on the regulator's own initiative to reduce the administrative burden for the regulator.

Response: Agree.

The government recognises the importance of ensuring the administration of the NGER scheme remains effective and efficient. The government will seek to amend subsection 18B(5) of the NGER Act to enable the Clean Energy Regulator to deregister corporations in liquidation from the NGER scheme.

Recommendation 24

Require corporations that meet reporting thresholds to provide reports for all years following their trigger year, regardless of when they register, to ensure completeness of the NGER datasets.

Response: Agree.

The government recognises the importance of ensuring complete NGER datasets. The government will seek to amend the NGER Act to enable the Clean Energy Regulator to require submission of reports for the years between the trigger year and the year of registration for corporations meeting reporting thresholds.

Recommendation 25

Update the NGER scheme to replace references to a corporation's 'trading name' with 'registered business name'.

Response: Agree.

The government will amend the *National Greenhouse and Energy Reporting Regulations 2008* to replace references to a corporation's 'trading name' with 'registered business name'.

As trading names are being phased out by ASIC and replaced with 'registered business names', this will ensure NGER scheme documentation remains up to date and comparable with other systems.