Australian Government
Department of Industry, Science and Resources

Emissions Reduction Plan

2024-2025

Acknowledgement of Country

Department of Industry, Science and Resources recognises the First Peoples of this Nation and their ongoing cultural and spiritual connections to the lands, waters, seas, skies, and communities.

We Acknowledge First Nations Peoples as the Traditional Custodians and Lore Keepers of the oldest living culture and pay respects to their Elders past and present. We extend that respect to all First Nations Peoples.

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Accountable authority sign off

The Australian Government released the Net Zero in Government Operations Strategy in November 2023, setting out the overall approach and action required by Commonwealth entities to achieve the APS Net Zero 2030 target.

The Net Zero in Government Operations Strategy represents a strong commitment by the Australian Government to lead by example on emissions reduction and contribute to the decarbonisation of Australia's economy.

The Department of Industry, Science and Resources (the department) is committed to the achievement of the Government's APS Net Zero 2030 target. The department is following the APS Net Zero 2030 target in full, as per the Net Zero in Government Operations Strategy.

This Emissions Reduction Plan describes the priorities and actions the department is taking to reduce our operational emissions and contribute to the APS Net Zero 2030 target.

SIGNED BY ACCOUNTABLE AUTHORITY

Meghan Quinn

Secretary

Emissions Reduction Plan

Purpose

The Department of Industry, Science and Resources is responsible for managing and implementing emissions reduction initiatives set by the Australian Government's Net Zero in Government Operations Strategy (the NZGO Strategy) developed by Department of Finance. The NZGO Strategy sets out the Australian Government's approach to achieving net zero greenhouse gas emissions from its operations by 2030 and the reinstatement of public emissions reporting.

The goal of this Emissions Reduction Plan is to provide a pathway for the department to contribute to achieving the APS Net Zero 2030 target through emissions reduction activities. This plan encompasses existing and new priorities and actions in the department to reduce emissions.

We have completed this Emissions Reduction Plan according to the NZGO Strategy, associated guidance and reporting standards for annual emissions reporting.

Net zero greenhouse gas emissions

APS Net Zero 2030 is the target set by the Australian Government to achieve net zero greenhouse gas emissions from government operations by the year 2030. It includes scope 1 and scope 2 emissions from activities in Australia and its territories, as described in the NZGO Strategy. The APS Net Zero 2030 target applies at the aggregate level to non-corporate Commonwealth entities and generally covers the entirety of the entity's organisation. From an organisational perspective, this means minimising the greenhouse gas emissions that are in our control.

Governance and reporting

We will include our progress against actions identified in this Emissions Reduction Plan, and any further measures we adopt, in our annual reports. We will use this, combined with our annual emissions reporting, to measure of the department's progress towards reducing its emissions.

As part of the Net Zero in Government Operations Annual Progress Report, the Department of Finance will aggregate these measures to provide whole-of-Australian Government emissions reporting.

Operational context

The department operates across all Australian states and territories with about 3500 personnel nationally. Our facilities consist of around 60 properties including office buildings, warehouses, laboratories, science visitor centres and carparks.

Operationally we have 3 large special purpose laboratories at Linfield and North Ryde (NSW) and Port Melbourne (VIC) that operate 24/7. We also have 2 public facilities: Questacon in the ACT and the Space Discovery Centre in Adelaide, SA. These sites provide unique operational constraints that create complexity in our Emissions Reduction Plan.

Baseline emissions

Baseline emissions are a record of greenhouse gases that have been produced in the past and were produced prior to the introduction of any strategies to reduce emissions. The baseline emissions from financial year 2022–23 are the reference point against which we can measure emissions reduction.

The baseline emissions for this plan focus on scope 1 and scope 2 emissions, consistent with the APS Net Zero 2030 target. We calculated electricity-related emissions using the location-based method. We have published the complete 2022–23 greenhouse gas emissions inventory tables for the department in our 2022–23 annual report.

Baseline year	Financial year 2022–23 – location based[1]
Scope 1 emissions	444.464 t CO_2e
Scope 2 emissions	11,796.751 t CO_2e
Total emissions	12,241.215 t CO_2e

The baseline emission reporting showed that most of the department's emissions are scope 2 energy usage. An assessment of this usage showed that 5 sites account for over 90% of the total energy consumption.

Top 5 energy consumption sites

Item no.	Site	Property type	Energy consumption (GJ)	Contribution to portfolio (%)
1	Lindfield	NMI Laboratory	18,022	28%
2	North Ryde	NMI Laboratory	15,781	25%
3	Canberra	Office Tenant Light and Power/Computer Centre	10,164	16%
4	Port Melbourne	NMI Laboratory	8,943	14%
5	Questacon	Public Building	6,441	10%
Total energy contribution to the portfolio			59,351	**93%**

The department will prioritise these sites when considering emissions reductions measures. Lindfield, North Ryde and Port Melbourne have unique energy needs. They are NMI laboratories[2] that must operate 24 hours a day, 7 days per week due to sensitive and high value activities.

[1] Location-based method reflects the average emissions intensity of the grid where the energy consumption occurs.

[2] The National Measurement Institute is responsible for the development and maintenance of national measurement standards that are recognised internationally.

Lindfield

Due to planning for the future of the NMI Lindfield and North Ryde sites, the department is considering measures that:

- provide emissions reductions and financial savings within the timeframe of the current lease commitment
- are mandatory to implement or consider within a certain timeframe.

Measures that we are considering that meet these criteria:

- feasibility and requirement of EV charging infrastructure
- discussions with CSIRO Sustainability Team on their proposed measures and their renewable energy contract.

Measures in place:

- CSIRO is responsible for the electricity supply for this site. They have a renewable energy contract that offsets all the electricity-related emissions.

North Ryde

Due to planning for the future of the NMI Lindfield and North Ryde sites, the department is considering measures that:

- provide emissions reductions and financial savings within the timeframe of the current lease commitment
- are mandatory to implement or consider within a certain timeframe.

Measures that we are considering that meet these criteria:

- feasibility and requirement of EV charging infrastructure
- options to install behind-the-meter renewable energy solutions.

Canberra

Industry House is the third-highest energy consumer within the portfolio. We are considering measures including:

- an integrated light-emitting diode (LED) lighting and controls upgrade, projected to decrease tenancy lighting energy use by up to 50%
- exploring feasibility of installing electric vehicle (EV) charging stations.

The department has identified an opportunity to improve energy efficiency. We are considering a lighting upgrade and have undertaken a technical feasibility study.

Port Melbourne

The department commissioned a level 2 Energy Audit at this site to explore potential energy efficiency enhancements and assess any associated environmental and economic advantages. A lease incentive is available to the department that is intended to fund sustainability measures.

The department plans to evaluate and potentially adopt identified emissions reduction measures to help reduce the electricity-related emissions footprint at Port Melbourne.

Questacon

Questacon started its Net Zero journey in 2020 by measuring its 2019 emissions footprint.

Questacon started reducing its emissions footprint by:

- undertaking an energy audit
- building envelope improvements
- modifications to air-conditioning systems
- implementing a gas to electric transition
- switching to a refrigerant gas with a much lower global warming potential
- increasing on-site renewable energy including installing polycarbonate solar panels.

These initiatives are scheduled to be fully in place by the end of 2024.

A longer-term emission reduction strategy is to transition fleet vehicles to EV's.

Time series show historical emissions trends and track the effects of emission reduction strategies. We plan to calculate the time series using the same methods and data sources in all years. However, as we expect to continually add and improve on emissions measurements, data collection methods, methodological refinements and reporting requirements, we are implementing strategies to ensure time-series consistency from the outset. We will diligently document our approaches to estimated emissions, including methodologies and data sources, in the Net Zero in Government Operations Annual Progress Reports. This will be key in ensuring confidence in time-series consistency.

Engagement

In the development of this plan, the department has been working with:

- The Department of Finance
  - Climate Action in Government Operations – to ensure that the plan aligns with the Net Zero in Government Operations Strategy and the Commonwealth Climate Disclosure requirements
  - Fleet team – to discuss options associated with low emissions vehicles
  - Travel team – to discuss options and considerations for lowering travel emissions
- Internal travel and fleet team – to discuss options associated with low emissions vehicles
- Evolve FM – Property Service Provider (PSP)
- Portfolio agencies – where possible we could address shared considerations to lower emissions across the portfolio.

Emissions reduction targets

The department is following the APS Net Zero 2030 target in full, as per the Net Zero in Government Operations Strategy. The target covers the entirety of our entity's operations within Australia and its territories for scope 1 and scope 2 emissions, as described in the NZGO Strategy.

Priorities and actions

For the department to contribute to achieving the APS Net Zero 2030 target, we need targeted action on existing emissions reduction measures. We also need to introduce new measures.

The department's current sustainability measures are not sufficient to achieve Net Zero by 2030. While the department is currently unable to provide emissions reductions targets, we are focused on it and working towards understanding our carbon footprint and setting realistic targets.

We have summarised our actions to achieve Net Zero in the following points, with further detail below:

- procuring renewable electricity
- improving building standards
- transitioning the department's owned and leased vehicles to low emission vehicles
- sustainable procurement.

Additional actions we are considering are:

- carbon modelling and purchasing offsets
- LED lighting planning
- solar PV and LED lighting upgrades
- electrifying sites where practical.

Building our emissions data

Emissions data is essential to identify priorities and target actions to reduce emissions.

- Department of Finance is continuing to expand the emissions reporting data requirements from the baseline data reported in our 2022–23 Annual Report.
- The initial focus of the 2022–23 reporting was on emissions associated with electricity, natural gas, fleet vehicles, domestic flights, and other energy.
- The dataset has expanded in the 2023–24 reporting period to include solid waste, refrigerants, accommodation and domestic non-air business travel (hire car only).
- The department will continue to work with the Department of Finance to expand its emissions reporting and identifying areas of improvement to ensure robust emissions data.
- The department will use the expanded emissions baseline data to inform emissions reduction measures.

Emissions reduction

Using the baseline emissions data, the department will:

- Determine options to reduce greenhouse gas emissions through a combination of energy efficiency, renewable energy and other measures, and usage of offsets.
- Implement the NZGO Strategy leasing measures to increase the energy efficiency of our buildings. This includes ensuring leased office spaces over 1000 square metres achieve the required NABERS rating, incorporate Green Lease Schedules and give preference to all-electric buildings.
- Incorporate sustainable practices in construction, refurbishment and fit-outs to minimise greenhouse gas emissions and improve circular economy[3].
- Undertake a high-level feasibility study of our top emitting sites to assess what emissions reductions are achievable and costs associated with those measures and offsets.
- Taking a fiscally responsible approach to undertaking emissions reduction measures, prioritise projects that have financial returns higher more favourable than procuring offsets.
- Use this analysis to implement a forward plan to reach net zero by 2030. We will include this in the next iteration of the Emissions Reduction Plan.

Culture and capability

- Continue to embed the newly established Chief Sustainability Officer (CSO) role, endorsed by the Executive Board in May 2024, to champion the NZGO Strategy and emissions reduction initiatives.
- Keep across guidance released from the Department of Finance that will further explain obligations and provide practical advice for implementation and achieving Net Zero.
- Undertake capability uplift within the department using Department of Finance advice, guidance, tools, case studies and training programs.

Buildings

The department's aim is to increase the energy efficiency of its properties in line with the NZGO Strategy. A key part of this is implementing the building energy rating targets. Energy ratings are provided under the National Australian Built Environment Rating System (NABERS).

Department of Finance will provide further advice (including for other building types and approaches to leasing) and guidance accompanying the NZGO Strategy. Further guidance will also address other considerations. These considerations include efficient use of space in the context of flexible and remote work and minimising electricity consumption. For example, energy efficient devices and behaviours like timed, energy efficient lights and installing window coverings or shading devices.

NABERS Ratings

From July 2025 there will be 6 office tenancies that will carry out NABERS tenancy ratings. The department will engage with its Property Service Provider (PSP) to organise NABERS benchmarking exercises. These assessments would provide insights into the current

[3] Circular economy refers to sustainable consumption and production, keeping resources in use for longer.

performance of each tenancy, allowing the department to pinpoint those that are underperforming.

If the department considers relocating to new office spaces, it will target premises that are both Green Star-rated and have a NABERS performance rating of 5.5 stars or higher. Buildings designed to achieve a Green Star As Built Certification typically incorporate energy-efficient features from the outset. These contribute to achieving the operational efficiencies aimed for in the Net Zero policy.

Current NABERS ratings

Location	Occupant	Base building rating type	Rating (without GreenPower[4])	Rating (with GreenPower)
Canberra	DISR	Energy	5	n/a
Sydney	DISR	Energy	5.5	n/a
Cairns	DISR	Energy	5	n/a
Brisbane	DISR	Energy	5	n/a
Melbourne	DISR	Energy	5.5	6
Perth	NOPTA	Energy	4.5	5
Lismore	NMI	Energy	5.5	n/a
Melbourne	DISR	Energy	5	n/a
Griffith	Aus Industry	Waste	3	n/a
Adelaide	DISR	Energy	6	n/a
Darwin	DISR	Energy	5.5	n/a
Hobart	DISR	Energy	5	n/a
Perth	DISR	Energy	3.5	n/a
Deakin	DISR	Energy	Currently undergoing renewal for a whole building rating	n/a

Other strategies include reducing office space and overall footprint to help improve the energy efficiency of leased office space and leased buildings using emerging technologies in areas such as smart building technologies, energy efficient lighting and appliances and on-site renewable energy. These technologies would help measure and reduce energy consumption.

NZGO strategy targets

The department is working towards the NZGO Strategy Building targets.

[4] GreenPower is a government-managed program that enables consumers to choose to support renewable energy generation. When consumers buy GreenPower, their electricity supplier commits to purchasing an equivalent amount of electricity from renewable sources, such as wind, solar, water (hydro), and bioenergy, and feeding it into the national grid.

ACTION:

The department and PSP will:

- negotiate expiring leases or enter new lease arrangements that meet the 5.5 stars NABERS rating in line with the NGZO Strategy.
- ensure that new office spaces consider premises that meet the required energy performance measures outlined in the NZGO Strategy.

Electricity

Renewable electricity

Electricity is the largest contributor to the APS greenhouse emissions.

Department of Finance is undertaking a WoAG coordinated electricity procurement to provide renewable energy that will be mandatory for non-Corporate Commonwealth Entities.

While the Department of Finance is aiming for 100% procured renewable electricity, there is still an expectation that emissions reduction is a priority for entities.

NZGO strategy targets

The department is working towards the NZGO Strategy Energy targets.

ACTION:

The department and PSP will:

- consult with the Department of Finance to ensure participation in WoAG electricity procurement as per the NZGO Strategy and replace all electricity contracts with renewable electricity
- consider the use of lease incentives to enhance building energy efficiency, such as replacing standard lighting with LED lighting and installation of solar panels.

Fleet

Low emissions vehicles are battery electric vehicles, hydrogen fuel cell vehicles and plug in hybrid vehicles. A zero-emission vehicle is a battery electric vehicle or a hydrogen fuel cell vehicle.

The Commonwealth Fleet Vehicle Selection Policy supports the Low Emission Vehicle (LEV) target by requiring an ‘if not, why not’ approach to low emissions passenger vehicle selection, with a preference for zero emissions. It also sets criteria to limit ordering plug-in hybrid vehicles to exceptional circumstances. The department must comply with this policy.

NZGO strategy targets

The department is working towards the NZGO Strategy Fleet targets.

The 2026–27 Net Zero in Government Operations Strategy review will consider commercial vehicles and set targets to reflect options available in the market.

The department's current fleet consists of:

Fuel type	Passenger	Light commercial	Heavy commercial	Total	%
Diesel	3	59	6	**68**	68%
Hybrid (not plug in)	26	0	0	**26**	26%
Premium Unleaded	1	0	0	**1**	1%
Unleaded	5	0	0	**5**	5%
Total	**35**	**59**	**6**	**100**	100%
%	35%	59%	6%	100%	

Due to the composition of the department's fleet (with 66% commercial vehicles) the department is implementing a plan to transition to low emissions for:

- passenger vehicles as we place new orders (to meet the NZGO Strategy targets listed above)
- light and heavy commercial vehicles (where options are available to meet business requirements).

Targets for electric vehicles are:

Vehicle Type	Financial year	No. of vehicles	Comment
Passenger vehicles	2022–23	0	Due to the age of the passenger vehicle fleet, there were no orders placed in 2022–23
	2023–24	0	There were no orders placed in 2023–24 as a decision regarding replacement is still under consideration.
	2024–25	9	If there is an identified business need to continue to have a fleet vehicle, these will be replaced with electric vehicles. However, some may not be replaced if utilisation is low, there is no longer a business requirement and/or costings do not represent value for money.
Light Commercial Vehicles	2024–25	5	This depends on if there are suitable options available in the market to meet business requirements.

ACTION:

The department will:

- consider LEV options for all passenger vehicle orders to be placed in 2023–24
- develop an LEV replacement plan by June 2024 for 2024-25 and beyond which considers:
    - if a vehicle needs to be replaced. Analysis of usage data, business requirements and costings to be used to develop a business case.
    - LEV options for passenger vehicles to be ordered from 1 July 2024.
    - LEV options for light and heavy commercial vehicles from 1 July 2024 where available and meet operational requirements.
- update the fleet policy to reflect requirements for the department to reduce emissions and meet WoAG targets through vehicle selection
- consider internal funding options for moving to LEVs for divisions
- determine requirements for charging infrastructure
- collaborate with the Work, Health and Safety Team to develop safe driving guidelines for electric vehicles
- develop a risk assessment template for LEVs to consider work, health and safety and other risks.

Travel

There are currently 2 WoAG travel policies:

- Resource Management Guide No. 404: Official Domestic Travel – Use of the lowest practical fare.
- Resource Management Guide No. 405: Official International Travel – Use of the best fare of the day.

These policies focus on air travel and require officials to select the lowest priced fare that suits the business needs of the traveller. However, the policies also note that travel must only happen where other communication tools such as teleconferencing and videoconferencing are not suitable.

Similarly, we can coordinate accommodation and hire car arrangements in a way that reduces emissions. While relevant booking tools are yet to identify Net Zero or other sustainability options, we could use these arrangements to support achieving our Net Zero targets. For example, the department may procure offsets for flights in the future (although the intention is to develop a whole of government coordinated approach). When choosing a hire car, we can select low and zero emissions vehicles.

The Australian Government will also investigate preferring flights using sustainable aviation fuels. This will be guided by development of the Australian Government's Aviation White Paper and advice from the Australian Net Zero Council.

The Australian Government will encourage uptake of the NABERS Energy for Hotels rating tool. From 1 July 2024, Australian Government travellers must consider the environment when booking travel. To support greener travel choices, NABERS Energy ratings will be displayed next to applicable hotels in the Online Booking Tool from 1 July 2024.

The department will consider emissions information when procuring through the WoAG travel arrangements. These options will appear in travel policy updates that we will make following the release of the WoAG travel policies.

NZGO strategy targets

The department is working towards the NZGO Strategy Travel targets.

ACTION:

The department will:

- consider travel options to reduce emissions e.g, carbon offsets, selecting low or zero emissions vehicle when selecting a hire car, taking direct flights, airlines using sustainable aviation fuels, using NABERS energy ratings etc.
- comply with WoAG travel policies to reduce emissions
- comply with WoAG travel reporting to capture greater sustainability metrics and booking behaviour
- update the travel policy to reflect WoAG travel requirements (once in place) to reduce emissions and include other low-emission sources of transport such as trains or other land-based transport, low-emission transport to and from airports where air travel is required, etc.

ICT

Whilst the department has onsite server rooms, these aren't considered data centres in the context of the NZGO Strategy. This is because they do not meet the size requirements under the NABERS definition of a data centre.

NABERS defines a data centre as a computer server room that comprises:

a) at least 5 % of the total office Net Lettable Area (NLA) of the rated building, or

b) at least 25 % of the NLA of the floor on which it is located, or

c) at least 75 % of its capacity is dedicated to external users.

The combination of multiple computer server rooms is not considered a data centre.

However, the department does engage an external provider to provide data centre space to meet operational requirements. This data centre space is procured through the mandatory Data Centre Panel Arrangement managed by the Department of Finance.

The department's data centre provider offers all its customers by default net carbon zero electricity, which is backed on a 1:1 basis by renewable energy. Since 1 January 2024, the data centre provider delivers a net carbon zero electricity arrangement to customers for a 12-month period, each year (from 1 January to 31 December). This is in alignment with the timing of the Corporate Emissions Reduction Transparency report as administered by the Clean Energy Regulator.

Under the NZGO Strategy, future data centre panels will incorporate net zero considerations to enable entities to identify, report and reduce their emissions from ICT usage.

Data centre providers on the panel will need to have a 5-star NABERS Energy for Data Centres rating or equivalent environmental rating, such as a Power Usage Effectiveness of 1.4 or less.

NZGO strategy targets

The department is working towards the NZGO Strategy ICT targets.

ACTION:

The department will ensure that the department's data centre provider meets the NZGO Strategy targets.

This will be supported by the Department of Finance requiring all future Data Centre Panel providers to have a 5-star NABERS Energy for Data Centres rating or equivalent environmental rating, such as a Power Usage Effectiveness of 1.4 or less.

The department will use a provider of the mandatory Data Centre Panel to ensure compliance.

Involved participants

As well as the department's Property Service Provider (Evolve FM), the following divisions have been involved in the development of this plan:

Division
Chief Finance Officer Division
Chief Operating Officer Division
Chief Information Officer Division
Questacon

Appendix A: List of departmental properties

As at 29/08/2024

Building Type Definitions

Building Type	Definition
Carpark	A facility that staff are able to park cars at.
Laboratory	A facility with a fit out of specialised equipment for the purpose of conducting experimental study in a science or for testing and analysis.
Land	-
Observatory	A facility with equipment that is able to perform experimental study in astronomy or for testing and analysis of astronomical observations.
Office	A facility predominately occupied by work points. Offices are occupied for staff to carry out office-based work.
Visitors Centre	A facility with a fit out that is open to the public and entertains and educates visitors.
Warehouse	A facility predominately utilised for storage purposes.

List of Departmental Properties

State	Suburb	Building Type
ACT	Canberra	Office
ACT	Canberra	Office
ACT	Deakin	Office/Workshops
ACT	Fyshwick	Warehouse/Office
ACT	Parkes	Visitors Centre
NSW	Albion Park	Warehouse/office
NSW	Bathurst	Office
NSW	Callaghan	Office
NSW	Campbelltown	Office
NSW	Coonabarabran	Observatory
NSW	Griffith	Office
NSW	Lindfield West	Laboratory/Office
NSW	Lismore	Office
NSW	Londonderry	Land
NSW	Londonderry	Laboratory/Office
NSW	North Ryde	Laboratory/Office
NSW	Sydney	Office
NSW	Sydney	Carpark
NSW	Tamworth	Warehouse/office

State	Suburb	Building Type
NSW	Wagga Wagga	Office
NT	Alice Springs	Office
NT	Berrimah	Warehouse
NT	Darwin	Warehouse
NT	Darwin	Office
NT	Darwin	Carpark
QLD	Brisbane	Office
QLD	Cairns	Office
QLD	Coolum Beach	Warehouse/office
QLD	Currajong	Office
QLD	Garbutt	Warehouse
QLD	Geebung	Warehouse/office
QLD	Maroochydore	Office
SA	Adelaide	Office
SA	Adelaide	Carpark
SA	Adelaide	Office
SA	Adelaide	Visitors Centre
SA	Edwardstown	Warehouse/office
SA	Kimba	Office
SA	Mount Gambier	Office
SA	Napandee	Land
SA	Port Augusta	Office
TAS	Devonport	Warehouse/office
TAS	Devonport	Warehouse
TAS	Hobart	Carpark
TAS	Hobart	Office
TAS	Launceston	Carpark
TAS	Launceston	Office
VIC	Bendigo	Office
VIC	Bendigo	Warehouse/office
VIC	Keysborough	Warehouse/office
VIC	Melbourne	Office
VIC	Melbourne	Office
VIC	Melbourne	Carpark
VIC	Melbourne	Office
VIC	Melbourne	Carpark
VIC	Port Melbourne	Laboratory/Office
VIC	South Geelong	Warehouse

State	Suburb	Building Type
WA	Malaga	Warehouse/office
WA	Perth	Office
WA	Perth	Office