



Australia

Improving national GHG inventories with corporate data in Australia

Good practice summary

[Results/insights]

Australia introduced a legal national framework for reporting and disseminating corporate data on greenhouse gas (GHG) emissions, energy production and energy consumption. This scheme is legislated through the National Greenhouse and Energy Reporting (NGER) Act 2007 and is known as the NGER scheme. The corporate data collected through the scheme is in a format that can be used directly in Australia's national GHG emissions inventory.

Scope covered

Functions

Measuring Reporting Verification Accounting

Administrative scope

National Regional City-level Policy/programme/project Corporate/Facility-level

Legal basis

[policies, regulations and commitments that the case study has to comply with]

The National Greenhouse and Energy reporting (NGER) Act 2007¹: Introduced the NGER scheme which consists of a single national framework for reporting and dissemination of company information about GHG emissions, energy production and energy consumption.

NGER Regulations 2008²: sets out the details that establish compliance rules and procedures for administering the NGER Act

The NGER (Measurement) Determination 2008³: provides methods (IPCC 2006 Guidelines and the GHG protocol), criteria and measurement standards for calculating GHG emissions and energy data under the NGER Act

The Clean Energy Act (2011)⁴: The main Act in a package of legislation that establishes an Australian emissions trading scheme. The Act also changed the body responsible for administering legislation that will reduce carbon emissions and increase the use of clean energy from the Greenhouse and Energy Data Officer to the Clean Energy Regulator (CER).

Operational since

Annual reports have been submitted by companies under the NGER system for Australian financial years since 2008-09. This data was first used to inform the 2009 inventory (published in 2011).

¹<https://www.legislation.gov.au/Details/C2014C00813>

²<https://www.legislation.gov.au/Details/F2015C00852>

³<http://www.cleanenergyregulator.gov.au/NGER/Legislation/Measurement-Determination>

⁴<https://www.legislation.gov.au/Details/C2011A00131>



How is this related to accounting?

[The following is based solely on the consultant's opinion]

» What kind of measures, policies, or commitments are a) monitored and included in an accounting system, b) only monitored, but not included in an accounting system, or c) not even monitored?

Australia uses its GHG inventory to monitor their GHG emissions since 1990 onwards at a national, state and corporate level. The use of corporate data in the inventories has helped to improve the accuracy of the national GHG inventory. Consistency between inventory methodologies and the methodologies used to estimate corporate emissions means much of the data collected through the NGER scheme can be used directly in Australia's GHG inventory.

If mitigation actions carried out by the corporate sector are represented in their annual emissions reports, the GHG emission reductions can be transparently represented in the national inventory at a national and sectoral level. Australia presented an economy-wide target to reduce GHG emissions by 26 to 28 per cent below 2005 levels by 2030 in their Intended Nationally Determined Contribution (INDC). The sectors covered by this commitment are the energy, industrial processes and product use (IPPU), agriculture, Land-use, land-use change and forestry (LULUCF), and waste sectors. Having information from these sectors that is consistent with national methodologies can support an accounting system that tracks the progress towards Australia's economic commitments⁵ included in their NDC. Australia also has an existing accounting system for the Kyoto Protocol (KP) that is based on the KP rules and KP reference manual⁶. This system has been working since the first KP period and has helped Australia to use the KP mechanisms to account their emissions and track their progress towards their KP commitment. When the rules for accounting under the Paris Agreement are defined, the system could be used as a basis to adapt it in order to track Australia's progress towards their NDC commitments.

Case description

Background

» What was the need, pre-conditions, and/or experiences that motivated the country to develop this system?

The National Greenhouse and Energy Reporting (NGER) Scheme was introduced in 2007 to provide data and accounting in relation to GHG emissions and energy consumption and production. It was also implemented to address the inconsistencies of the different reporting schemes at the regional level (states and territories)⁷. The NGER builds upon existing architecture of voluntary policies for reducing GHG emissions (e.g. the GHG challenge (1997)⁸, the Generator Efficiency Standards program (1997)⁹ and the Fuel and Electricity survey¹⁰)

These reporting programs were voluntary and did not achieve full coverage of all large facilities. Therefore, other methods were required to estimate fuel consumption and emissions from facilities that did not report under these voluntary programs. The NGER was therefore designed to provide a single national framework for reporting on energy and GHG emissions by corporations and was intended to streamline the reporting requirements for companies who were previously asked to report under a number of Government programs.

The Scheme's objectives are to:

- » inform policy-making and the Australian public;
- » meet Australia's international reporting obligations;
- » provide a single national reporting framework for energy and emissions reporting;
- » avoid duplication of similar reporting requirements in the states and territories;
- » to provide the baseline data required to introduce an emissions trading scheme and;
- » to collect information to support the development of the national inventory.

⁵<http://www4.unfccc.int/submissions/INDC/Published%20Documents/Australia/1/Australias%20Intended%20Nationally%20Determined%20Contribution%20to%20a%20new%20Climate%20Change%20Agreement%20-%20August%202015.pdf>

⁶http://unfccc.int/resource/docs/publications/08_unfccc_kp_ref_manual.pdf

⁷http://www.cdsb.net/sites/cdsbnet/files/attachments/oecd_consistency_report.pdf

⁸http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Completed_inquiries/1999-02/gobalwarm/report/c08a

⁹<http://iepd.iipnetwork.org/policy/generator-efficiency-standards-ges-ended>

¹⁰<http://www.nss.gov.au/nss/home.NSF/surveylookup/ABARE+Fuel+and+Electricity+Survey+Financial+Year+2001/2002+Header+Document?OpenDocument>

The former Department of Climate Change and Energy Efficiency (DCCEE) developed and implemented a comprehensive business plan to guide the department's administration of NGERs. The plan incorporates performance information aligned to the NGERs objectives. Administration of NGERs was transferred to the CER in 2011, with the current Department of the Environment assuming responsibility for NGER scheme policy.

General description of the system

[Questions below should be answered only when applicable]

- » General definition/description of the system
- » What are the main types of action that mitigate GHG emissions?
- » What linkages to other systems/ system elements of environmental information (including adaptation to climate change or emissions trading schemes) do exist and why were they established? What linkages exist to other statistical/ monitoring systems?
- » Which platforms are used to transport information and are they specific to the purpose of usage MRV information?

As part of the NGER scheme, companies are required to report facility-level emissions data if their emissions, energy production or energy use exceed certain thresholds¹¹. The NGER Act sets out a number of thresholds in relation to GHG emissions, energy production and energy consumption. All companies that meet an annual NGER threshold must register with the CER, and submit annual reports of GHG emissions, energy production, energy consumption, and other information. A threshold calculator has been released by the CER to assist users to self-assess if a corporation is likely to have obligations under the NGER¹². The annual reports cover the Australian financial year (1 July to 30 June). All registered companies are required to submit a report, even where the threshold has not been met, in a given reporting year. Failure to submit reports on time can attract penalties. The total emissions, energy use and energy production figures are then publicly reported.

The company data reporting has been designed to be used for and to improve national GHG inventories. Companies must therefore provide enough information to classify facility-level data by industrial process and by fossil fuel combustion; this allows Australia to use facility-level data directly in the national inventory. Methods used by corporation to estimate emissions are determined by the National Greenhouse and Energy Reporting (Measurement) Technical Guidelines (NGER Technical Guidelines)¹³ which are based on those used by the inventory agency (the Department of the Environment) in preparing the national GHG inventory; the IPCC Guidelines for National Greenhouse Gas Inventories. The NGER Technical Guidelines assist corporations and liable entities to understand and apply the NGER (Measurement) Determination 2008. The NGER Technical Guidelines outline calculation methods and criteria for determining GHG emissions, energy production, energy consumption and potential GHG emissions embodied in natural gas (further information on calculation methodologies later).

For calculating emissions for the waste sector, a number of emission calculators have been released by the CER; these calculators cover solid waste¹⁴, domestic and commercial wastewater¹⁵, and industrial wastewater¹⁶. Detailed information on composition of waste, amount of waste disposed, organic contents of waste, etc. is required for the waste calculators. The consistency between data reported by companies and the methods used for the national GHG inventory allows data reported by companies to be used to improve and provide more accurate, complete and transparent information on emissions from the energy, IPPU, and waste sectors for the national GHG inventory.

In addition to supporting Australia's international GHG and energy reporting requirements, the NGER data is used to:

- » Support Commonwealth, State and Territory government programmes and activities, including monitoring effectiveness.
- » Inform Government policy, including emission projections which are based on a combination of top-down and bottom-up models. The projections are prepared at a sectoral level and are based on macroeconomic assumptions of gross domestic product, exchange rates, labour costs and population growth, consistent with the Government's 2015–16 Budget.

¹¹<http://www.cleanenergyregulator.gov.au/NGER/Reporting-cycle/Assess-your-obligations/Reporting-thresholds>.

¹²<http://www.cleanenergyregulator.gov.au/NGER/Forms-and-resources/Calculators>

¹³<http://www.environment.gov.au/system/files/resources/da7bde5c-1be2-43f7-97d7-d7d85bb9ad6c/files/nger-technical-guidelines-2014.pdf>

¹⁴<http://www.cleanenergyregulator.gov.au/NGER/Forms-and-resources/Calculators#solid>

¹⁵<http://www.cleanenergyregulator.gov.au/NGER/Forms-and-resources/Calculators#domestic>

¹⁶<http://www.cleanenergyregulator.gov.au/NGER/Forms-and-resources/Calculators#industrial>

- » Inform the public through publications, including the National Greenhouse Accounts and Australian Energy Statistics report.

The data in the NGER is not directly used for air quality reporting.

MRV and accounting systems, processes and procedures

[Questions below should be answered only when applicable]

- » How is information generated, communicated, integrated, and verified at each stage of the MRV chain?
- » What information needs to be gathered in order to quantify the effect of these actions?
- » How is such information gathered or estimated? By whom?
- » How is this information reported? How is it verified?
- » In what areas information is shared among accounting and MRV systems?
- » What kind of agreements are used to establish the relevant institutional roles?

Companies report their data using the Emissions and Energy Reporting System¹⁷(EERS); an online reporting tool used for the collection of the input data from companies. Firstly, qualifying companies must apply to the CER in order to be registered on the National GHG and energy register. Companies only need apply for registration once. Participating companies then log in to the client portal¹⁸ with their log in information (as provided by the CER) and are able to prepare and submit their NGER reports annually¹⁹. Data is entered in the EERS by companies at a facility and corporate level and includes natural gas, liquid fuel and electricity consumption data. Participants are required to report emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

The CER has produced detailed guidelines and training for users to learn how to use the EERS, be able to create or modify their corporate structure, report basic activity data, and generate/submit a report, which are available for everyone in their website²⁰. A call centre is also employed to help participants¹⁶. In case a company no longer exceeds the threshold, they can be deregistered upon approval of an application coming from the specific company. Quality control (QC) of the system involves internal system validations and cross checks to detect data entry of calculation errors. If there are any problems, the errors are communicated to the participant to be rectified. Quality Assurance (QA) involves independent audits conducted outside the system²¹.

The estimation methodologies used for corporate and facility-level emissions are estimated within the National Greenhouse Accounts framework ensuring consistency among the relevant accounts; national, state and territory, industry, corporate and facility-level inventories. All domestic, corporate and project methods must be consistent with national methodologies ensured through the NGER measurement determination. This nested approach ensures that emission estimates at each level must, in aggregate, equal to the level above. Attention has been paid to ensure that methodologies and language used are consistent with international methodologies, specifically IPCC Guidelines. The Global Warming Potentials (GWPs) used are the ones indicated by the IPCC Fourth Assessment Report²³. The process used by most companies to collect NGER data prior to lodgement through the online tool is through manual spreadsheets²⁴. Four estimation methods are provided for under the NGER system ranging from low cost simple default methods to higher order methods requiring sampling and analysis of inputs or direct monitoring of emissions. In general, reporters may choose the estimation method appropriate to their own circumstances.

¹⁷<http://www.cleanenergyregulator.gov.au/OSR/EERS/The-Emissions-and-Energy-Reporting-System>

¹⁸<https://sts.cleanenergyregulator.gov.au/adfs/ls/?wa=wsignin1.0&wtrealm=https%3a%2f%2fportal.cleanenergyregulator.gov.au%2f&wctx=rm%3d0%26id%3dpassive%26ru%3d%252f&wct=2016-04-27T10%3a12%3a17Z&wreply=https%3a%2f%2fportal.cleanenergyregulator.gov.au%2fWIFHandler%2f>

¹⁹<http://www.cleanenergyregulator.gov.au/DocumentAssets/Documents/User%20guide%20-%20Self-service%20EERS%20User%20Management%20via%20the%20Client%20Portal.pdf>

²⁰<http://www.cleanenergyregulator.gov.au/OSR/EERS/Tools-to-assist-you>

Method 1: Default method using designated emission factors (EFs) which are national average factors determined by the Department of Environment.

Methods 2 and 3: facility-specific methods using Australian or international standards involving analysis of fuels and raw materials to provide more accurate estimates of emissions at facility level.

Method 4: direct monitoring of emissions

Once all data has been entered in to the EERS, a report is generated and submitted through the online tool. These reports provide activity data inputs, such as fuel combustion, EFs at facility level and, in some cases, directly measured emissions. Integration of the estimation methods and data is critical for ensuring that changes in emissions at the facility level are captured efficiently and accurately in the national inventory. The CER manages the process of input data collection from companies and the dissemination of this data to relevant agencies, including the national inventory agency (the Department of the Environment).

The inventory agency access NGER data, reported by companies through the EERS, via a secure data portal into the data collection agency (the CER). The inventory agency enters activity data collected through the NGER scheme into its Australian Greenhouse Emissions Information System (AGEIS) input database using predefined data entry templates. The NGER Act makes provision for access and use of NGER data for inventory compilation purposes. The NGER Act also incorporates strict provisions for the handling of confidential data including severe penalties for disclosure of confidential NGER data. Consequently, confidential data handling processes are given careful consideration. To fit in with the data from the EERS, the national inventory is also reported on a fiscal year basis (July to June). The NGER system data is used directly in the compilation of the national inventory; as highlighted in red in Figure 1

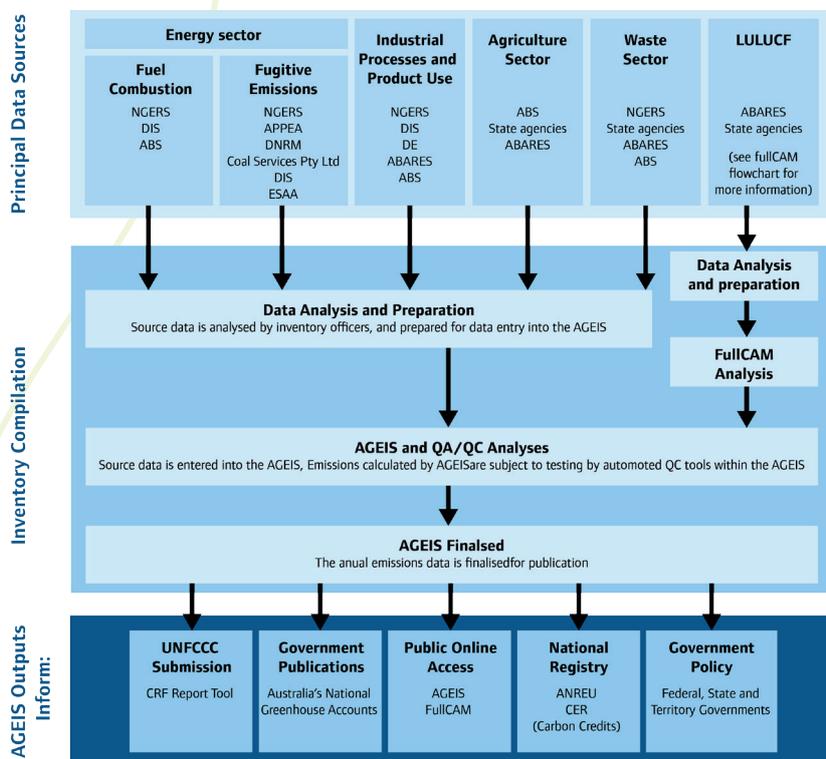


Figure 1: NGERs data used in national inventory

²¹ <https://openknowledge.worldbank.org/bitstream/handle/10986/23741/K8658.pdf?sequence=5&isAllowed=y>

²² IPCC 2006 guidelines

²³ https://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.html

²⁴ <https://www.anao.gov.au/work/performance-audit/administration-national-greenhouse-and-energy-reporting-scheme>

Australia's National Greenhouse Accounts are published and shared through online publications and the AGEIS; the Department of Environment's emissions estimation, emissions data management and reporting systems. Other functions include QC functions, report production, Common Reporting Format (CRF) Reporter Tool population, data archiving and public disclosure. The interactive web interface provides enhanced accessibility and transparency to Australia's GHG emissions data.

The CER administers the NGER Act, its legislative instruments, and related policies and processes. The stages in the NGER system that CER follow and are responsible for are:

- » registering and deregistering companies for reporting;
- » receiving reports via the EERS;
- » monitoring and enforcing compliance;
- » applying the audit framework (verification);
- » administering the National Greenhouse and Energy Register and;
- » publishing data.

Verification

The NGER Act provides for a risk-based system for the independent verification of NGER data. Under the Act, the CER has the authority to order a corporation to conduct an external audit on aspects of the corporation's compliance with the Act or with the regulations. Sections 73 and 74 of the Act define the circumstances under which a greenhouse and energy audit may be initiated and allow for the appointment of Registered Greenhouse and Energy Auditors to undertake audit engagements. The NGER Audit Determination 2009 sets out the requirements for preparing, conducting and reporting on greenhouse and energy audits. The Determination requires auditors to comply with a number of standards including ISO standard 14064. Greenhouse and energy audits may only be conducted by a greenhouse and energy auditor who has been registered under section 75A of the Act. The purpose of greenhouse and energy audits is to determine the extent to which entities that are required to register and report under the Act have, or have not, complied with its requirements. Significant penalties may apply to Chief Executive Officers of companies for contravention of the Act. Given the risk of a mandatory audit ordered by the CER, and the threat of significant penalty, many companies have voluntarily utilized external auditors to audit their reports prior to submission to the CER in 2009-2014. For the period 1 July 2013 to 30 June 2014, audits (mandatory and voluntary) were conducted on liable entities covering greater than 98% of liable entity emissions.

Design and set-up

[Questions below should be answered only when applicable]

- » How was the system designed?
- » What was the overall process to set-up the system?

The NGER system was designed by the Department of Environment in 2007 and the Department of Climate Change in 2008, in consultation with relevant departments and agencies and subject to Parliamentary approval. In 2009, an independent agency, the Greenhouse and Energy Data Office, was established to implement the NGER Act – later replaced by the independent the CER, which was established to implement the Clean Energy Act. The Department of Environment retains policy responsibility for the NGER Act.

The design of the system was subject to extensive stakeholder consultation which began in late 2004. A record of public consultation and stakeholder consultation is published in the consultation sector of the NGER Act explanatory memorandum²⁵.

A fundamental principle of design was that the data collected NGER be consistent for compilation of the national inventory for the purpose of submission to the UNFCCC. This required alignment with UNFCCC reporting categories, fuel and activity types and methods.

²⁵https://www.legislation.gov.au/Details/C2007B00169/Explanatory%20Memorandum/Text#_Toc174770058

Another principle was to ensure that the NGER addressed the inconsistencies of the different reporting schemes at the regional level (states and territories) and provided a single reporting framework. To enable this, the NGER Streamlining Protocol²⁶ was introduced in 2009. The protocol was introduced to ensure a standard approach to collecting greenhouse and energy information was implemented nationally. The Protocol is designed to provide guidance to program managers and policy makers on national approaches to greenhouse and energy accounting and reporting.

During set-up, priority was given to those elements of the system necessary to facilitate registration and reporting by corporations, other key objectives of NGERs were progressed sequentially at later times, such as the compliance and audit program.

For the design and set up of the EERS, Australia contracted Microsoft who tailored the system to their unique legislative requirements. The system was built to ensure updates could be managed internally without the large amounts of time and cost required by the previous system (Online System for Comprehensive Activity Reporting, OSCAR). A 'sandbox' training environment was created to allow reporters to become familiar with the system during a soft launch. Participants were able to navigate through the system and gain an understanding of how to report their emissions. Australia indicated that allowing reporters from select sectors to participate in user testing before the software was released meant that they knew the system could deal with the complicated data entry requirements against real-world data and scenarios. Testers were able to give feedback on the system prior to full launch.

Improvement over time

» Is there an internal evaluation of the systems established aiming to enable improvement over time?

NGER Act (s76A) provides for reviews of the operation of the Act by the Climate Change Authority of the Act and instruments under the Act, between 30 June 2016 and 31 December 2018 and every five years after completion of that review. The Climate Change Authority is an entity created by an Act of Parliament to provide expert advice on Australian Government climate change initiatives. The NGER Act is scheduled to be reviewed by the Climate Change Authority prior to 2018. The NGER Act is subject to a sunset clause²⁷ in 2018, which will also trigger an internal departmental review.

In addition, the methods and emissions factors used in NGER were reviewed by the Department in 2010 and 2011 through a formal review of the NGER (Measurement) Determination. In addition, each year the methods and emission factors undergo an annual evaluation by the Department which includes seeking input from external stakeholders.

Ongoing maintenance and development of the EERS is conducted in-house and occurs on an annual cycle. This process involves several steps and several skilled staff including business analysts, an application architect, subject matter experts, and software developers.

²⁶<http://www.co2-sachverstaendiger.de/pdf/Australian%20National%20Greenhouse-and-energy%20Reporting%20Streamlining%20Protocol.pdf>

²⁷In public policy, a sunset clause is a measure within a statute, regulation or other law that provides that the law shall cease to have effect after a specific date, unless further legislative action is taken to extend the law. (source: https://en.wikipedia.org/wiki/Sunset_provision)

Institutions involved

- » What institutional arrangements allow for the flow and integration of this information?
- » What types of entities take a role in the above structures?

Lead: CER - Government body responsible for administering legislation that will reduce carbon emissions and increase the use of clean energy.

Institutional arrangements:

- » Department of Environment - formal oversight of the NGER Scheme and responsibility for tracking progress against Australia's target under the Kyoto Protocol. The Department fulfil this role by ensuring that NGER Scheme legislation continues to support emissions reduction policies and by conducting research to inform policy makers and the public.
- » All companies who qualify under the NGER Scheme
- » National GHG inventory team (Department of Environment)
- » Users of NGER data including the Australian Bureau of Statistics and the Department of Industry, Innovation and Science.

Case learning

Why is it good practice

- » Australia's national GHG inventory is being informed by accurate, transparent and complete corporate data from companies who are responsible for submitting data following a standardized procedure that has several QA/QC processes and uses a user-friendly tool. The corporate data allows changes in emissions to be seen at a corporate and facility-level.
- » Internationally accepted methodologies and language are used in the guidance for companies who are required to report their emissions or energy consumption data. The Australian government put a lot of effort in to producing clear and public guides and training videos which are free to access for everyone in a user friendly website.
- » The NGER system uses architecture already in place, so effort and resources were used in an efficient way.
- » The current state of inventory system did not come about overnight; it is a result of gradual development from national experts and institutions.
- » In addition to the above mentioned, the NGER system supported the carbon pricing mechanism in Australia; this was an emissions trading scheme that put a price on carbon between 2012 and 2014. The carbon pricing mechanism was repealed from 1 July 2014²⁸.

²⁸<http://www.cleanenergyregulator.gov.au/Infohub/CPM/About-the-mechanism>

Barriers that have been overcome

[barriers that have been overcome till date]

Information: An ANOA IT Security audit of the first online tool (Online System for Comprehensive Activity Reporting (OSCAR)) was undertaken and identified significant security vulnerabilities. ANOA made recommendations to the DCCEE1. These were addressed and helped to highlight the importance of solving vulnerabilities in IT based systems.

Barriers to overcome

[barriers that are still present and needed to overcome]

Information:

» Confidentiality continues to be a concern in the chemicals sector where there are only a small number of companies in operation. Confidentiality provisions of the NGER Act restrict the transparency of the data that can be reported in the chemicals sectors of the GHG inventory. Further options to report disaggregated data are limited.

» Reporting obligations and the associated inefficient use of resources were frequently cited as a significant problem by respondents to the ANAO survey and during discussions with stakeholders. Of the corporations surveyed, 63 out of 108 respondents (58.3 %) stated there had been no reduction in reporting requirements¹. Since, there has been a number of instances where reporting burdens have been reduced as experience has been gained over time; this has been largely achieved through proactive management by the CER. A review of the Act is planning to be undertaken by the CCA at the end of 2018 where issues such as the reporting burden may be considered.

Quantitative information

Funding obtained

Funding is obtained from the Government

Funding required

For the EERS, Australia incurred AUD16.1m (\$11.426m USD) in development costs over the period 1 April 2012 to 30 June 2015, which were attributable primarily to the engagement of consultants and contractors to develop the software²⁹. This does not take into account initial design and set-up costs.

The costs of setting up and running the NGER system as a whole are unknown.

²⁹<https://openknowledge.worldbank.org/bitstream/handle/10986/23741/K8658.pdf?sequence=5&isAllowed=y>

³⁰<https://openknowledge.worldbank.org/bitstream/handle/10986/21981/Guide%20For%20Designing%20Mandatory%20Greenhouse%20Gas%20Reporting%20Programs.pdf?sequence=1&isAllowed=y>

Staff

[Number of staff involved in the design and implementation of the case study]

The NGER system involves a team of around 50 spread across different divisions engaged in a range of activities, such as data collection, random audits, verification, outreach, and education³⁰

Time

[Time required to get to this stage]

Discussions regarding designing and setting up the NGER system began in late 2004. The system was in place by 2008. Annual reports have been submitted by companies under the NGER system for Australian financial years since 2008-09. This data was first used to inform the 2009 inventory (published in 2011).

Further information**Contact for enquiries**

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<http://www.environment.gov.au/climate-change/greenhouse-gas-measurement/nger>

References

Australian Government, 2007. National Greenhouse and Energy Reporting Act 2007. Available at: <https://www.legislation.gov.au/Details/C2014C00813>

Australian Government, 2007. National Greenhouse and Energy Reporting Bill 2007: Explanatory Memorandum. Available at: https://www.legislation.gov.au/Details/C2007B00169/Explanatory%20Memorandum/Text#_Toc174770058

Australian Government, 2008. National Greenhouse and Energy Reporting Regulations 2008. Available at: <https://www.legislation.gov.au/Details/F2015C00852>

Australian Government, 2015. Measurement Determination. Available at: <http://www.cleanenergyregulator.gov.au/NGER/Legislation/Measurement-Determination>

Australian Government, 2011. Clean Energy Act 2011. Available at: <https://www.legislation.gov.au/Details/C2011A00131>

Australian National Audit Office, 2012. Administration of the NGER Scheme. Available at: <https://www.anao.gov.au/work/performance-audit/administration-national-greenhouse-and-energy-reporting-scheme>

Clean Energy Regulator, 2013. Client Portal. Available at: <https://sts.cleanenergyregulator.gov.au/adfs/ls/?wa=wsignin1.0&wtrealm=https%3a%2f%2fportal.cleanenergyregulator.gov.au%2f&wctx=rm%3d0%26id%3dpassive%26ru%3d%252f&wct=2016-04-27T10%3a12%3a17Z&wreply=https%3a%2f%2fportal.cleanenergyregulator.gov.au%2fWIFHandler%2f>

Clean Energy Regulator, 2015a. NGER: Reporting Thresholds. Available at: <http://www.cleanenergyregulator.gov.au/NGER/Reporting-cycle/Assess-your-obligations/Reporting-thresholds>

Clean Energy Regulator, 2015c. EERS: Tools to assist you. Available at: <http://www.cleanenergyregulator.gov.au/OSR/EERS/Tools-to-assist-you>

Clean Energy Regulator, 2015b. The Emissions and Energy Reporting System. Available at: <http://www.cleanenergyregulator.gov.au/OSR/EERS/The-Emissions-and-Energy-Reporting-System>

Clean Energy Regulator, unknown. User guide: self-service EERS user management via the Client Portal. Available at: <http://www.cleanenergyregulator.gov.au/DocumentAssets/Documents/User%20guide%20-%20Self-service%20EERS%20User%20Management%20via%20the%20Client%20Portal.pdf>

Department of Climate Change, 2009. National Greenhouse and Energy Reporting Streamlining Protocol. Available at: <http://www.co2-sachverstaendiger.de/pdf/Australian%20National%20Greenhouse-and-energy%20Reporting%20Streamlining%20Protocol.pdf>

Department of the Environment, 2014. Technical Guidelines for the estimation of GHG emissions by facilities in Australia: National Greenhouse and Energy Reporting (measurement) Determination 2008. available at: <http://www.environment.gov.au/system/files/resources/da7bde5c-1be2-43f7-97d7-d7d85bb9ad6c/files/nger-technical-guidelines-2014.pdf>

IPCC, 2006. Guidelines for National Greenhouse Gas Inventories. Available at: <http://www.ipcc-nggip.iges.or.jp/public/2006gl/>

IPCC, 2007. IPCC Fourth Assessment Report (AR4): synthesis report. Available at: https://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm

Industrial Efficiency Policy Database, 2013. AU-2: Generator Efficiency Standards (GES). Available at: <http://iepd.iipnetwork.org/policy/generator-efficiency-standards-ges-ended>

Kauffmann, C., Less, CT. and Teichmann, D, 2012. Corporate Greenhouse Gas Emission Reporting: A Stocktaking of Government Schemes. OECD working papers on international investment, No. 2012/1. Available at: http://www.cdsb.net/sites/cdsbnet/files/attachments/oecd_consistency_report.pdf

Parliament of Australia, 1999. The Greenhouse Challenge, Part A. Available at : http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Completed_inquiries/1999-02/gobalwarm/report/c08a

Partnership for Market Readiness, 2016. Greenhouse Gas data management: building systems for corporate/facility-level reporting. Technical note 12. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/23741/K8658.pdf?sequence=5&isAllowed=y>

Singh, N and Bacher, K, 2015. Guide for designing mandatory GHG reporting programmes. Partnership for Market Readiness, World Resource Institute and World Bank Group. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/21981/Guide%20For%20Designing%20Mandatory%20Greenhouse%20Gas%20Reporting%20Programs.pdf?sequence=1&isAllowed=y>

UNFCCC, 2015. Australia's Intended Nationally Determined Contribution to a new Climate Change Agreement. Available at: <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Australia/1/Australias%20Intended%20Nationally%20Determined%20Contribution%20to%20a%20new%20Climate%20Change%20Agreement%20-%20August%202015.pdf>

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