

National Waste Data System
System Summaries –
National Greenhouse and Energy Reporting

Department of Sustainability, Environment, Water,
Population and Communities

December 2012

Report

Report preparation

Authors: Jerastin Dubash
Associate
Net Balance
Rebecca Cain
Senior Associate
Net Balance

Project Manager: Guy Edgar
Associate Director
Net Balance

Project Director: Robyn Leeson
Director
Net Balance

Status: Final

Department of Sustainability, Environment, Water, Population and Communities
National Waste Data System
December 2012

NB Ref: MMPJ10DWH150

The views and opinions expressed in this publication are those of the authors and do not necessarily reflect those of the Australian Government or the Minister for Sustainability, Environment, Water, Population and Communities.

While reasonable efforts have been made to ensure that the contents of this publication are factually correct, the Commonwealth does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this publication.

Table of Contents

Introduction.....	1
Background.....	1
Purpose.....	1
NGERS/OSCAR system.....	2
Description	2
History and development of use	2
Key objectives and design attributes	3
Data system structure, architecture and business requirements.....	4
Supportive legislation.....	6
Roles and responsibilities of system operators.....	7
Costs associated with system operation and maintenance.....	7
Limitations.....	8



Introduction

Background

A new *National Waste Policy: Less Waste, More Resources* (the Policy) was agreed upon by Australia's environment ministers in November 2009. The Policy includes 16 strategies that will be implemented over ten years. Strategy 16 covers the design and development of an online, accessible and up-to-date National Waste Data System (NWDS) for Australia, to support a periodic (three-yearly) National Waste Report.

Purpose

There are a number of Australian government models in place that capture environmental data, including waste data. It is prudent to review these systems to identify any alignment with the objectives of the NWDS and to capture learnings from the development and management of these systems. The three systems being reviewed are:

- The National Greenhouse and Energy Reporting Scheme (NGERS); comprising the Online System for Comprehensive Activity Reporting (OSCAR) and the NGER Disclosure Tool (NDT), but with replacement systems under development for release in 2013
- The National Pollutant Inventory (NPI)
- The Australian Bureau of Statistics' approaches to, and systems for, waste and recycling data.

The review consisted of desktop research, a system walk-through and interviews with the system operators.

Four reports have been produced as outputs of this project:

- Three systems summaries, each profiling one of the systems listed above (including this report)
- An integration opportunities report - A concise, non-technical report for a broad stakeholder audience covering all three Australian Government data systems.

NGERS/OSCAR system

Description

The Online System for Comprehensive Activity Reporting (OSCAR) is a web-based data collection tool to assist organisations in recording energy and greenhouse gas data. Collected data is then made available to Australian, state and territory government agencies via an associated web-based system – the NGER Disclosure Tool (NDT).

The *National Greenhouse and Energy Reporting Act 2007* (the NGER Act) places registration and reporting obligations on corporations that exceed energy and greenhouse thresholds for their corporations as a whole or for individual facilities under their control. As of 1 December 2011, 812 corporations had registered. These corporations include manufacturers, universities, mining and energy companies and local governments¹.

OSCAR is the reporting tool that enables corporations to fulfil the reporting obligations prescribed by the NGER Act.

Data on waste that is submitted via OSCAR includes quantity of waste disposed to landfill and the source sector for the waste – municipal, commercial and industrial, or construction and demolition and the production of energy from waste.

History and development of use

The Australian Government is committed to ensuring Australia meets its responsibilities in facing the global challenge of climate change. This includes a comprehensive approach to:

- ✓ reduce emissions in Australia in the short and long term
- ✓ work with the international community to develop a global response that is effective and fair
- ✓ prepare for the inevitable impacts of climate change.

As part of these responsibilities, the Australian Government introduced the NGER Act which introduced a national framework for the reporting and dissemination of information about greenhouse gas emissions, greenhouse gas projects, and energy use and greenhouse gas production by corporations (the National Greenhouse and Energy Reporting Scheme or NGERS). The Government committed to providing a reporting tool to assist corporations in meeting their annual reporting obligations, and OSCAR was developed.

With the introduction of government policy and initiatives including the Council of Australian Governments (COAG) streamlining agenda, NGERS and a carbon pricing mechanism,

¹ http://www.climatechange.gov.au/government/initiatives/national-greenhouse-energy-reporting/~/_media/publications/greenhouse-report/national-greenhouse-energy-register-pdf.pdf

it is important that the government has a cost-effective, flexible reporting platform to meet changing needs. It has been determined that OSCAR and NDT cannot meet these requirements in the medium to long term, and so they are expected to be replaced in 2013.

OSCAR and NDT have been under constant development for most of their service lives, being continually modified to meet emerging requirements. Constant system changes within tight timeframes have created some underlying architectural issues, making further modification and maintenance costly.

Prior to 2 April 2012, the NGER Act and its supporting systems were administered by the Department of Climate Change and Energy Efficiency (DCCEE). Since that time, they have been administered by the Clean Energy Regulator (CER).

Key objectives and design attributes

The objectives of the NGER Act, the driver for the establishment of OSCAR and NDT, are to:

- implement a carbon pricing mechanism
- inform government policy and the public
- meet Australia's international reporting obligations
- assist Australian, state and territory governments programs and activities
- avoid the duplication of similar reporting requirements in the states and territories.

OSCAR supports ten Government reporting programs. The required data set varies between programs, however, they can be broadly categorised into three types:

- NGERS – the NGER Act creates an obligation for the Australian Government to publish greenhouse emissions and energy consumption data for those corporations that exceed the corporate and facility emissions thresholds stated in the Act.
- Energy Efficiency Opportunities (EEO) - administered by the Australian Government Department of Resources, Energy and Tourism, covers mandatory identification and reporting of industry energy efficiency opportunities that can be implemented by industry. Companies that report under the EEO are a subset of those that report under NGERS (the energy consumption threshold for EEO is higher than for NGERS) and the program utilises NGER data to avoid data duplication and unnecessary reporting by industry.
- Government Programs - these programs gather data about Australian, state and territory government operations including energy, greenhouse emissions, greenhouse reduction actions, performance, and some waste data. A separate reporting program exists for each jurisdiction, each with its own department (not the CER) assigned to provide administration. Government departments within each program submit this data via OSCAR. The Australian Government reporting program is called the Government Greenhouse Energy Reporting program (GGER), and is administered by DCCEE. It publishes data annually on energy efficiency in Australian

government operations.

Of the ten programs supported by OSCAR, NDT is only used by the NGERS program.

Data system structure, architecture and business requirements

System structure

OSCAR includes:

- an online registration tool for corporations to apply to be registered – basic data entry screens and report functionality to print a registration application
- discreet data entry screens that guide reporters to enter greenhouse and energy data, higher order method emissions factors, corporate structure details and other matters to be identified as required by the legislation
- underlying calculation tables for each reporting period to calculate emissions totals across the corporate group
- underlying reference data tables for standard factors and data that is linked to data entry and calculation tables
- report modules to enable summary reports, and annual report templates where data is populated from data entry screens and underlying calculations
- validation processes to improve data quality
- separate reporting periods so that each year has unique emissions factors, calculations, and report templates to align with any changes in the underlying legislation
- business process management screens for registration and report management administration.

NDT includes:

- a number of reporting databases which present content and reports using Microsoft Reporting Services.

The OSCAR and NDT system structure is presented in Figure 1.

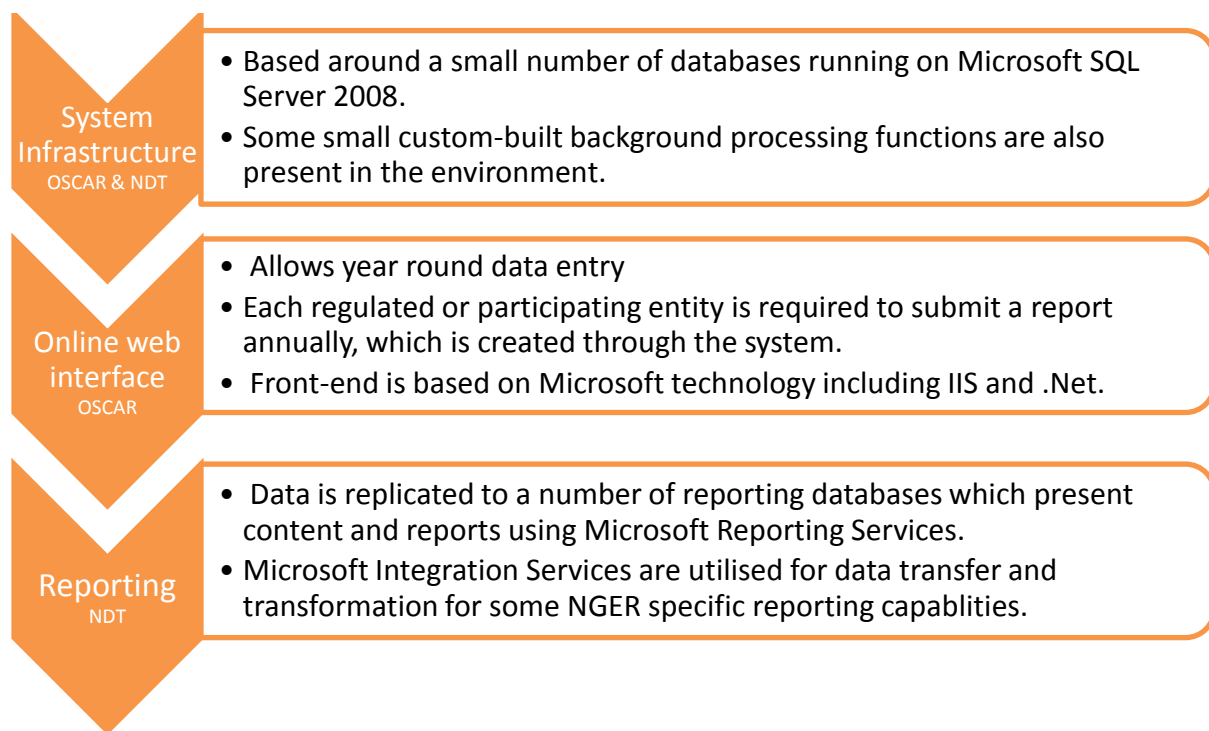


Figure 1: OSCAR and NDT system structure

OSCAR and NDT operate 24 hours a day, 7 days a week but are only supported during AEST business hours. The goal of the operators has been that OSCAR and NDT will be available 98.5% of this time, although this is not formalised.

Access and security requirements

There are strict provisions in the NGER Act about which government agencies can access NGER data, and what data they can access. The main data users are:

- DCCEE
- Department of Resources, Energy and Tourism (ABARE and Energy Efficiency Opportunities program)
- Australian Bureau of Statistics (ABS)
- Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC)
- All state and territory governments

Monitoring user access, however, is only part of maintaining the confidentiality of the NGER data. Figure 2 represents how data security levels are maintained through OSCAR and NDT system functionality in accordance with 'unclassified-sensitive' security obligations.

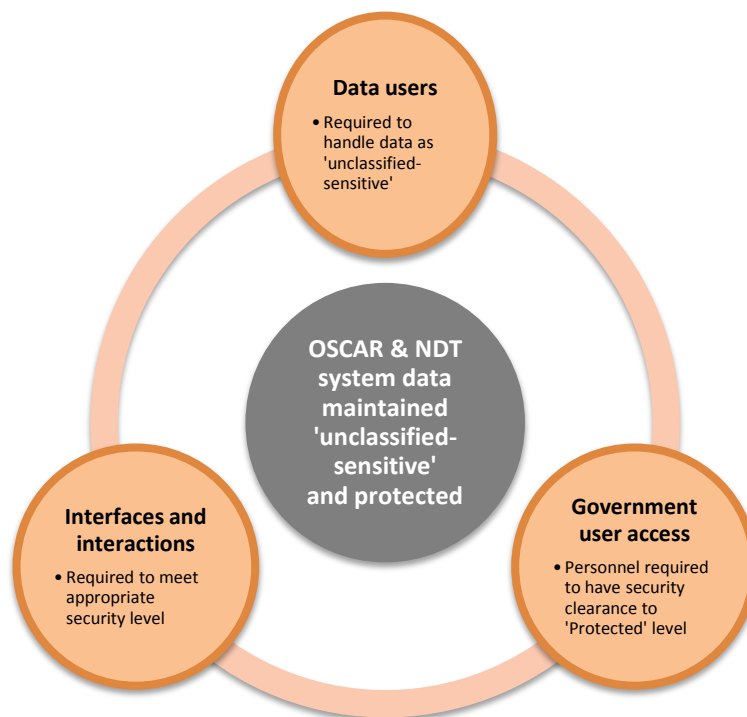


Figure 2: Data security maintenance for the OSCAR & NDT systems

The addition of a business platform

A contracted software developer and external system host have been utilised to support, maintain and further develop OSCAR and NDT to meet changing needs. The CER is developing new systems to replace OSCAR and NDT, at this stage for the NGRS program only, for release in 2013. These will provide enhanced capability to existing programs and enable new programs to be supported and become usable more quickly. The replacement systems will also provide improved flexibility, automation and integration with other systems. Overall, this will allow for more collaboration and data sharing between agencies at the Australian, state and territory levels, and will make the system more cost-effective and able to meet business needs. Any discussion or planning around interfacing or integration with CER systems, such as by the National Waste Data System, should consider the CER's transition to these new systems.

Supportive legislation

The NGER Act places registration and reporting obligations on controlling corporations that exceed specific energy and greenhouse thresholds for the corporate group or for individual facilities.

Roles and responsibilities of system operators

Roles and responsibilities of the system operators and data providers are provided in Figure 3.

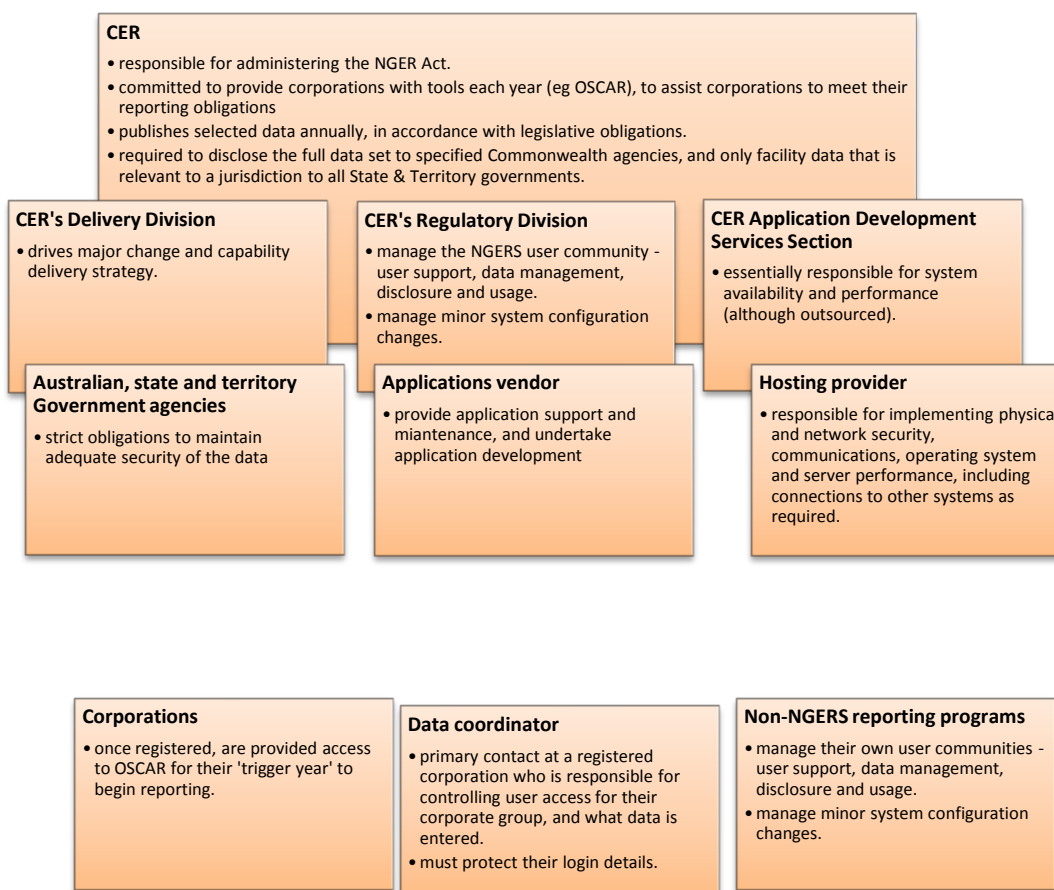


Figure 3: Roles and responsibilities

Costs associated with system operation and maintenance

- System hosting costs are significant but are in line with standard industry hosting costs for systems of this nature.
- Development costs have been previously high, due to the system complexity of OSCAR and NDT that has evolved over many years and the resulting misalignment of system architecture for current business purposes. Replacement systems being released in 2013 are intended to address this.

Limitations

Net Balance Management Group Pty Ltd (Net Balance) has prepared this report in accordance with the usual care and thoroughness of the consulting profession. This report has been prepared for use by DSEWPaC, and only those third parties who have been authorised in writing by Net Balance.

The Report is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in the project brief. The methodology adopted and sources of information used by Net Balance are outlined in this report.

This report was initially prepared in March and April 2011, and updated in November and December 2012 to reflect subsequent changes. It is based on the conditions encountered and information reviewed at the time of preparation. Net Balance disclaims responsibility for any changes that may have occurred after this time.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.