CSIRO
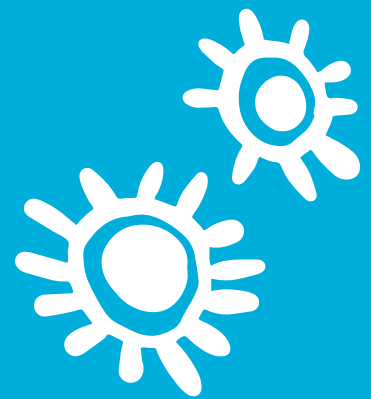
Sustainability Report 2023–24

CSIRO acknowledges the Traditional Owners of the lands, seas and waters of the area that we live and work on across Australia. We acknowledge all Aboriginal and Torres Strait Islander peoples and their continuing connection to their culture and pay our respects to Elders past and present. CSIRO is committed to reconciliation and recognises that Aboriginal and Torres Strait Islander peoples have made and will continue to make extraordinary contributions to all aspects of Australian life including culture, economy and science.

Contents

Photo: Louise Whelan

Message from our Chief Executive

I'm delighted to present our third annual Sustainability Report, which this year has an increased focus on simplification, transparency and accountability in reporting progress against our Sustainability Strategy 2020–2030. The changes reflect our work to make our sustainability metrics, targets and interpretation more accessible to our stakeholders by including data tables directly in the body of the report, as well as identifying progress, gaps and challenges this year.

The report prepares us for new compliance reporting requirements and obligations, including the Commonwealth Climate Disclosure Reform. The report also demonstrates our commitment to continuous improvement of systems and processes for data collection, management and verification to accurately measure the impact of our operations. Some of our achievements against our Sustainability Strategy this year include:

- Progress toward net zero with a 77% reduction in scope 1 and scope 2 greenhouse gas emissions from our 2019 baseline, based on our new operational control boundary.
- Completing a Waste Avoidance and Resource Recovery Strategy and defining our waste reduction target, with FY23–24 representing our baseline year.
- Continuing to build our capability and culture for sustainability through our staff engagement programs, including our new Green Impact program.
- Strengthening our approach to sustainability by encouraging collaboration between our research teams and our operational sustainability team, drawing on that combined expertise to solve our operational challenges in the transition to a sustainable future.

Looking ahead, we are committed to making progress in particular areas, including:

- Improving our approach to the management of climate risks and opportunities. This will assist us in the upcoming Commonwealth Climate Disclosure reform.
- Addressing nature and biodiversity in the next financial year using CSIRO innovation as the basis to address biodiversity loss at our sites.

I congratulate and thank every person at CSIRO and our partners, whose efforts are reflected in this report and look forward to our continued progress in driving sustainability and simplification for increased benefit to Australia.

Dr Doug Hilton AO
Chief Executive, CSIRO

2023–24 financial year sustainability snapshot

Highlights

77% total emissions reduction
against Financial Year 2019 baseline for our NZE scope 1 and 2 by 2030 target / page 22

Developed a
Waste Avoidance and Resource Recovery Strategy
/ page 37

359 actions taken
over 14 weeks as part of Green Impact pilot program / page 14

Reduced our property footprint by 9,101m^2
(about 1.4% of our total gross floor area) / page 17

404 megawatt hour estimated reduction
in electricity from net zero projects this year / page 30

Added 264 kilowatts of solar PV
at Newcastle site, covering approximately half the site's electricity consumption / page 29

Challenges

Responding to the rapidly evolving regulatory and policy compliance context

Continuously improving our data ecosystem

Creating a consistent culture of sustainable development among our people and collaborators

Managing the transition to a clean energy future in the context of our strategy, sustainable development goals and scope 3 emissions

Preparing for climate and nature-related reporting and disclosures

About

About CSIRO

We are Australia's national science agency. We play a foundational and multifaceted role in the economy, in Australia's innovation ecosystem, and in the global research and innovation landscape.

We provide the essential platforms and advice needed by a broad range of stakeholders, including conducting research pursuant to national priorities and directives. We collaborate with innovators to convert their discoveries and ideas into technologies, services, and best practices that benefit the nation. Our influence extends beyond Australia. We are a regional leader in international policy and development for climate, biodiversity, sustainability and food security.

We are a corporate Commonwealth entity, with a Board and Chief Executive. We were established by and operate under the provisions of the *Science and Industry Research Act 1949* (Cth), which sets out our functions and powers. The governance, performance and accountability of our operations, including the use and management of public resources, are set out in the *Public Governance, Performance and Accountability Act 2013* (Cth) and related rules.

About this report

This report outlines our sustainability performance for the financial year ending 30 June 2024 (FY24) for our Australian operations. This is our third published sustainability report.

This report was prepared with reference to the Global Reporting Initiative (GRI) 2021 Universal Standards.[1] It is also informed by the United Nations Sustainable Development Goals (SDGs). KPMG has provided limited assurance over a selection of performance disclosures as outlined in their assurance statement.[2]

What has changed this year

Our approach to sustainability reporting is maturing, and this year we have made some changes to the structure and style of our report. To increase transparency, there is a greater focus on metrics-based performance reporting against our Sustainability Strategy in the body of this year's report. We have reduced our narrative and case study content in relation to other topics (such as excellent science and partnerships and engagement) that are documented in other reports (e.g. the Annual Report). For readability, data related to our performance against our Sustainability Strategy is now directly embedded in the body of the report.

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1   See Appendix – GRI content index
2   See Appendix – Limited assurance statement

CSIRO 2023–24 reporting suite

This year, our Sustainability Report forms part of the CSIRO 2023–24 reporting suite (outlined below). Our Sustainability Report is designed to be read in conjunction with these other reports and our Modern Slavery Statement. Throughout this report, we reference these other CSIRO reports if they address a relevant topic in more detail. Access the 2023–24 Annual Report along with the rest of the reporting suite online at: csiro.au/reportingsuite2024

CSIRO Annual Report 2023–24
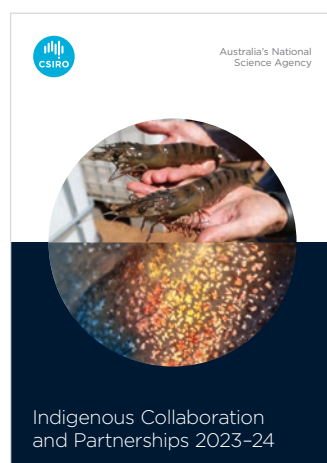
CSIRO Indigenous Collaboration and Partnerships 2023–24

CSIRO Highlights 2023–24

The Value of CSIRO 2024
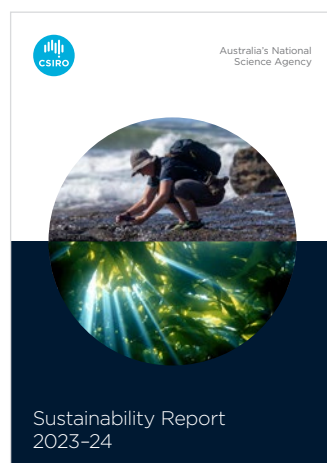
CSIRO Sustainability Report 2023–24

CSIRO Science Health and Excellence 2023

Part 1
Our approach to sustainability

What 'sustainability' means to us

We take a holistic view of sustainability in the way we work at CSIRO, and in how we report on our performance in this report. When we talk about 'sustainability' in this report, we are referring to how CSIRO's activities contribute (positively or negatively) to sustainable development. This is much broader than just environmental sustainability, and covers our impacts on the economy, environment and people.

'Sustainable development' means development which meets the needs of the present without compromising the ability of future generations to meet their own needs.[3]

Figure 1.1: United Nations sustainable development goals

Look for these icons throughout this report, to see how our reported topics, initiatives and disclosures link to the United Nations Sustainable Development Goals (SDGs).[4]

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3   World Commission on Environment and Development. Our Common Future, 1987.
4   https://sdgs.un.org/goals

How we are tackling sustainability

Sustainability is central to our mission-driven science.[5] The science and research activities we undertake are our greatest positive contribution to sustainable development. For more detail about the positive impacts of our research, see our report, The Value of CSIRO 2024.[6]

We are also working to improve the sustainability of our operations. Our Board-approved CSIRO Sustainability Strategy 2020–2030[7] was developed in conjunction with key stakeholders and informed by international frameworks. The strategy identified six key focus areas to drive improvements in our sustainability performance, predominantly in relation to our environmental and social impacts.

However, the Sustainability Strategy is just one of a suite of strategies and initiatives across different parts of our organisation which address and manage our impacts on sustainable development. For example, our Health, Safety and Environment Policy, our Diversity, Inclusion and Belonging Strategy, and our Reconciliation Action Plan also manage our impacts on people; whilst our Planning and Performance Framework and our Impact Framework address our economic impacts. For more information, see 'Appendix – Material topics'.

We plan to review our material topics and Sustainability Strategy next financial year, to ensure that they remain relevant and up to date.

Sustainability oversight

Where we've been

Strong governance systems, accountable decision-making, and transparency are critical to progressing CSIRO's level of maturity in sustainability performance management. We have been working on improving our sustainability governance and reporting transparency since the inception of our 2020–2030 Sustainability Strategy, including:

• establishing a Sustainability Steering Committee
• developing a performance measurement framework for our Sustainability Strategy
• developing public Sustainability Reports.

Where we are now

Support at the Board, executive and senior leadership levels is critical to integrating good sustainability management into our culture and business processes. We have a commitment to report to our Board at least once per year, and we report regularly to our Executive Team on key issues.

Our executive-level Sustainability Steering Committee also provides oversight and strategic direction to support the delivery of our Sustainability Strategy. As of 30 June 2024, membership included our Chief Operating Officer, Chief Scientist, Chief Finance Officer, Director Business and Infrastructure Services, Director Energy, Executive Manager Performance and Evaluation, and an external industry representative with extensive sustainability experience. The Committee Chair operates on a 12-month rotational basis, and as of 30 June 2024 this position was held by the Director Business and Infrastructure Services. Over the reporting period, the Committee met twice, and considered three other papers on an out-of-session basis.

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5   https://www.csiro.au/about/challenges-missions
6   https://www.csiro.au/reportingsuite2024
7   See https://www.csiro.au/about/strategy/sustainability/Sustainability to learn more about our strategy highlights.

Our Chief Operating Officer is the executive sponsor of our Sustainability Strategy, and our Director Business and Infrastructure Services is responsible for its overall implementation.

> Our current sustainability governance and reporting structure is set out in Figure 1.2.

Where we're going

We are continuing to strengthen our governance and transparency, and our approach is evolving in line with public sector best practice and lessons learned through our assurance, compliance and audit programs. We are also working on a number of projects to improve the verifiability of our sustainability data.

> More detail on our progress and key challenges is set out in Part 2 – 'Key focus area 1 – Governance and transparency' below.

CSIRO Board
⊘ Endorsement of Sustainability Strategy

Chief Executive
⊘ Key Decision Maker on Sustainability Strategy

Chief Operating Officer
⊘ Executive Sponsor

Director – Business and Infrastructure
⊘ Implementation Accountability

Manager – Environmental Sustainability
⊘ Implementation Lead

Steering Commitee

⊘ Oversight and recommendations
- Strategy direction
- Progress
- Reporting

Science Advisory Panels / Working Groups

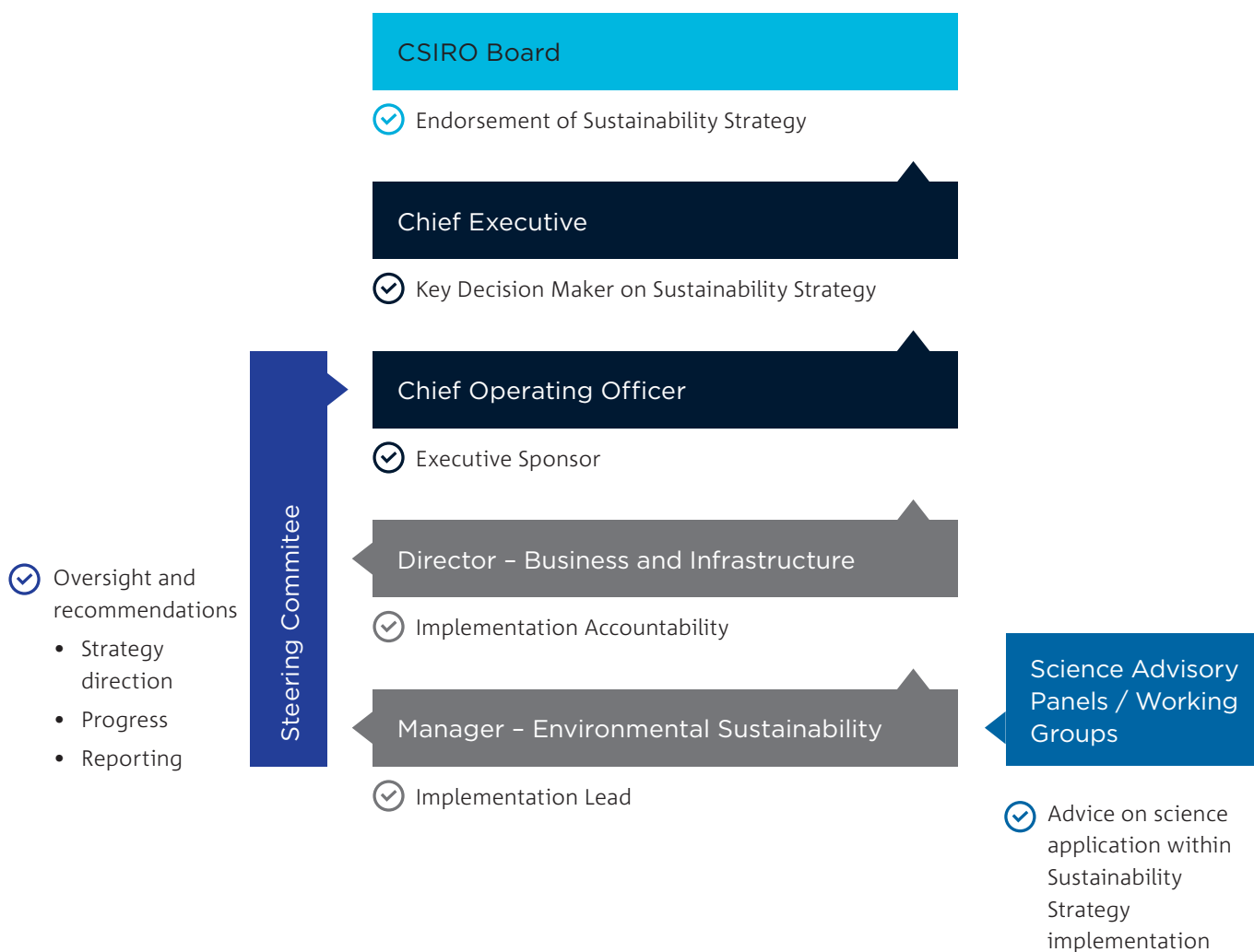⊘ Advice on science application within Sustainability Strategy implementation

Figure 1.2 Sustainability and governance structure

Part 2

Our performance: Sustainability Strategy

Our Sustainability Strategy identified six key focus areas for advancement of our sustainability between 2020 and 2030. This section of the report details our performance against each of those key focus areas.

Key focus area 1 – Governance and transparency

Increase transparency around sustainability performance through improved governance systems and processes, including regular public reporting aligned to the UN Sustainable Development Goals.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Governance and transparency prioritise accountable decision-making, and help to ensure that we operate ethically, with integrity, and consistent with legislation. We have completed many of the initiatives we identified in our Sustainability Strategy to improve the governance and transparency of our sustainability performance. However, our governance systems and processes continue to evolve as our approach matures and new risks, opportunities and requirements emerge in the external landscape.

Regular reporting to Board, Executive Team and Sustainability Steering Committee

✓	2	Sustainability Steering Committee meetings
✓	3	Sustainability Steering Committee reports out of session
✓	2	Executive Team reports
✓	1	Board report
✓	3rd	annual Sustainability Report publicly released

Progress this year

Governance of climate risk and opportunity management

This year we undertook the following initiatives to improve our governance of climate risk and opportunity management:

- registered climate risk as a standalone enterprise risk on CSIRO's Enterprise Risk Register for the first time
- established a cross-organisational Climate Risk Working Group
- conducted a high-level assessment of CSIRO's governance structures for oversight of climate risk and opportunity management.

At the end of FY24, we also engaged an independent external subject matter expert to review and assess CSIRO's alignment with the Commonwealth Climate Disclosure Pilot Guidance 2023–24 climate disclosure provisions. This work will continue into early next financial year (FY25) and will result in a set of final recommendations for the consideration of the Sustainability Steering Committee, Executive Team and the Board Audit and Risk Committee.

Sustainability Steering Committee changes

The Sustainability Steering Committee has reviewed and assessed updates to its terms of reference, and decided to refresh its composition to further strengthen governance, accountability and decision-making. New members for FY25 will include the Deputy Director Environment and the Chief People Officer.

Improving our data integrity

We are taking incremental steps to continuously improve our data collection, validation and management processes. We have reviewed several of our data sources to identify priority areas for improvement.

> One of these areas is the automated extraction of fuel usage data, which is discussed further in 'Key focus area 5 – Transition to a clean energy future' below.

Gaps and challenges

Our strategy and materiality assessment

Our Sustainability Strategy and materiality assessment were completed in the 2019-2020 financial year (FY20), and there have been significant changes in CSIRO's internal and external context since their development. These include:

- amendment of our enabling act (the *Science and Industry Research Act 1949* (Cth)) last financial year to support Australia's obligations under the Paris Agreement
- introduction of new Commonwealth policies, strategies and targets to promote climate action in government operations through greenhouse gas emissions reduction; environmentally sustainable procurement; and reporting on management of climate risks and opportunities.

We intend to refresh both our materiality assessment and Sustainability Strategy next year to ensure that they remain relevant and up to date.

Structures and systems for maturity

We continuously strive for maturity in sustainability management. With this comes opportunities to identify gaps and areas for improvement. CSIRO has identified several areas for development in governance and management structures, business processes, and systems. To enable CSIRO to amplify its positive impact and respond to increased regulatory and policy compliance requirements, CSIRO will begin implementing the identified improvements in FY25.

Data integrity

We also have more work to do to enhance the completeness, accuracy and verifiability of our data. Not all data is currently available to us from our supply chain (in the case of scope 3 emissions) or in relation to fugitive emissions sources. Some data sources are also not available in time for prompt reporting. Once collected, data management also poses a challenge – with approximately 50 per cent of data still manually entered in our sustainability data management system. These factors mean that consistent data verification is very important, but also resource intensive.

As we commence reporting on new emissions sources and other sustainability metrics, we will encounter new data collection and management challenges. Nevertheless, we will continue to improve our data integrity through business processes, value chain engagement and appropriate use of CSIRO innovation and third-party technical solutions.

School children examining specimens at CSIRO's Discovery Centre. Photo: Robert Kerton

Key focus area 2 – Excellent and impactful science

Apply CSIRO's technical expertise to solve internal challenges and respond to global priorities by creating internal and external partnerships that drive the UN Sustainable Development Goals.

17 PARTNERSHIPS FOR THE GOALS

As Australia's national science agency, excellent science is fundamental to our objective to deliver impact to industry, society and the environment. Our science is centred around the sustainable development of our nation. This section of the report reviews the ways we are creating internal and external connections and using CSIRO's technical expertise to solve the organisation's operational sustainability challenges.

> We also report on how we are ensuring the integrity of our science and maximising the positive impacts of our research beyond the boundaries of our organisation. See 'Appendix – Material topics', and our Science Health and Excellence Report, The Value of CSIRO Report and Annual Report 2023–24 for details.[8]

Progress this year

How we are incorporating CSIRO science expertise

This year the CSIRO Sustainability Team built and maintained several important connections with our scientists and technical experts, to help address CSIRO's operational challenges. Figure 2.1 highlights some of our key sustainability challenges, and how we are drawing on CSIRO's own expertise in navigating them.

Under the leadership of Dr Deborah Lau, our Ending Plastic Waste Mission is collaborating with government and industry partners to transform the way plastic is made, used, recycled and disposed of.
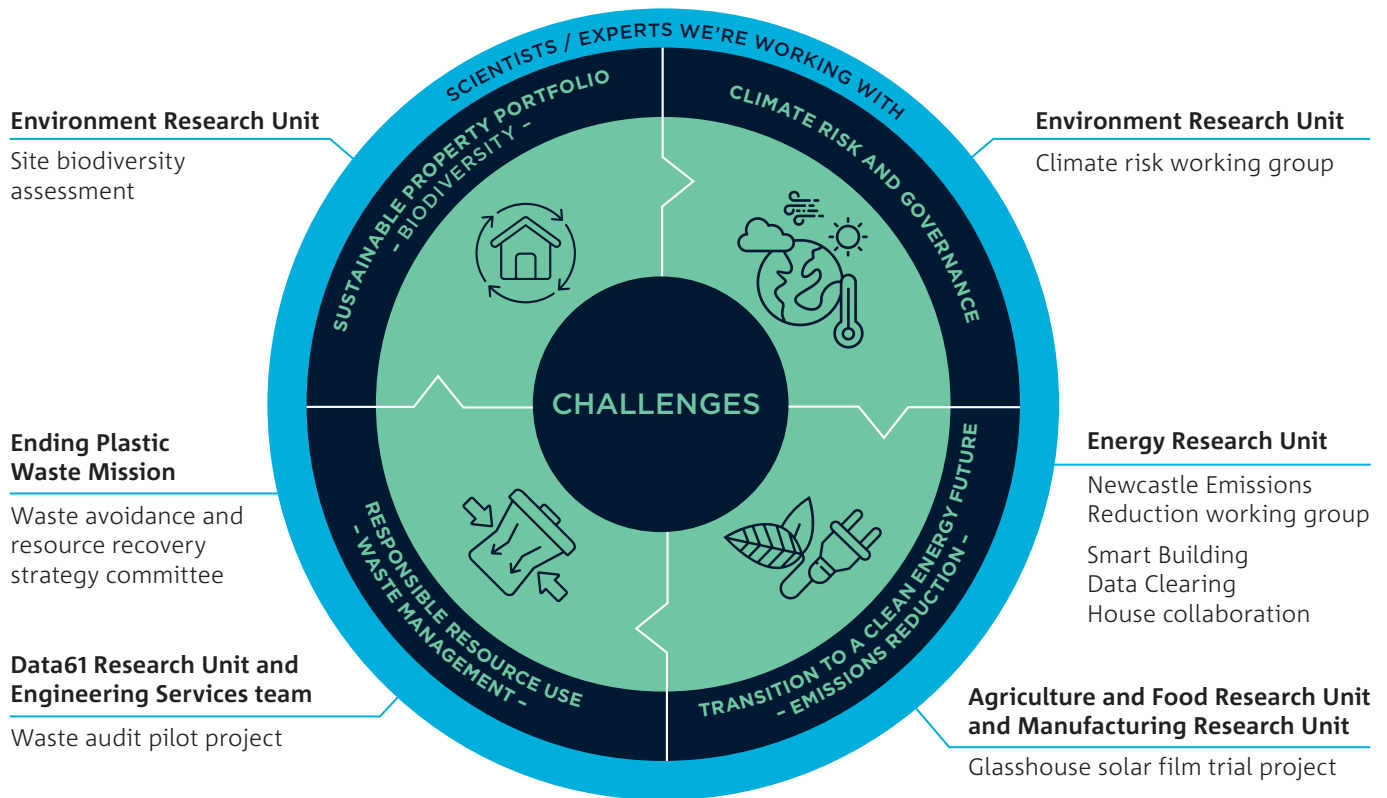
Figure 2.1 Science connections helping to solve our operational challenges

Labels around the figure:

SCIENTISTS / EXPERTS WE'RE WORKING WITH

CHALLENGES

SUSTAINABLE PROPERTY PORTFOLIO – BIODIVERSITY –

CLIMATE RISK AND GOVERNANCE

RESPONSIBLE RESOURCE USE – WASTE MANAGEMENT –

TRANSITION TO A CLEAN ENERGY FUTURE – EMISSIONS REDUCTION –

Environment Research Unit
Site biodiversity assessment

Ending Plastic Waste Mission
Waste avoidance and resource recovery strategy committee

Data61 Research Unit and Engineering Services team
Waste audit pilot project

Environment Research Unit
Climate risk working group

Energy Research Unit
Newcastle Emissions Reduction working group

Smart Building Data Clearing House collaboration

Agriculture and Food Research Unit and Manufacturing Research Unit
Glasshouse solar film trial project

Innovative waste audit research project

In collaboration with Data61 and CSIRO's Engineering Services team, we have commenced a pilot proof-of-concept project which aims to achieve automated, continuous, real-time monitoring of industrial waste bins using advanced technologies. If successful, this could provide a more dynamic and comprehensive understanding of our industrial waste composition and weights at a research program level. It could also overcome the limitations of traditional waste audits (which are resource intensive and only give 'point in time' information).

Working towards solar film for glasshouses

As we reported last year, the winning research team from our internal Net-Zero Challenge 'shark tank' event in June 2022 has been investigating the viability of using printed solar film on our research glasshouses to reduce greenhouse gas emissions and improve plant growth. The preliminary trials to test the impact of printed solar films on plant development at CSIRO's glasshouse facilities at St Lucia are now complete. The outcomes of the trial are positive, but more research is needed before the technology can be implemented in our business.

▎ For more details, see 'Part 3 – Case studies'.

Gaps and challenges

Sustainability framework for science collaborations

Currently, we do not have an explicit framework to help the Sustainability Team identify and prioritise strategic opportunities to work with our science teams or apply CSIRO innovations to operational sustainability problems. While this has not prevented science collaborations and solutions to date, we may not have focused on the highest-impact opportunities. To make sure we identify the highest impact and most strategically aligned opportunities in the future, we are working on a new framework for the Sustainability Team and research units to identify, assess and evaluate future potential high-impact projects and collaborations to improve sustainability in our operations. The framework will be completed in FY25 and will consider CSIRO's strategic priorities, including the management of our research and infrastructure portfolio, and the enterprise risk management framework.

Key focus area 3 – Our people and capacity building

Create a culture that supports our highly capable and diverse workforce on sustainable practices and promotes capacity building and understanding of sustainability issues through community and industry engagement.

8 DECENT WORK AND ECONOMIC GROWTH

17 PARTNERSHIPS FOR THE GOALS
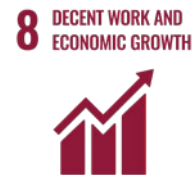
A key focus of our Sustainability Strategy is building the capacity of our people to embed sustainable practices in their everyday work at CSIRO. This includes things like considering the environmental and social impacts of procurement decisions, looking for opportunities to divert usable equipment and materials from landfill, and reducing energy consumption with good housekeeping practices in our labs.

Over 100 CSIRO staff and affiliates were engaged through the pilot, which was conducted over 14 weeks, and 72 active participants in 17 teams completed 359 actions from CSIRO's Green Impact toolkit. Actions addressed themes such as biodiversity, active transport, energy consumption, sustainable procurement, resource recovery, waste minimisation, and diversity and inclusion.

Progress this year

Training our people about sustainability

We've promoted specific training for CSIRO employees, including Border Force training on modern slavery, Green Star Foundations group training (developed by Green Building Council of Australia) on sustainability in the built environment, and Greenius online learning modules (developed by our waste contractor), to help reduce contamination in source separated bins on CSIRO sites. This year, we also hosted a battery recycling webinar to improve awareness of battery recycling opportunities and safety.

Green Impact program

We've always known we have a strong cohort of sustainability champions at CSIRO and in August 2023, we invited them to take part in a pilot of the 'Green Impact' program, supported by Australasian Campuses Towards Sustainability Limited. The program promotes collaboration within and across functions, building supportive networks to contribute to meaningful sustainability outcomes.

ACTS green impact

72 active participants
in 17 teams completed 359 actions

"Being part of Green Impact really made me feel like what I do makes a difference. Normally, I feel a little powerless and wonder if one person's actions make any difference at all. But being part of a group of like-minded people was really powerful and inspiring."
Green Impact pilot program participant, 2023

Employee engagement in strategy and procedure development

We have conducted targeted engagement processes to inform the development of sustainability-related strategies and procedures this year, including:

- surveys and education sessions about battery use and recycling at CSIRO
- surveys about single use plastic at work to inform our new Waste Avoidance and Resource Recovery Strategy
- presentations, group discussions, surveys and online content about our new Waste Avoidance and Resource Recovery Strategy and draft procedure for disposal of plant, equipment and consumables.

Communicating about sustainability

Our approach to general sustainability engagement with CSIRO employees is to try to find a fun angle on a serious challenge, to encourage sharing and connection, and to give our people a chance to represent their commitment on a personal level. For example, this year we conducted a successful 'Ugly Mug' competition as part of Plastic-Free July.

We communicate regularly with our people via our internal channels. Our 'Sustainable CSIRO' Viva Engage online community now has close to 500 members and is the main platform we use to share updates and information. Membership of this community has grown steadily over the past 12 months. Our engagement program also involves regular internal articles and calls to action via intranet and internal newsletter channels.

Christina Street from our IMT team sharing her ugly mug to promote reuse during Plastic Free July.

In addition to planned engagement program activities, Sustainability Team members presented key initiatives at meetings with internal stakeholders, including on our draft Waste Avoidance and Resource Recovery Strategy, Smart Buildings Roadmap, and Green Impact program.

Sustainability also featured for the first time in CSIRO's leadership webinar to all CSIRO people for the annual 'HS-Me' day in October 2023. This included an update on the Sustainability Strategy, CSIRO's net zero (scope 1 and 2) 2030 target[9] and our waste performance, including the kilograms of waste CSIRO generates per person. The webinar also extended to content about how individuals can reduce their impact.

Topics in our FY24 engagement program

- Connecting with Green Impact
- Be part of our Waste Avoidance and Resource Recovery Strategy
- Learning to recycle right
- Moving forward on our sustainability journey
- Recycling batteries safely at CSIRO
- CSIRO Champions are making an impact
- Winners are grinners with their ugly mugs

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9   See 'Key Focus Area 5 – Transition to a clean energy future' below for more explanatory details about our target.

Sustainability work with our enterprise and research units

In recent months we've engaged with enterprise and research units on commitments they can make to contribute to our sustainability strategy initiatives.

In 2024, CSIRO Publishing confirmed its commitment to the SDGs by becoming a signatory to the SDG Publishers Compact. The SDG Publishers Compact is intended to inspire action by publishers to accelerate progress towards achieving the SDGs by 2030. Signatories aim to develop sustainable practices and champion the SDGs between 2020–2030, publishing materials to help inform, develop, and inspire action for sustainable development.

The publishing team has also developed its own Sustainability Action Plan, aligning with CSIRO's strategic objectives.

CSIRO's Mineral Resources research unit is also proactively engaging with the CSIRO Sustainability Team to understand how it can help deliver CSIRO's sustainability commitments. It has produced a Sustainability Action Plan for the research unit for FY25, which focuses on training, engagement, sustainability project tracking and waste auditing.

Commonwealth working groups

We have continued to collaborate with other Australian Government committees and working groups this year through the Department of Finance's Climate Action in Government Operations Unit and several Department of Climate Change, Energy, the Environment and Water teams. We also initiated a community of practice on marine vessel sustainability to share approaches, challenges and ideas with the long-term view to achieve consistency across Commonwealth agencies. The kick off meeting occurred in FY24 and included three agencies (with the intention to expand membership in FY25).

Gaps and challenges

Making sustainability a part of our everyday work and operations at CSIRO requires a consistent culture of sustainability. While we are working to promote this culture through education, training and engagement activities, gaps remain in the integration of sustainability as standard practice in everything we do. In FY25 we will continue to work towards building a consistent culture of sustainability at CSIRO and will commence development of Sustainable CSIRO e-learning content.

Key focus area 4 – Sustainable property portfolio

Ensure fit-for-purpose buildings, aspiring to net zero carbon impact, that stimulate excellent science and improve staff health and wellbeing.

7 AFFORDABLE AND CLEAN ENERGY

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

13 CLIMATE ACTION

Our facilities and infrastructure are essential to our delivery of scientific impact to Australians, the environment, research and industry. However, CSIRO has existed for over 100 years, and our accumulated property portfolio is extensive, diverse and ageing. We need to make sure our portfolio continues to meet our current and future needs, whilst improving the environmental performance of our facilities over time and ensuring the resilience of our business.

We are approaching this challenge through our Property Strategy and Sustainability Strategy by:

- aligning our infrastructure with our science
- leveraging strategic infrastructure opportunities
- consolidating our property holdings to reduce our building and emissions footprint
- investing in maintaining our key infrastructure
- pursuing opportunities to implement activity-based working
- improving the environmental performance of our portfolio through:
  - ecologically sustainable design and construction for new builds/renovations
  - energy efficiency projects
  - electrification projects
  - renewable energy generation projects (e.g. solar photovoltaic systems (PV))
  - improving quality and accessibility of our data
- conducting a physical climate risk assessment for our properties and infrastructure.

Aerial view of our Newcastle Energy Centre building, tower 2 and heliostat field

Progress this year

Property footprint reduction

Over the last 4 years, CSIRO has seen a total reduction in gross floor area of approximately 78,837 square metres (m²), resulting in an estimated reduction in annual emissions of 8,756 tonnes of carbon dioxide equivalent (CO_2e).[10] This year, we reduced our gross floor area by approximately 9,101m². Our total remaining gross floor area is approximately 650,000 m² across our portfolio.

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10 The emissions reduction figures set out in this section are indicators only based on an assessment of annual emissions of divested sites. This assessment was undertaken in FY24 and are a point in time best estimate. These figures do not form part of our report assurance.

Property Strategy update

This year, we conducted a mid-life review of our 2019–29 Property Strategy, to reflect CSIRO's evolving science needs and achieve greater alignment with our Sustainability targets. We also completed:

- **New national collections building** at Black Mountain in ACT which incorporated CSIRO's Ecologically Sustainable Design principles in design and construction. The building will consolidate and house the Australian National Wildlife Collection, the Australian National Insect Collection, the Ethanol Collection, and the Dadswell Wood Collection.
- **Perth site consolidation (stage 1)** enabling further consolidation of our Perth footprint.
- **Atherton and Parkville site divestment**. This equates to a footprint reduction of over 9,000 m^2.
- **Aspendale site consolidation**. This allowed for the closure of two buildings.

Sustainability in new buildings

In 2021, we developed Ecologically Sustainable Design principles and guidelines for our new buildings and refurbishments. Since then, we have been trialling and refining their application to high value capital works projects. This year, the guidelines were used in planning several project designs, including the Black Mountain greenhouse redevelopment project.

A new *Commonwealth Environmentally Sustainable Procurement Policy* will apply to the procurement of high value construction services from 1 July 2024. We expect that this will further drive the application of environmentally sustainable design principles in future. In anticipation of this policy, we are undertaking a review of our Ecologically Sustainable Design guidelines and considering the applicability of industry-standard built environment rating schemes.

Stage 2 of our Perth precinct project will allow further consolidation of newly refurbished labs and workspaces at our Waterford site.

Reducing emissions from existing buildings

We have developed a pipeline of projects to reduce the carbon footprint of our assets and operations. These projects will support the achievement of our target of net zero emissions (scope 1 and 2) by 2030.[11]

> Our current projects are detailed in 'Key focus area 5 – Transition to a clean energy future' below.

This year, we began planning for the electrification of major facilities at:

- CSIRO Phytotron
- Werribee Animal Health Facility
- Newcastle Energy Centre.

Based on FY23 data, the electrification of these facilities is estimated to reduce our scope 1 emissions by 362 tonnes CO_2e per annum on completion, although scope 2 emissions (location-based) are expected to increase due to the additional electricity consumption of electrified plant and equipment.

> For more details, see 'Key focus area 5 – Transition to a clean energy future' below, and 'Part 3 – Case studies'.

Smart Buildings Roadmap

Buildings that are flexible, people-centric, and use digital technologies to collect and analyse data will be an important foundation for:

- managing building emissions
- ensuring staff comfort
- effective building management.

Our 'Smart Buildings Roadmap to 2030' proposes a pathway to digitalise our energy performance and improve our ability to adopt new and innovative technologies for energy efficiency over the next decade. We initiated the first phase of the roadmap last year. This year we have developed plans to expand the use of the Smart Building Data Clearing House[12] to consolidate building data from three additional CSIRO sites. We plan to use this increased digital capability to increase building analytics across our sites and enable the implementation of an energy information system.

Gaps and challenges

Managing our portfolio

Our property portfolio is diverse and includes specialist infrastructure. This means decision making, while consistent with our strategy, also needs to consider the variables of our unique operational infrastructure, research requirements and context to ensure our projects deliver outcomes that are fit-for-purpose and sustainable. Accordingly, we continually assess projects in our net zero pathway for their impacts to our science and research activities, and to ensure they deliver optimal functionality, resilience and adaptability.

Nature and biodiversity

Our impacts on nature and biodiversity do not feature explicitly in our Sustainability Strategy as they were not considered a material issue in the 2020 materiality assessment.[13] However, our impacts on nature and biodiversity are becoming increasingly important to our stakeholders and this is an area where we can demonstrate our scientific expertise.

We have undertaken an innovative research project to measure the biodiversity loss on our sites over time. The results of this work are currently being finalised for release. We are using this work to develop a new framework that will seek to reduce future negative impacts on biodiversity at our owned sites and address repair and restoration opportunities. The research will also enable us to improve our reporting under the *Environmental Protection and Biodiversity Act 1999* (Cth).

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11 See 'Key focus area 5 – Transition to clean energy' for more information about our approach to net zero emissions targets.

12 https://ihub.org.au/ihub-initiatives/smart-building-data-clearing-house/

13 See Appendix – Materiality

Key focus area 5 – Transition to a clean energy future

Improve energy demand management and efficiency to support the transition to net zero emissions.

7 AFFORDABLE AND CLEAN ENERGY
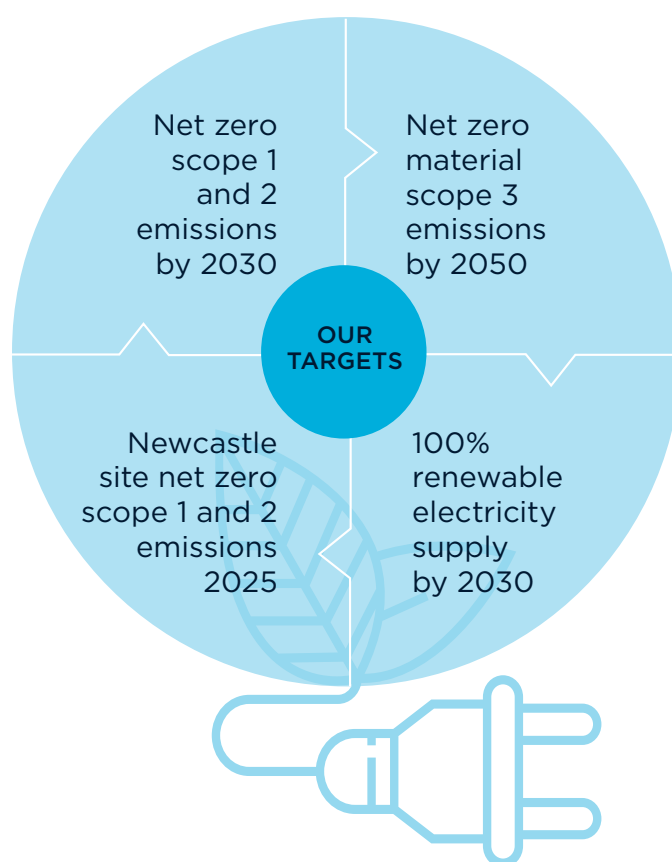
12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

Energy consumption represents a material proportion of our greenhouse gas emissions. To address this, we are focusing on:

- transitioning to clean energy sources
    - building internal solar photovoltaic generation capacity
    - procuring renewable energy
    - transitioning our fleet to zero and low emissions vehicles
    - transitioning away from gas consumption
- reducing our demand for energy
    - establishing a pipeline of projects and actions to reduce our energy consumption.

We recognise that the majority of our carbon footprint is from emissions sources within our value chain. While we are making progress in reducing emissions within our operational control, we need to reassess how we measure and influence emissions reductions in our value chain that are material to our carbon footprint.

OUR TARGETS

Net zero scope 1 and 2 emissions by 2030

Net zero material scope 3 emissions by 2050

Newcastle site net zero scope 1 and 2 emissions 2025

100% renewable electricity supply by 2030

What we mean by....

scope 1 emissions covers direct emissions resulting from the consumption of energy sources such as gas and fuels on CSIRO owned or controlled sites.

scope 2 emissions covers indirect emissions from the generation of electricity, steam, heating and cooling purchased by CSIRO.

scope 3 emissions covers indirect emissions as a result of activities that occur across CSIRO's value chain (other than scope 2 emissions).

Our approach to net zero emissions targets

Our net zero ambition includes achieving net zero for scope 1, 2 and material scope 3 emissions by 2050. Our organisational boundary pertains to CSIRO's Australian operations including research units, enterprise units and subsidiaries within CSIRO's operational control. We have interim targets for scope 1 and 2 emissions by the end of 2025 for our Newcastle site, and by 2030 for remaining sites in Australia that are under CSIRO's operational control.

We measure progress against our 2030 target as a market-based emissions reduction percentage against our 2018–19 financial year (FY19) baseline.

The following greenhouse gases are included in the targets: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (N_3). Emissions from these gases are aggregated into carbon dioxide equivalents (CO_2e) using conversion factors called 'global warming potentials'.

Figure 2.2 shows our original planned pathway to net zero from our Net Zero Roadmap. This pathway was set in 2020, and it is now time to refresh our roadmap with consideration of current best practice and additional strategies to achieve net zero. Our actual progress to date against our targets is depicted in Figure 2.4.
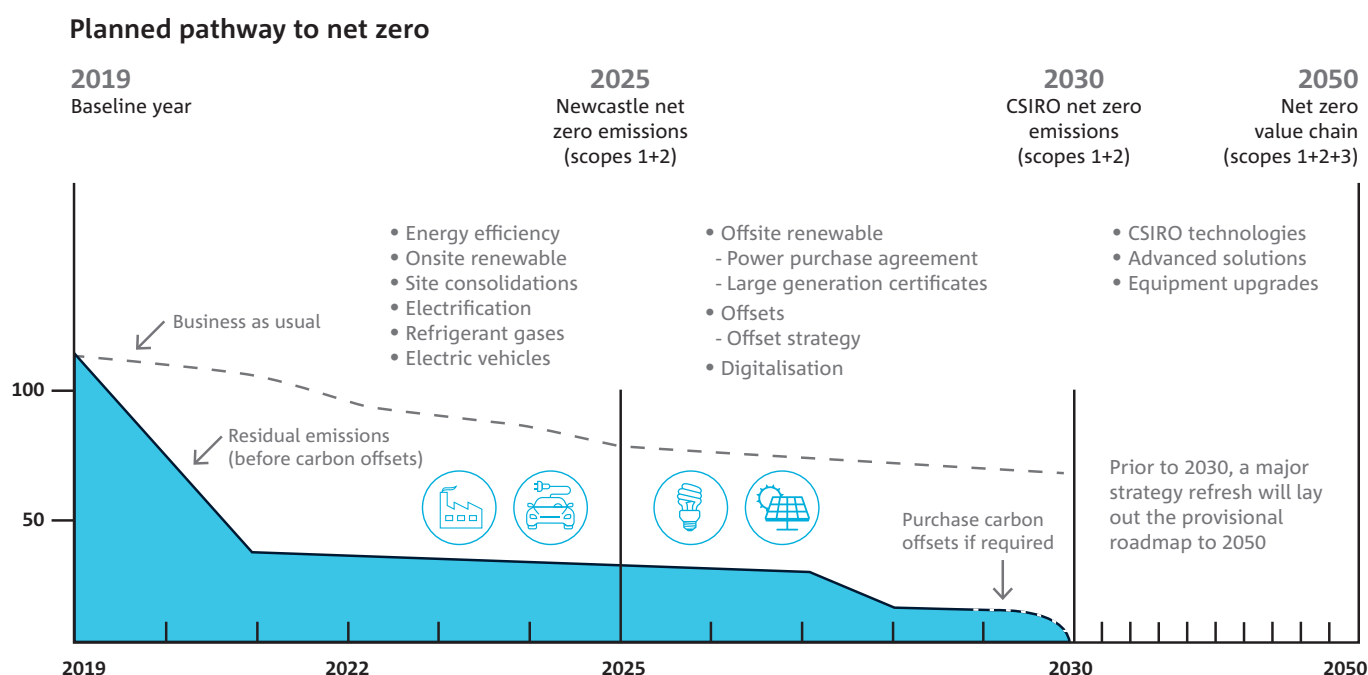
Planned pathway to net zero

Figure 2.2 Our original net zero pathway, set in 2020

Improving our data collection

Wherever possible, we collect actual data directly from our emissions sources and are continually improving the collection of verifiable data from financial records such as invoices. For example, this year, we successfully automated the extraction of actual fuel usage data for the first time. Tracking actual fuel usage data has been a significant challenge because to date, only cost data has been captured by our financial system. We collaborated with CSIRO Information Management and Technology to automate the extraction of fuel usage data from invoices and receipts using optical character recognition. This automation should improve the accuracy of our fuel data, reduce manual processing effort, and enhance the transparency of our measurement methodology. Testing of the new system has been finalised, and as a result we are able to now report actual fuel usage.

Organisational and reporting boundaries

CSIRO set its current net zero emissions targets in FY20, at a time when no Commonwealth policy guidance existed in relation to setting net zero emissions targets. In the absence of an appropriate policy, CSIRO adopted the *Energy Efficiency in Government Operations Policy* (Commonwealth of Australia 2006) (EEGO Policy) as the basis of the reporting boundary for CSIRO's net zero scope 1 and 2 emissions by 2030 target.

The *EEGO Policy* has now been fully superseded by the *Net Zero in Government Operations Strategy* (Commonwealth of Australia 2023) (NZGO Strategy), which uses the 'operational control' approach to set the reporting boundary. We commenced preparatory work in FY24 to review CSIRO's organisational and reporting boundaries.

> See 'Appendix – Environmental reporting' for further information. This work will be completed in early FY25.

Progress this year

Our 2030 target progress

We are continuing to work towards our target for CSIRO's Australian operations to be net zero emissions (scope 1 and 2) by 2030. In our target for this year, we include the Research Vessel *Investigator* (RV *Investigator*) despite it not being considered under CSIRO's operational control (see page 25 – 'How we account for the RV *Investigator*'). Our market-based emissions have decreased 12 per cent this FY (compared with last year). Overall, we have reduced our market-based emissions by 77 per cent against our FY19 baseline.

Figure 2.3 below represents our progress towards our target of net zero emissions (scope 1 and 2) by 2030 plus the RV *Investigator*.

Table 2.1 CSIRO's net zero 2030 market-based target progress

CSIRO NET ZERO 2030 TARGET – SCOPE 1 AND 2 AND RV *INVESTIGATOR*	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
CSIRO 2030 target progress (kt CO₂e)	305-5	110	110	30	26	28	25
% change compared with previous year	305-5	n/a	0%	-73%	-12%	7%	-12%
% change against baseline year	305-5	n/a	0%	-73%	-76%	-74%	-77%

Notes: **1.** The CO_2e emission calculation is based on the emission factors, global warming potential and methodology outlined in National Greenhouse Accounts Factors. **2.** The sources of emissions are listed in Table 2.8 Emissions by fuel source (tonnes CO_2e) below. **3.** This data is aligned with our net zero emissions target 'operational control' reporting boundary. **4.** Sum of individual emission sources may differ to 'total' due to rounding. **5.** This table reflects the market-based emissions methodology.

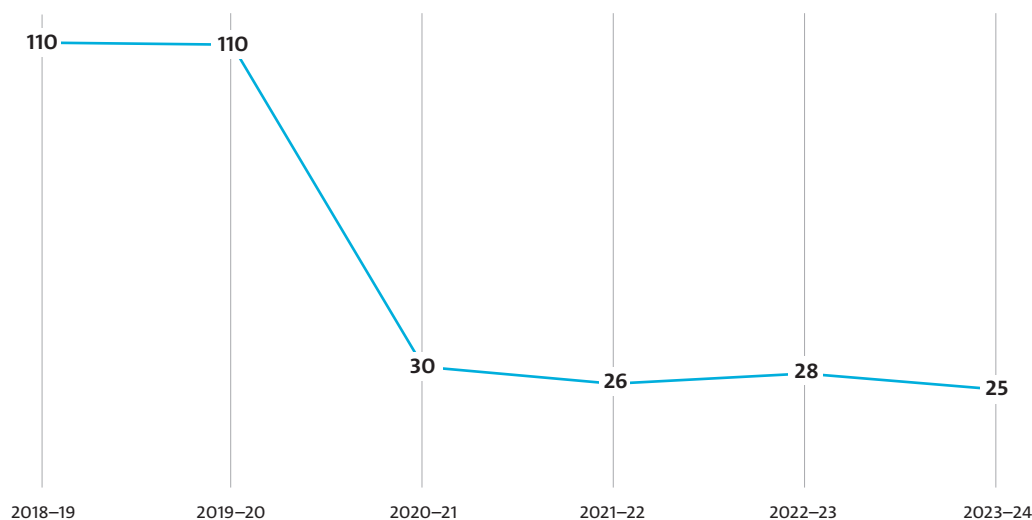**NET ZERO 2030 TARGET PROGRESS (kt) CO₂e**

Figure 2.3 Graph showing progress towards our target of net zero (scope 1 and 2) market-based emissions, inclusive of RV *Investigator*, by 2030.

Table 2.2 and Figure 2.4 below show how we have reduced our emissions against baseline for different fuel sources.
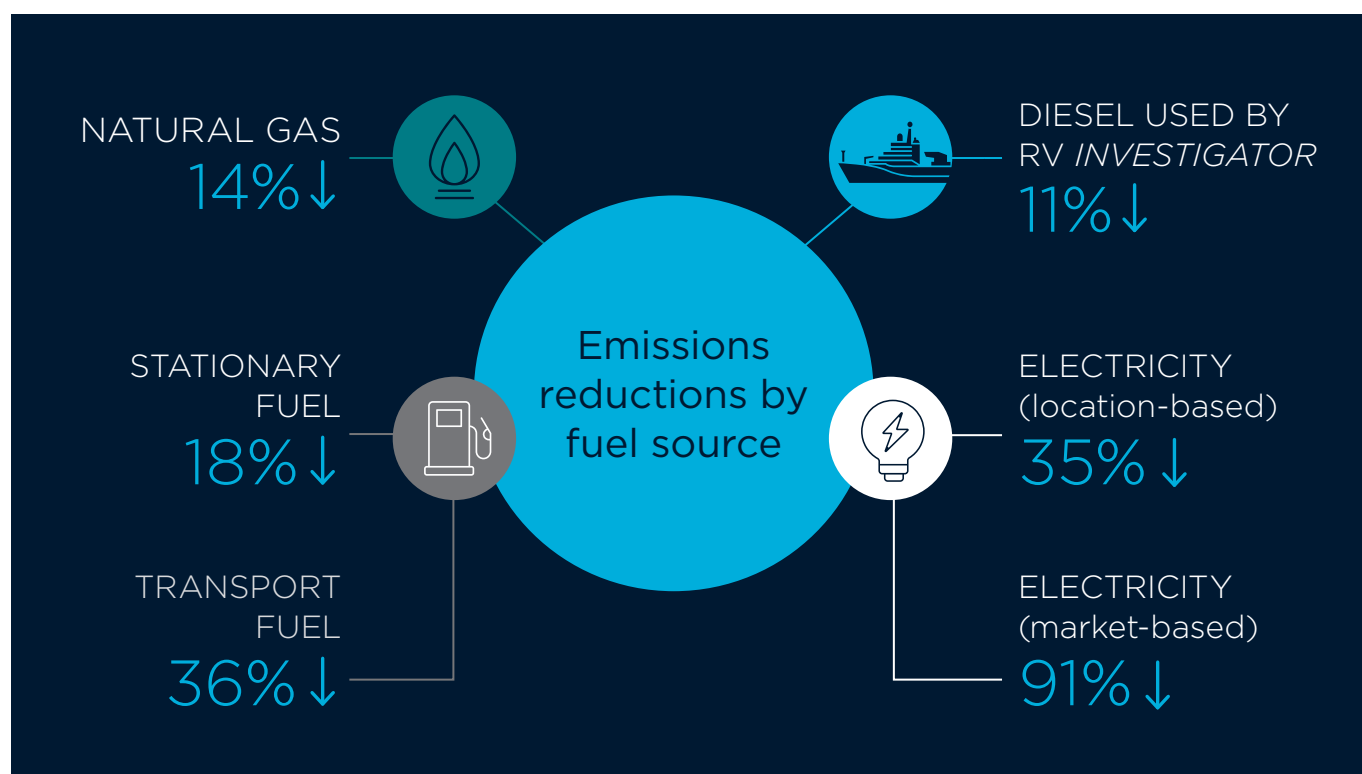
Table 2.2 Emissions reduction by fuel source against our FY19 baseline year

EMISSIONS BY FUEL SOURCE	% REDUCTION AGAINST BASELINE
Natural gas	-14%
Electricity (location-based)	-35%
Electricity (market-based)	-91%
Stationary fuel (diesel, petrol and LPG)	-18%
Transport fuel (incl diesel, petrol and LPG)	-36%
RV *Investigator*	-11%

Notes: **1.** See Table 2.1 for notes. **2.** Table shows total emissions reduction to 30 June 2024 against FY19 baseline, by fuel source.

We have achieved these reductions through implementation of our Net Zero Roadmap. Reduction measures included 'behind the meter' solar PV generation, energy efficiency improvements, electrification, transitioning some of our fleet to low and zero emissions vehicles, property consolidation, our Power Purchase Agreement for renewable energy, and other purchases of voluntary large generation certificates for sites in South Australia.

Implementation of our Net Zero Roadmap will continue through to 2030. However, FY25 presents an opportunity to reflect on progress over the past 5 years and reassess opportunities to address hard to abate emissions sources from our critical national infrastructure.

NATURAL GAS
14% ↓

DIESEL USED BY RV *INVESTIGATOR*
11% ↓

STATIONARY FUEL
18% ↓

Emissions reductions by fuel source

ELECTRICITY (location-based)
35% ↓

TRANSPORT FUEL
36% ↓

ELECTRICITY (market-based)
91% ↓

Figure 2.4 Emissions reduction by fuel source against our FY19 baseline year

Notes: See Tables 2.2 and 2.8 for further information about these emissions sources. For an explanation of the difference between the location-based emissions calculation methodology and the market-based emissions calculation methodology, see page 24.

Analysis of our emissions profile

For transparency, we have provided details below of our location-based and market-based emissions, fuel and energy sources.

Location-based and market-based emissions

Table 2.3 Location-based scope 1 and 2 emissions summary

SCOPE 1 AND 2 EMISSIONS SUMMARY (LOCATION-BASED)	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Scope 1 emissions (kt CO_2e)	305-1	13	12	11	12	11	11
Scope 2 emissions location-based (kt CO_2e)	305-2	90	89	84	79	61	59
Total scope 1 and 2 location-based (kt CO_2e)	305-5	**103**	**101**	**96**	**91**	**72**	**70**

Notes: **1.** Our net zero emissions targets are market-based (not location-based). However, the information in this table is provided for comparative purposes. **2.** See Table 2.1 for other relevant notes. **3.** See Table 2.5 for RV *Investigator*.

What we mean by….

location-based emissions this method of calculation shows our electricity emissions in the context of our physical locations. It does this by reflecting the emissions intensity of electricity generated within the relevant local area for each of our sites.

market-based emissions this method of calculation shows our electricity emissions in the context of our investments in different electricity products and markets. For example, this method takes into account our voluntary purchases of renewable electricity (and surrender of large-scale generation certificates).

Table 2.4 Market-based scope 1 and 2 emissions summary

SCOPE 1 AND 2 EMISSIONS SUMMARY (MARKET-BASED)	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Scope 1 emissions (kt CO_2e)	305-1	13	12	11	12	11	11
Scope 2 emissions market-based (kt CO_2e)	305-2	90	89	11	11	9	8
Total scope 1 and 2 market-based emissions (kt CO_2e)	305-5	**103**	**101**	**22**	**23**	**20**	**19**

Notes: **1.** See Table 2.1 for notes.

RV *Investigator*

How we account for the RV *Investigator*

An important impact of the change to the reporting boundary for our target is how we account for the emissions of the Research Vessel *Investigator* (RV *Investigator*). The RV *Investigator* is a marine vessel owned by CSIRO, but operated by a ship management company. Voyages are booked by third parties and by CSIRO research units. We are analysing the appropriate emissions reporting category for the RV *Investigator's* emissions under the 'operational control' boundary definition. This analysis is needed for both CSIRO's net zero target reporting and APS Net Zero reporting. For greater transparency and accuracy, the RV *Investigator* emissions are shown separately to CSIRO's scope 1 and 2 emissions. However, it remains part of the total reportable emissions for our 2030 target for FY24.

CSIRO's marine research vessel, the RV *Investigator*.
Photo: Owen Foley

Table 2.5 Emissions summary for RV *Investigator*

RV *INVESTIGATOR* EMISSIONS	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Emissions from RV *Investigator* (kt CO₂e)		7	8	8	3	8	6

Notes: **1.** We have reported the emissions for the RV *Investigator* separately, while we work through our final determination under the 'operational control' definition. **2.** See Table 2.1 for other relevant notes.

Figure 2.5 below shows how our market-based and location-based scope 1 and scope 2 emissions (plus RV *Investigator*) have decreased since FY19.

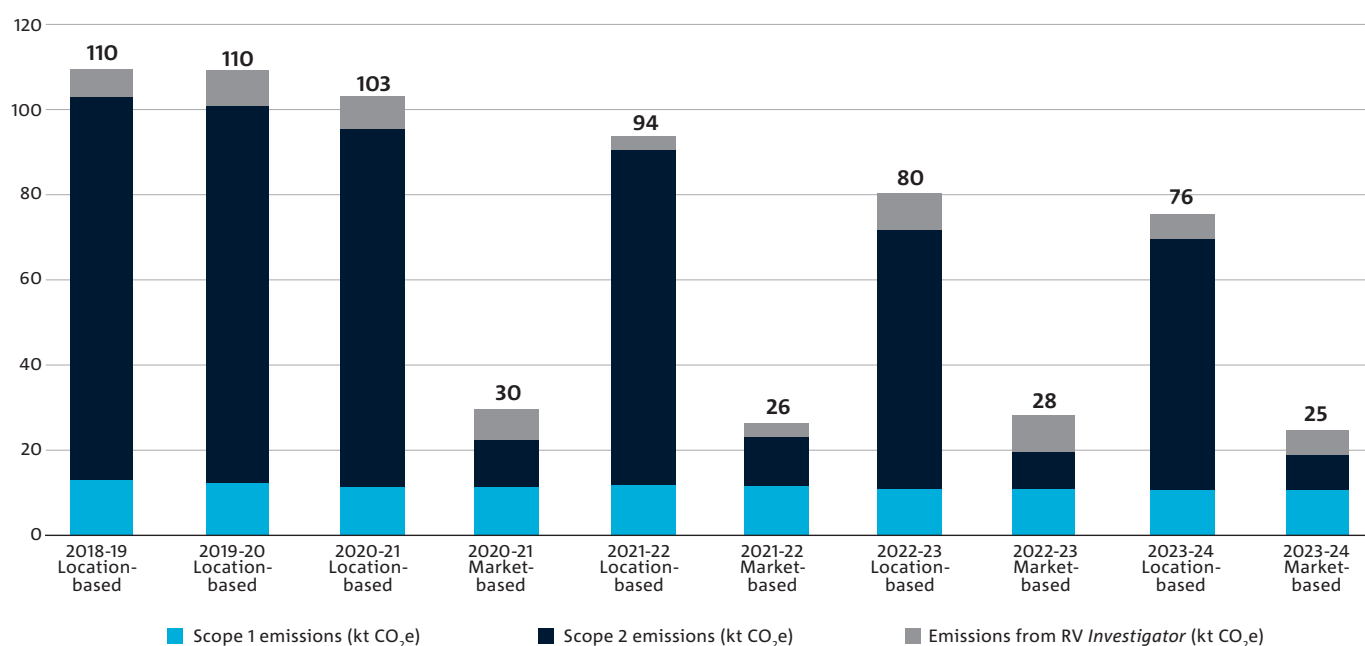**TOTAL EMISSIONS KILOTONNES (kt) CO$_2$e**

Figure 2.5 Graph showing market-based and location-based scope 1 and scope 2 emissions (plus RV *Investigator*)

Energy and emissions metrics

The following tables detail our performance against some key metrics relating to energy and emissions.

Table 2.6 Emissions intensity (tonnes per FTE)

| EMISSIONS INTENSITY	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Emissions per FTE (t CO_2e/FTE)	305-4	21	22	6	5	5	4
Energy per FTE (GJ/FTE)	302-3	137	152	147	125	112	102

Notes: **1.** Calculation is based on our net zero emissions target boundary which includes scope 1 and scope 2 emissions (market-based), plus the RV *Investigator*. **2.** All calculations based on CSIRO Australian full time equivalent (FTE) figures.

This year, CSIRO consumed 335,096 gigajoules (GJ) of grid and off-grid electricity and 174,387 gigajoules (GJ) of natural gas.

Table 2.7 Energy consumption and exports by fuel source (GJ)

ENERGY CONSUMPTION AND EXPORT BY FUEL SOURCE (GJ)	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Electricity (grid)	302-1	385,865	391,773	380,104	366,947	318,296	326,106
Electricity (solar)	302-1	6,260	19,818	19,638	21,196	21,607	21,098
Electricity (off-grid)	302-1	10,106	9,929	7,559	8,547	7,582	8,990
Electricity (exported to grid)	302-1	-	-	623	1,038	595	613
Natural gas	302-1	203,201	199,121	186,845	190,117	167,270	174,387
Diesel	302-1	22,662	21,823	17,582	21,412	23,200	19,666
Petrol	302-1	4,830	4,250	3,664	2,696	5,314	2,940
LPG	302-1	8,428	4,189	5,280	5,612	4,452	3,039
Ethanol	302-1	23	18	12	-	9	142
Sub-total energy consumed (GJ)	302-1	641,375	650,922	620,683	616,526	547,730	556,369
Diesel used by the RV *Investigator* (GJ)	302-1	92,459	116,939	107,606	46,861	119,247	81,945
Total energy consumed including RV *Investigator* (GJ)	**302-1**	**733,835**	**767,862**	**728,289**	**663,387**	**666,977**	**638,315**

Notes: **1.** Electricity (solar) is based on energy consumed from our onsite PV systems. It is considered 'behind the meter' usage. **2.** Electricity (off-grid) is based on an off-grid electricity source from a diesel power plant provided by a third-party retailer. **3.** Energy conversion factors for scope 1 and 2 emissions sources are based on the annual National Greenhouse Accounts Factors. **4.** We do not sell electricity, heating, cooling or steam. **5.** This data is aligned with our net zero emissions target 'operational control' reporting boundary.
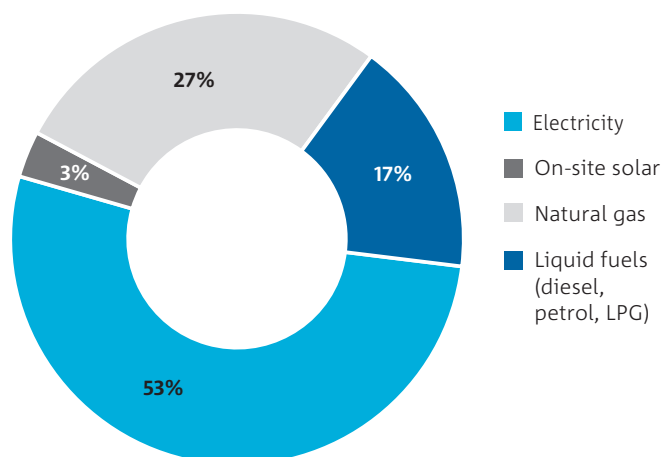
Figure 2.6 Energy consumption by fuel source

Note: This chart shows the percentage of energy consumption and exports (GJ) from our different fuel sources, including electricity, on-site solar generation, natural gas and liquid fuels.
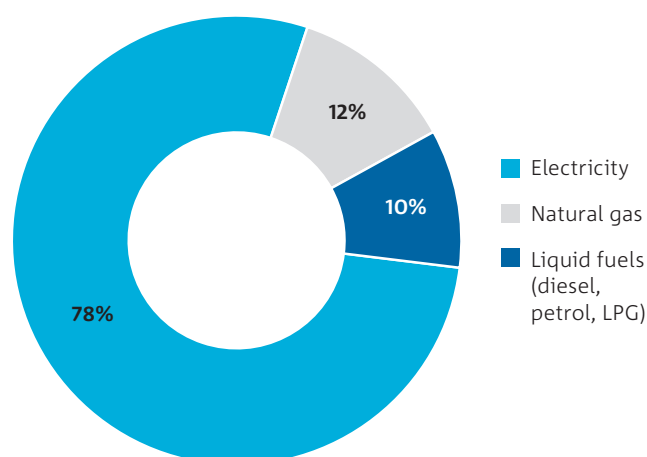
Figure 2.7 Emissions by fuel source

Note: As there are no carbon emissions from solar generation, this chart shows the percentage contributions from the remaining fuel sources: electricity (location-based grid and off-grid), natural gas and liquid fuels.

Table 2.8 Emissions by fuel source

EMISSIONS BY FUEL SOURCE (TONNES CO_2e)	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Scope 1	305-1						
Stationary							
Natural gas	305-1	10,471	10,261	9,628	9,797	8,619	8,986
Diesel	305-1	579	727	379	623	491	712
Petrol	305-1	7	20	16	24	69	21
LPG	305-1	530	254	320	326	264	184
Other							
Includes SF6, waste incineration and petrol-based oil	305-1	26	26	25	22	29	20
Transport							
Diesel	305-1	1,024	809	859	882	1,141	671
Petrol	305-1	307	254	220	158	290	178
Ethanol	305-1	-	-	-	-	-	-
LPG	305-1	-	-	-	14	6	-
Scope 2	305-2						
Electricity (off-grid)	305-2	1,769	1,738	1,302	1,353	1,137	1,348
Electricity (grid, location-based)	305-2	88,731	87,225	82,944	77,631	59,961	57,791
Electricity (grid, market-based, off-grid)	305-2	88,731	87,225	10,824	11,229	8,886	8,358
Total (scope 1 and scope 2 (location-based))		103,445	101,313	95,693	90,832	72,007	69,911
Total (scope 1 and scope 2 (market-based))		103,445	101,313	22,271	23,076	19,795	19,130
Emissions from RV *Investigator* (tCO$_2$e)		6,519	8,234	7,577	3,299	8,396	5,770

Notes: **1.** Emission factors for scope 1 and 2 emissions are calculated based on the annual National Greenhouse Accounts Factors. **2.** Location-based emissions are calculated in accordance with the Greenhouse Gas Protocol. **3.** Electricity (grid, market-based, off-grid) emissions are calculated in accordance with method 1 as outlined in section 7.3 of the NGER Measurement Determination. **4.** Sum of individual energy sources may differ to 'total' due to rounding. **5.** No large generation certificates were purchased or surrendered prior to FY21. **6.** This data is aligned with our net zero emissions target 'operational control' reporting boundary.

Scope 3 emissions sources

We have previously estimated that our scope 3 emissions account for more than 62 per cent of our emissions profile. This estimate was based on a 2017 input-output analysis methodology which aimed to determine the upstream greenhouse gases attributable to all of CSIRO's consumption of goods and services. This method used CSIRO's detailed record of expenditure and mapped this to the known carbon intensity of industries supplying to CSIRO. This has been useful to assess CSIRO's scope 3 footprint from upstream activities, however, does not account for downstream scope 3 categories or actual data sourced direct from suppliers, stakeholders or subsidiaries.

Improvements in identification of data sources and collection have enabled some data from specific categories of upstream scope 3 emissions to be collected, although there is significant work to be done to ensure data is credible. We have also reviewed and re-classified certain emissions sources that were previously counted as scope 1 emissions. These include fuel used in hire cars and fuel estimates for grounds maintenance contractor operations. These are now being appropriately classified as scope 3 indirect emissions sources.

Commencing FY25, we intend to review our estimate of scope 3 emissions (both upstream and downstream) by category, to enable CSIRO to focus its strategy of actual data collection and targeted influence on material value chain emissions reductions. To do this we will use innovative methods and analysis developed by CSIRO and collaborators.

Domestic travel

In FY24, for the first time, we extracted actual fuel consumption data for hire cars from petrol station invoices and receipts recorded in our financial accounting system. Based on the number of litres of fuel purchased and fuel type, our scope 3 emissions from recorded fuel purchases for hire cars was approximately 16 tonnes of CO_2e in FY24.

The accuracy of this calculation relies upon fuel purchases being accurately coded and described in our financial system (to enable hire car fuel data to be picked up in our extraction process). While it is possible that some transactions were missed (e.g. if they were miscoded or insufficiently described in our financial system), we are

confident that our calculation reflects a more accurate assessment of our scope 3 emissions from fuel use in hire cars than is currently available through our APS Net Zero reporting (which relies upon estimation – see 'Appendix – Environmental reporting').

For the first time this year, we also report on our scope 3 emissions from domestic travel accommodation.

Table 2.9 Scope 3 emissions from domestic travel sources

SCOPE 3 EMISSIONS SOURCE (TONNES CO_2e)	GRI	2023–24
Hire car (based on actual fuel consumption)	305-3	16
Domestic commercial flights	305-3	6,108
Domestic travel accommodation	305-3	1,576

Notes: **1.** This is CSIRO's first year collecting and calculating hire car fuel consumption data, which is extracted from actual fuel purchase invoices uploaded by CSIRO staff to our financial system when paid by credit cards. This includes all rental car companies. The methodology differs from the APS report, which is based on estimates from kilometres travelled. **2.** Emissions from domestic air travel and accommodation, booked through the government central booking system, are sourced from the APS report APS NZE report (see Appendix – Environmental reporting).

Solid waste to landfill

For the first time this year, we also report on our scope 3 emissions from solid waste to landfill.

Table 2.10 Scope 3 emissions from solid waste to landfill

SCOPE 3 EMISSIONS SOURCE (TONNES CO_2e)	GRI	2023–24
Solid waste to landfill	305-3	1,376

Notes: **1.** This data is solid waste to landfill, and excludes gaseous, liquid and hazardous waste, and all resource recovery and recycling waste streams.

From FY25 we will commence reporting on other emissions under scope 3 emissions categories aligned to the Greenhouse Gas Protocol[14] and APS Net Zero reporting requirements.

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14 https://ghgprotocol.org/

Transition to clean electricity

As shown in Table 2.11, this year, 62% of our total electricity needs were met from renewable energy sources – 6% through on-site behind-the-meter solar generation, 56% through purchase of renewable energy and large-scale generation certificates.

We are continuing to transition to clean electricity for our operations, through building our solar PV capacity and purchasing renewable energy. In FY24 we added a 264kW solar PV system at our Newcastle site. We are also working towards procurement of renewable energy for our operations in all of the states and territories. The status of our procurement in each jurisdiction is set out in Table 2.12.

We also recognise the need to shift away from gas consumption, and have started preliminary feasibility work aiming at electrifying gas loads at key sites in New South Wales, the Australian Capital Territory, and Victoria.
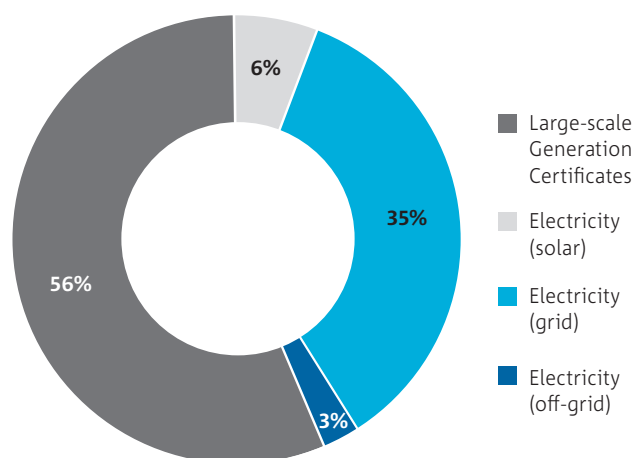

Figure 2.8 Composition of electricity consumption by source

Table 2.11 Renewable electricity supply for all CSIRO sites

ENERGY CONSUMPTION AND EXPORTS BY FUEL SOURCE	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Electricity (grid) (MWh)	302-1	107,185	108,826	105,584	101,930	88,416	90,585
Electricity (solar) (MWh)	302-1	1,739	5,505	5,455	5,888	6,002	5,861
Electricity (off-grid) (MWh)	302-1	2,807	2,758	2,100	2,374	2,106	2,497
Total electricity consumption (MWh)	302-1	111,731	117,089	113,139	110,191	96,524	98,943
Large-scale generation certificates (MWh)	302-1	-	-	59,312	56,314	53,735	55,613
Electricity (solar) %	302-1	2%	5%	5%	5%	6%	6%
Large-scale generation certificates (%)	302-1	-	-	52%	51%	56%	56%
Renewable electricity supply (%)	302-1	2%	5%	57%	56%	62%	62%

Notes: **1.** No LGCs were purchased or surrendered for FY19 and FY20. **2.** This data aligns with the 'operational control' reporting boundary.

Table 2.12 Status of renewable electricity supply procurement

JURISDICTION	STATUS	APPROACH
New South Wales	100% renewable electricity to 2030	Existing renewable energy power purchasing agreement to 2030
Victoria	100% renewable electricity to 2030	Existing renewable energy power purchasing agreement to 2030
Australian Capital Territory	100% renewable electricity to 2030	Existing renewable energy power purchasing agreement to 2030
South Australia	100% renewable electricity to 2027	Contract for voluntary large generation certificates procured and surrendered to 2027
Queensland	Voluntary renewable electricity post-2027	Assessing energy efficiency opportunities prior to purchasing renewable energy
Tasmania	Voluntary renewable electricity post-2026	Preparing to join Whole of Australian Government procurement of renewable energy by 2026
Western Australia	Voluntary renewable electricity post-2025	Preparing to join Whole of Australian Government procurement of renewable energy by 2026
Northern Territory	Voluntary renewable electricity post-2025	Preparing to join Whole of Australian Government procurement of renewable energy by 2026

Reducing our electricity and gas consumption

As part of our net zero emissions reduction planning, energy audits have highlighted a portfolio of projects and actions designed to reduce energy consumption. Individual projects in this portfolio are at different stages of the project cycle. Table 2.13 shows the initiatives we commenced or completed in FY24, amounting to an anticipated reduction of 404 megawatt hours (MWh) in electricity and 2,621 GJ in natural gas per annum.

Table 2.13 Status of FY24 emissions reduction pipeline projects

LOCATION	PROJECT SUMMARY	STATUS
Kensington	Electrification of domestic hot water system	Completed
	Compressed air system upgrades	Feasibility study and concept design completed
	Occupancy sensing and demand-controlled ventilation	Design completed
	Heating and cooling valve upgrades	Design completed
	Supercomputer heat recovery and thermal storage	Feasibility study
Waterford	Occupancy sensing and demand-controlled ventilation and valve upgrades	Design completed
Clayton	B207 chilled water plant optimisation	Commenced
	Sitewide pump and cooling tower optimisation	Commenced
Hobart	Sitewide demand controlled ventilation and control optimisation	Completed
Black Mountain	Phytotron mechanical system upgrades (see also 'Part 3 – Case studies')	Commenced
Geelong ACDP	Steam system upgrades	Feasibility study
Murchison	100% renewable energy	Feasibility study
Newcastle	Heating and domestic hot water system electrification	Feasibility study

There are now two Toyota Mirai hydrogen fuel cell electric vehicles available for staff to use at our Clayton site.

Transport fuels

We are working to reduce our consumption of petrol, diesel and liquid petroleum gas. Four low emission vehicles were replaced this year, and we added a new hydrogen vehicle to the fleet in the place of an existing internal combustion engine vehicle at Clayton site in Victoria. We have also installed four new electric vehicle car chargers across our portfolio. We are assessing the suitability of new models of low emissions vehicles with 4WD capability for future addition to our fleet.

Table 2.14 Our fleet

OUR FLEET	30 JUNE 2023	30 JUNE 2024
Number of zero emissions vehicles	15 (14 electric and 1 hydrogen vehicle)	16 (14 electric and 2 hydrogen vehicles)
Number of hybrid vehicles	41	39
Number of internal combustion engine vehicles (includes diesel and unleaded vehicles)	191	186
Total fleet vehicles (includes passenger, SUV, light and heavy commercial vehicles)	247	241
% low emissions vehicles in fleet	22.67%	22.82%
New fleet charging infrastructure points added in FY2024		4 (2 single unit chargers at Tidbinbilla site, 1 dual charger at Clayton site, 1 dual charger at Black Mountain site)

Notes: **1.** Low emissions fleet vehicles include zero emissions vehicles and hybrid vehicles. **2.** Number of hybrid vehicles restated to correct error in FY23 report (previously reported as 43).

Climate risk and opportunity management

To support and drive CSIRO's continued maturity in climate risk and opportunity management, a new enterprise risk has been included on our enterprise risk register, noting the required enterprise actions to enable CSIRO to address physical and transitional risks and opportunities. Our subject matter experts on our Climate Risk Working Group have determined that improving governance structures related to climate and nature-related risk is a priority matter to be addressed.

As a result, assessments of gaps and recommendations for improved governance have been progressed through our Sustainability Steering Committee and Executive Team. Further work will continue in FY25 to improve and mature our governance and risk management approaches to climate risk and opportunity management.

> As a corporate Commonwealth entity, we are not required to report against the Commonwealth Climate Disclosure Pilot Guidance. However, in the interests of transparency and accountability, a disclosure aligned to the pilot guidance is provided for our stakeholders at 'Appendix – Commonwealth Climate Disclosure Pilot'.

Gaps and challenges

Our emissions reduction targets

This year we began reviewing our pathway to net zero emissions for our Newcastle site and have identified opportunities to improve data and assumptions. In 2025, we will undertake a third-party audit for our Newcastle site.

Following that, we will review the pathway for the CSIRO sites in scope for our 2030 target to ensure that our emissions reduction plans and baselines are robust and auditable in preparation for achieving our targets.

Improving our data

We are evaluating options to improve our energy information systems so that we can better understand our energy consumption, set key performance indicators, set energy efficiency reduction targets/milestones, and track progress. Improvements will also enable increased transparency and information sharing to drive reductions in our energy consumption and emissions.

For scope 3, we will explore options to improve data collection and analysis methods, including automation. This will enable us to update our scope 3 emissions profile from 2020, improving its accuracy and completeness.

Transport fuels

Just over 20 per cent of our fleet are low emissions vehicles, and we are working to increase this. We are focusing on:

- more charger installations to support low emissions vehicles at our sites. We are working towards funding, planning and executing these installations.
- education and change management to transition the users of our fleet vehicles to low emissions vehicles. We are working on uplifting our fleet users' knowledge of low emissions vehicles.

Air travel

We are aware of the impact of our air travel and the need to effect appropriate strategies to reduce our emissions. The approach we set in our Sustainability Strategy was to seek reductions in our air travel kilometres. However, we have identified that in-person engagement can be important for productivity, and limiting annual travel per person by kilometres may have the unintended consequence of compromising our impact and the achievement of our purpose as a national and global science collaborator.

An alternative approach under consideration is to directly target reduction of emissions associated with necessary travel by promoting more efficient travel planning and transport options. We now have visibility of carbon emissions per flight at the time of booking, which would support this approach. We will further consider this option and assess potential new performance measures to better align our approach to sustainable air travel with our strategic objectives.

Key focus area 6 – Responsible value chain and resource use

Understand the environmental and social impacts of purchase decisions, and embed circular economy thinking and the highest standards of responsible procurement.

6 CLEAN WATER AND SANITATION

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

15 LIFE ON LAND

Reporting on this key focus area is split into two sections: responsible value chain, and responsible resource use.

Responsible value chain

Ensuring our operational value chain is responsible is a key focus of our Sustainability Strategy and an important priority for one of the most trusted government brands in Australia.

The integrity of our value chain is supported by our procurement framework, which includes:

- **Policy framework** – We must comply with the *Commonwealth Procurement Rules*[15] when engaging in the procurement of goods and services. We also have CSIRO policies and procedures which supplement the Commonwealth Procurement Rules.

- **Oversight** – Procurements over $400,000 (including GST) where an open market approach is undertaken are overseen by our Strategic Procurement team (under Corporate Finance) to ensure compliance with the policy framework and that value for money is achieved for the organisation.

- **Reporting** – We are required to publish biannually on our website a list of all contracts with a value of $100,000 or more that fall within the reporting period.[16]

- **Planning** – We publish an Annual Procurement Plan on AusTender,[17] which provides information on significant procurements that we plan to undertake over the coming 12 months.

We are working to improve our management of the environmental and social impacts of our large and complex value chain. Our approach includes:

- seeking to strengthen environmental and social considerations in our procurement standards, procedures, supplier due diligence processes and contracts to ensure compliance with the *Commonwealth Environmentally Sustainable Procurement Policy*[18]

- responding to procurement-related legislation and procurement-connected policies (such as modern slavery legislation, the *Commonwealth Environmentally Sustainable Procurement Policy*, broader economic benefits guidance and procurement reporting requirements)

- encouraging supplier diversity.

Our Sustainable Procurement Implementation Plan enabled us to focus on key sustainable procurement strategies. However, this now requires review due to the introduction of the *Commonwealth Environmentally Sustainable Procurement Policy* and the *Commonwealth Supplier Code of Conduct*.[19] CSIRO will focus its efforts on a compliance-based approach to sustainable procurement to ensure it meets the required obligations under the new policy framework.

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15 https://www.finance.gov.au/government/procurement/commonwealth-procurement-rules
16 https://www.csiro.au/about/Corporate-governance/Access-to-information/Contracts
17 https://www.tenders.gov.au/App/Show/4FDC9EA2-9DD7-B623-2CE6-67947907F0F0?ppId=&btnsubmit=View+Annual+Procurement+Plan
18 https://www.dcceew.gov.au/environment/protection/waste/sustainable-procurement
19 https://www.finance.gov.au/government/procurement/commonwealth-supplier-code-conduct-overview

Progress this year

Improving our procurement contracts

We continually update our procurement contract templates to ensure compliance with relevant legislation and alignment with the *Commonwealth Procurement Rules* and procurement connected policies. Where possible, we also look to improve templates to increase efficiencies, streamline and simplify, and reduce risk to CSIRO.

This year, we have prioritised template improvements in the following areas, in response to new legislative or Commonwealth policy requirements:

- **Unfair contract terms** – We updated our procurement suite of templates (Goods Contract, Services Contract and Goods/Services Contract) to ensure our contracts comply with the unfair contract terms reforms under the *Australian Consumer Law* (which came into force on 9 November 2023).

- **Australian skills guarantee** – We have updated our templates to ensure compliance with the new *Australian Skills Guarantee* procurement connected policy issued by the Department of Employment and Workplace Relations. The purpose of the policy is to help address ongoing skills shortages and to drive long-term sustainable change to tackle gender imbalance in building, construction, maintenance and information and communication technology (ICT) sectors.

- **Environmentally sustainable procurement** – We have also updated our templates to address the requirements of the new *Environmentally Sustainable Procurement Policy* issued by the Department of Climate Change, Energy, the Environment and Water. From 1 July 2024, the policy applies to procurement of construction services at or above $7.5 million. There will be more work to do next year to prepare for the expansion of the policy to procurements of furniture, fittings and equipment, ICT goods and textiles of $1 million or more from 1 July 2025.

- **Commonwealth Supplier Code of Conduct** – The Australian Government is taking steps to strengthen integrity and ethical conduct in its operations and that of its suppliers who deliver goods and services. A new *Commonwealth Supplier Code of Conduct* will come into effect from 1 July 2024. We have updated our procurement suite of templates (Goods Contract, Services Contract, Goods/Services Contract), Purchase Order terms and conditions and our construction contracts. We are continuing to implement the code and will update our leasing contract templates accordingly.

Modern slavery

CSIRO prepares a Modern Slavery Statement each calendar year in accordance with the *Modern Slavery Act 2018* (Cth).[20] Our latest statement was published in December 2023, for FY23.

Key progress highlights in the FY23 reporting period included:

- an independent review of modern slavery risks in our operations and supply chain
- development of modern slavery training materials and workshops
- engagement across the organisation on broader human rights issues
- a review of available grievance mechanisms.

In the high-risk area of cleaning services, improved mechanisms for transparency of sub-contractor payments and disclosure of cleaning staff wages have been included in new procurement contracts.

Who we buy from

We aim to achieve greater Indigenous participation and are actively pursuing further opportunities to incorporate supplier diversity within the organisation by promoting the *Australian Government Indigenous Procurement Policy*, and through our membership of Supply Nation (which has been endorsed by the Australian Government as the leading directory of Indigenous businesses).

In FY24, our annual expenditure on Indigenous-owned or operated businesses increased to more than $19 million. You can read more about our work with Indigenous businesses in our report, CSIRO Indigenous Collaboration and Partnerships 2023–2024.[21]

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20 See https://modernslaveryregister.gov.au/
21 https://www.csiro.au/reportingsuite2024

Table 2.15 Supply chain expenditure within Australia

SUPPLY CHAIN EXPENDITURE WITHIN AUSTRALIA	GRI	2020–21	2021–22	2022–23	2023–24
Small business suppliers paid within 20 days (%)		n/a	97%	97%	99.0%
Small business suppliers paid within 30 days (%)		n/a	99%	98%	99.4%
Small business annual expenditure ($'000)		n/a	109,450	251,010	226,260
Percentage of procurement spent on Australian suppliers (%)	204-1	n/a	n/a	n/a	99.6%
Annual expenditure on Indigenous owned/operated businesses ($'000)		$9,763	$3,967	$10,438	$19,019

Note: **1.** FY22 was the first full financial year of reporting on payments to small business. FY21 was the first full year of reporting on annual expenditure on Indigenous owned/operate businesses. FY24 is the first full financial year of reporting on spend with Australian suppliers. For the purposes of this disclosure, 'Australian suppliers' means suppliers with an 11-digit numeric value ABN. **2.** 'Small business' is defined by the *Payment Times Reporting Act 2020* (Cth).

Gaps and challenges

Procurement requirements for Commonwealth entities are continually changing. Given the scale and complexity of our value chain, we have focused our efforts on monitoring and implementation of new Commonwealth policies. An agile approach is needed, because change is often rapid, and requires development of new processes, training of internal stakeholders, monitoring and reporting on outcomes.

The new Commonwealth policies have strengthened sustainable procurement compliance obligations for CSIRO. There is significant work to do in adapting our business processes and systems to meet these obligations for FY25 and beyond. Accordingly, compliance will be our focus for next financial year.

Monika Andersen, Sally Taylor, Charlie Griffiths and Felicity Kelly modelling the vibrant new 'Eternal Wisdom, Infinite Innovation' t-shirts in our information stall at the Garma Festival 2024. The artwork was created by artist Rachael Sarra, working with Gilimbaa. Photo: Kristin Sarra

Responsible resource use

Making sure we use resources efficiently and eliminate waste through resource recovery and applying circularity principles are essential aims of our Sustainability Strategy. This section of our report focuses on how we are working to reduce the solid waste from our operations and improve our water efficiency. Our approach to energy efficiency is set out above in 'Key focus area 5 – Transition to a clean energy future'.

As we reported last year, waste diversion has been a key challenge for us over recent years. Our research and waste streams are highly diverse, and our sites are geographically widespread. Our approach to improving our performance includes:

- gathering quality data to understand our waste streams and opportunities for diverting waste from landfill
- developing a strategy to drive achievement of our target
- pursuing opportunities to apply circular economy principles
- developing strong relationships across our business to support increased collaboration and investment in this space.

Progress this year

Waste

This year, we reset our waste target as part of our Waste Avoidance and Resource Recovery Strategy. The boundary for our target is limited to solid waste streams at sites CSIRO owns and manages. This means that the target excludes liquid, gaseous and hazardous waste streams and excludes sites where CSIRO is a tenant (except where CSIRO's national waste contractor provides specified waste stream services). We chose this target and boundary because they reflect a relevant, achievable indicator of our impact that is measurable with actual data, rather than estimates. This year represents the baseline for our restated target, and we will measure our progress against this each year.

Our target:

Average 80% diversion from landfill (by weight) by 2030

Table 2.16 Progress toward our target of average 80% diversion from landfill (by weight) by 2030

TARGET METRICS	TARGET BASELINE YEAR 2023–24
Waste generation (tonnes)	1,267
Rate of diversion from landfill (%)	32

Notes: **1.** 'Waste generation' (tonnes) in Table 2.16 excludes liquid, gaseous and hazardous waste streams and excludes sites where CSIRO is a tenant (except where CSIRO's national waste contractor provides specific waste stream services). **2.** 'Diversion' of waste means diverting from landfill using the principles of the waste hierarchy.

Analysis of our waste profile

Our waste generation and resource recovery data is provided to CSIRO by our national waste contractor. The national waste contractor covers our owned and managed sites and some waste streams at sites where CSIRO is a tenant.

Table 2.17 Waste metrics for all waste streams collected by national waste contractor

RESOURCE AND OPERATIONAL METRICS	GRI	2018−19	2019−20	2020−21	2021−22	2022−23	2023−24
Waste generation (tonnes)	306-3	2,370	2,085	1,721	1,384	1,594	1,473
Waste generation (kg / FTE)		442	412	331	290	249	203

Notes: **1.** 'Waste generation' (tonnes) in Table 2.17 includes hazardous waste streams and grease trap and excludes sites where CSIRO is a tenant (except where CSIRO's national waste contractor provides specific waste stream services).

Waste Avoidance and Resource Recovery Strategy

We made good progress this year in developing a strategic framework which maps a pathway to reducing our solid waste. Our new internal Waste Avoidance and Resource Recovery Strategy was approved by the CSIRO Executive Team in June 2024 and outlines our approach to achieving our waste diversion target.

Development of the strategy was informed by a multi-disciplinary working group, which helped identify priority programs for initial implementation. This approach ensures our shared values and aspirations are reflected in the strategy, and developed buy-in by key stakeholders across our business.

Priority projects

The initial phase of our new strategy includes priority projects to drive progress towards our targets. Several of these projects are currently underway.

One of these is the development of a new procedure to clearly outline protocols for the appropriate disposal of CSIRO plant, equipment and consumables. Developed by a cross-functional working group, the draft procedure aims to promote reuse of suitable items within and outside CSIRO.

In August 2023 we also launched the Greenius online learning modules. The modules were developed by our waste contractor with content input from key CSIRO experts to support CSIRO people in minimising contamination of CSIRO source separation bins.

We also conducted a desktop review of our leased sites' waste facilities (which are not managed by our current waste contractor). The objective of the project was to understand waste data collection practices at our leased sites and pinpoint waste management challenges.

Waste audits

Audits undertaken at four CSIRO sites in 2021 provided insights into our waste challenges and opportunities. A key area of focus was ensuring that waste handling, storage, treatment, and disposal were being performed efficiently, safely, and in accordance with regulatory requirements.

This year, we developed a waste facilities audit and review methodology to comprehensively assess waste management practices, infrastructure, and compliance within our facilities. We piloted the methodology at our largest site, Black Mountain, and identified:

- a need for improved signage and standardised bins across the site
- an opportunity to work more closely with CSIRO's Information Management and Technology team on the management of e-waste
- challenges for future priority projects, including a lack of storage space to support reuse and source separation bins to divert additional waste streams.

We still have a long way to go in developing a detailed understanding of our organisation's waste footprint, so gathering data and conducting audits will be a key focus in the year ahead.

Working towards a circular economy

We engaged with researchers from CSIRO's Ending Plastic Waste mission and the Circular Economy enabling program when developing our new waste strategy. We have established productive collaborations across functions to gather insights on our waste challenges and are investigating potential opportunities to embed circularity in our operational practices.

Our Ending Plastic Waste mission also conducted a life cycle analysis of different lanyard materials. The study looked at environmental impacts from all inputs required for production, use and disposal of lanyards. Based on the results, we are trialling bamboo viscose lanyards (where new lanyards are needed), and we are promoting reuse of lanyards from our events.

Bamboo lanyards are being trialed at CSIRO for staff and visitors as an alternative to polyester. Photo: Owen Foley

Water

Our water consumption is measured using data from the following sources:

- for sites owned and managed by CSIRO, we utilise water authority account invoice data
- for sites where CSIRO is a tenant, we utilise a combination of data sources provided by landlords including water authority account invoice data and meter data. Where CSIRO is a tenant and data is aggregated for a site, we calculate CSIRO's share of water consumption based on the percentage of net lettable area CSIRO occupies.

Ten per cent of expected water data was unavailable at the time of reporting. The missing consumption data has been estimated and included in the report Table 2.18.

For the 2023–24 financial year CSIRO's estimated total water consumption is 335 megalitres. At the time of reporting, an investigation was being conducted into an anomaly in the data for our Irymple site in Victoria. Initial indications are that the full consumption data set has not been captured in some of our previous reporting years due to the existence of two separate water accounts. As CSIRO undertakes agricultural research at this site and utilises water for crop irrigation, missing water usage data from this site is material to our overall water consumption.

For the next reporting period we will update the FY24 position with the full set of validated data and update previous reporting periods with any missing data we are able to collate. This will improve the completeness and accuracy of our historical data set.

Table 2.18 Mains water usage and intensity

RESOURCE AND OPERATIONAL METRICS	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Mains water usage (megalitres)	303-5(a)	320	345	277	230	282	335
Mains water usage intensity (kilolitres/FTE)		60	68	56	44	47	54

Notes: **1.** Where data was unavailable for water usage (specifically for sites where we do not readily have separate metering due to tenancy), estimates have been made.

Gaps and challenges

Waste

A key challenge we continue to face is obtaining accurate information on the waste we generate. We're working closely with our major waste contractor to improve the quality of the waste and recycling data they report from waste collected from CSIRO-owned sites and facilities. We have quarterly resource recovery meetings and a stipulation for a resource recovery plan in our resource recovery and waste management contract.

The challenge of our diverse research, waste streams, and geographically dispersed sites also remains. To effectively improve waste reduction and recycling, we need tailored actions to address the waste profiles of every research unit, site and state, and in our supply chain and procurement decisions.

Water

We need to adopt a more holistic view of water management within the context of climate risk and mitigating the impacts of climate change. We will address our priorities for water management plans in a way that is consistent with our climate risk assessment.

The Murrumbidgee River, a major tributary of the Murray-Darling River system, at Yanga National Park, NSW. Photo: Tanya Doody

Summary of progress against Sustainability Strategy

Table 2.19 summarises our progress against the initiatives identified in our Sustainability Strategy for each key focus area.

Table 2.19 Status of Sustainability Strategy initiatives

INITIATIVE	TIMEFRAME	STATUS	COMMENTS
Governance and transparency			
Establish a Sustainability Steering Committee to oversee the Sustainability Strategy and reporting, and develop Terms of Reference	June 2021	Complete	Sustainability Steering Committee established in 2021. 2 meetings and 3 out of session reports in FY24.
Develop performance measurement framework for assessing progress against the targets and measures in the Sustainability Strategy	2021	Complete	This Sustainability Report reflects our performance measurement framework. Each year we continuously review and improve our performance measurement framework.
Develop a public Sustainability Report, referencing the UN Sustainable Development Goals	2022	Ongoing	This is our third public Sustainability Report.
Strengthen compliance with mandatory sustainability-related reporting requirements	Annually	Ongoing	We are evolving our APS Net Zero reporting in line with the Net Zero in Government Operations Strategy and reporting obligations, and are preparing for upcoming Commonwealth Climate Disclosures. We continue to report to the Clean Energy Regulator for NGERS reporting as well as the National Pollutant Inventory where required in States and Territories.
Periodically (e.g. every 3 to 5 years) undertake a materiality refresh to understand if CSIRO's material topics have changed	Periodically	On track	We will refresh our materiality assessment in FY25, to align with completion of the organisational review of our structures and processes. Our Partnerships and Business Development team has commenced a pre-materiality risk assessment to lay the groundwork for the materiality assessment refresh.
Monitor development and implementation of CSIRO's next Reconciliation Action Plan, for inclusion in reporting	Annually	Ongoing	We report on our Action for Reconciliation in 'Appendix – Material topics'. This year, CSIRO has also published a report on CSIRO Indigenous Collaboration and Partnerships 2023–24.[22]
Excellent and impactful science			
Establish Sustainability Advisory Group incorporating CSIRO science expertise	2021	Not proceeding	We have changed our approach to seeking scientific input into our operational challenges. Our experience to date has shown that one panel is unlikely to be broad enough to cover all of our science needs. Accordingly, we have created fit-for-purpose working groups and panels (such as the ones identified in Figure 2.1) and will update our strategy accordingly, following our materiality refresh in FY25.
Identify opportunities under CSIRO Missions program to apply science solutions to operational challenges	Ongoing to 2030	Ongoing	We have been working with researchers from our Ending Plastic Waste Mission this year, as well as our Circular Economy for Missions enabling program and Towards Net Zero Mission.
Our people and capacity building			
Develop approach to the engagement of CSIRO staff in the implementation of the Sustainability Strategy across disciplines and enterprise and research units, through multiple communication channels	2021	Ongoing	We developed an overarching plan in 2021 that identified opportunities to communicate and engage key stakeholders through the implementation of our strategy. This plan has evolved in consultation and collaboration with internal stakeholders, with a focus on building relationships across CSIRO functions and improving knowledge and understanding of our sustainability challenges.

22 https://www.csiro.au/reportingsuite2024

INITIATIVE	TIMEFRAME	STATUS	COMMENTS
Build capacity of staff to understand and embed sustainability approaches within their roles, including developing training that references UN Sustainable Development Goals	By 2025	Ongoing	We continue to assess the training and development needs of our staff, aligned with our strategic objectives, and seek opportunities to address these. Details of training undertaken are set in 'Key focus area 3 – Our people and capacity building'. We're also participating in the Green Impact program, supported by Australasian Campuses Towards Sustainability Limited. See 'Part 3 – Case studies' for more details.
Sustainable property portfolio			
Undertake a physical climate risk assessment over CSIRO's properties and infrastructure. Develop an action plan.	2025	Ongoing	Last year our Environment research unit developed a climate risk heat map of CSIRO sites and developed a vulnerability score for each site. This is informing our future planning and provides a baseline for further analysis.
Support Property Strategy Implementation Plan to optimise CSIRO's property portfolio, considering economic, social and environmental needs.	2030	Ongoing	The CSIRO Sustainability Team continues to support implementation of the Property Strategy through energy efficiency projects, renewable energy generation projects, electrification initiatives, and continuing to develop and evolve our ecologically sustainable design principles and guidelines.
Transition to a clean energy future			
Finalise a Net Zero Emissions (NZE) pathway for CSIRO to achieve its emissions and renewable energy targets with strong links to CSIRO's Towards Net Zero Mission, where possible	2021	Under review	Completed in 2022 and to be reassessed in FY25.
Assess options to reduce domestic and international air travel (from 2019 baseline) and set appropriate targets	2025	Changed approach	See 'Gaps and challenges – Air travel' in 'Key focus area 5 – Transition to a clean energy future'.
Undertake an assessment of how the transition to a low carbon economy may affect CSIRO's operations and research areas, including risks and opportunities	2025	Ongoing	Partially completed in 2023. Reassessment is required in accordance with *Climate Risk Management: The Australian Government's Approach to Climate Risk and Opportunity Management in the Public Sector 2024–2026*.
Continue to transition CSIRO vehicle fleet to low emissions technologies in accordance with Environmental Fleet Strategy	2030	Ongoing	See 'Progress this year – Transport fuels' and 'Gaps and challenges – Transport fuels' in 'Key focus area 5 – Transition to a clean energy future'.
Responsible value chain and resource use			
Understand social and climate-related impacts of CSIRO's investment portfolio	2025	Not started	CSIRO will commence assessment in FY2025.
Update Procurement Standards and procedures to strengthen environmental and social considerations	2025	Ongoing	See 'Improving our procurement contracts' in 'Key focus area 6 – Responsible value chain and resource use'.
Develop and implement supplier due diligence processes to ensure supply chain integrity, and respond to modern slavery legislation and broader environmental and social considerations	2025	Ongoing	This year, we have focused on preparing our procurement processes for upcoming changes in Commonwealth policy (e.g. the introduction of the new *Environmentally Sustainable Procurement Policy*). We expect that this will remain a focus in 2025.
Undertake waste audit program to understand CSIRO's waste streams and opportunities for reusing, reducing and recycling waste	2025	Ongoing	See 'Progress this year – Waste audits' in 'Key focus area 6 – Responsible value chain and resource use'.
Align with the National Waste Policy Action Plan and develop a Waste Strategy and diversion targets	2025	Complete	Waste Avoidance and Resource Recovery Strategy approved by CSIRO Executive Team this year.
Pursue opportunities to improve resource recovery through application of circular economy principles	2025	Ongoing	See 'Progress this year – Working towards a circular economy' in 'Key focus area 6 – Responsible value chain and resource use'.
Conduct water audits to understand CSIRO's water use and opportunities to reduce consumption	2025	Changed approach	Additional water metering infrastructure has been implemented this year at our Clayton and Waite sites to provide improved data for future decision making.

Part 3
Case studies

Connecting through Green Impact

Our sustainability champions are connecting, learning and driving change through Green Impact.

Developed in the UK and now supported in Australasia by Australasian Campuses Towards Sustainability (ACTS), Green Impact brings people together to address social and environmental issues within their organisations and communities. Participants join a team and choose actions from a toolkit to improve their sustainability at home and at work.

In 2023, in just 14 weeks, 17 CSIRO teams with 72 active participants took part in a pilot program. Together they completed 359 actions and earned 4,495 points towards bronze, silver and gold awards.

The teams contributed to a wide range of sustainability outcomes and United Nations Sustainable Development Goals (SDGs) and engaged with hundreds of colleagues through onsite events and activities.

Our 2023 pilot informed our 2024 program, which launched in May and wraps up at the end of October.

There are some compulsory actions teams must complete, including forming a team, becoming familiar with CSIRO's Sustainability Strategy and sustainability reports, and learning about the SDGs. From there, teams can choose from around 100 actions addressing active transport, biodiversity, energy, resource recovery, health and wellbeing, sustainable procurement, diversity and inclusion, and Indigenous culture and engagement.

Participants can also work with CSIRO's Sustainability Team to develop bespoke wildcard actions to complete, and there are opportunities to collaborate with other Green Impact teams within CSIRO and in participating universities.

Monthly online sessions, showcases, and sustainability webinars keep teams connected and inspired throughout the program.

Feedback on the program from pilot participants:

"Being part of Green Impact really made me feel like what I do makes a difference. Normally, I feel a little powerless and wonder if one person's actions make any difference at all. But being part of a group of like-minded people was really powerful and inspiring."

"I loved the amazing team bonding experience which Green Impact provided for our team. It was a really positive, enjoyable part of my week, and I learned so many great sustainability tips and tricks from my team members! We are looking forward to next year's program."

Members of the winning team of our 2023 Green Impact pilot, the St Lucia Green Guardians, conducting a bird survey as part of Biodiversity Month.

Electrifying the CSIRO Phytotron

Protecting our heritage while embracing sustainability

As part of our pipeline of projects to reduce the carbon footprint of our assets and operations, we are electrifying and modernising the CSIRO Phytotron and Phenomics Centre (the Phytotron) at our Black Mountain site, ACT. The Phytotron is a building where plants are grown in controlled climatic conditions through a combination of 15 glasshouses and 60 controlled environment cabinets.

Constructed in 1962, the Phytotron was only the third major phytotron to be built in the world, and is a rare surviving example of an early large-scale facility. When it was constructed, the Phytotron represented a major development in the scientific study of plant adaptation to climate and other environmental variables (with all previous studies conducted 'in the field'). Solar panels for domestic hot water were an original part of the building's engineering services. These were a very early Australian example of the use of solar hot water and the design is still operational today.

Maintaining these controlled environments is extremely energy intense. Not only does it have a high base load due to the requirement for constant climate control, but it also has a large heating load due to local climate conditions.

Over its lifespan, we have maintained the building and made minor modifications, while maintaining its function to preserve our heritage. However, the services to the building (such as the evaporating ponds) which enable the facility's research function are end of life due to their age, and are water and energy inefficient. The facility is costly to operate and may not be resilient enough to withstand future extreme weather events.

To ensure the Phytotron remains fit to support our long-term research activities, we began upgrading the building's service infrastructure this year. The aim is to reduce the greenhouse gas emissions of the facility and increase operational resilience whilst preserving its heritage value and research functions. The planned upgrades include:

- replacing the evaporating ponds with energy and water-efficient closed loop cooling towers
- installing a reverse cycle chiller and electric heat pump to electrify water heating
- increasing energy efficiency by improving zonal control and fan efficiency.

Delivering these designs is estimated to not only eliminate 2.5 terajoules of gas per annum (through electrification), but will also partly offset an increase in electricity consumption through energy efficiency initiatives. This work will help ensure the CSIRO Phytotron remains operational while reducing its greenhouse gas emissions.

CSIRO's Phytotron, built in 1962, was the third major phytotron in the world. The domestic hot water solar system on the Phytotron was among the earliest examples of solar hot water in Australia.

Glasshouse solar film trials

Working with our scientists to tackle operational challenges

Growing crops in glasshouses can use a significant amount of energy (e.g. for lighting and temperature control). This is an operational issue for CSIRO, because we have glasshouses on a number of our sites which are used for our agriculture and food research.

Agrivoltaics – or integrating solar PV into plant production areas – has the potential to solve this problem, by:

- producing renewable energy
- providing partial shading to crops (which can be beneficial in some situations – reducing heat stress, improving water use efficiency, and altering plant growth and development).

However, more research is needed for plant producers to be confident that the amount of shading provided by solar PV installations will not lead to major decreases in crop yields.

As we reported last year, the winning research team from our internal Net Zero Challenge 'shark tank' event in June 2022 has been investigating the viability of using printed, semi-transparent, flexible solar films with spectral properties on our research glasshouses for this purpose. The semi-transparent solar cells allow certain wavelengths of the solar spectrum to be transmitted to plants for photosynthesis. The portions of the solar spectrum that are not needed for plant growth are absorbed by the solar cell and converted into electricity to power the greenhouse. With fine-tuning of the solar spectrum, this has the potential to enhance plant fruiting and growth.

The team has now completed three trials to test the impact of the printed solar films on plant development at CSIRO's greenhouse facilities at St Lucia, Queensland. More research is needed before the technology could be implemented in our business (or more broadly). However, initial plant trials showed promising results, with plants able to produce similar amounts of leafy biomass and fruits under high levels of shade cover with printed solar films. This suggests that there is potential to produce both acceptable crop yields and energy from the same land. This could reduce greenhouse gas emissions from greenhouse energy use in the future.

CSIRO's printed solar film is lightweight, flexible and cost-effective and can be adapted for use in a variety of settings. Initial trials of its application in our St Lucia glasshouses are showing positive results.

Waste Avoidance and Resource Recovery Strategy

Mapping our pathway to an 80% diversion of waste from landfill

Our ambitious target of diverting 80% of our waste (by weight) from landfill by 2030 aligns us with the *National Waste Policy Action Plan* and is a key commitment of our Sustainability Strategy 2020–2030.

In 2023 we began engaging with internal stakeholders from our Business and Infrastructure Services, Environment, Agriculture and Food, and Health Safety and Environment business units to map our pathway to achieving our target. Together the group defined the scope of our waste diversion target and identified priority programs and potential projects for implementation. Subject matter experts from our Ending Plastic Waste research mission and Circular Economy enabling program also attended regular committee meetings to provide their insights and expertise, deepen their understanding of our operational challenges, and discuss collaborative opportunities.

Our new Waste Avoidance and Resource Recovery Strategy (WARRS) is the result of this consultative and collaborative process. The WARRS defines the scope of our 80% resource recovery target stated in our Sustainability Strategy and outlines seven key focus areas for waste and resource recovery programs and projects:

- **Data and audits**: measuring our progress and identifying opportunities to improve resource recovery
- **Infrastructure**: ensuring that our facilities are fit for purpose to support efficient, effective and safe source separation
- **Reuse and repair**: extending the life of items and equipment, reducing the demand for new purchases and minimising waste to landfill
- **Education**: supporting CSIRO staff and affiliates with waste reduction, reuse, and recycling
- **Circular economy innovation**: seeking opportunities to apply circular economy principles to CSIRO procurement and waste management practices
- **Contract governance and procurement**: minimising waste and promoting circularity and resource recovery through improved contracts and procurement policies
- **Hazardous waste**: ensuring safe and responsible storage, transportation, treatment, and disposal of hazardous material in compliance with regulatory requirements.

The WARRS was approved by CSIRO's Executive in June 2024 and engagement with key stakeholders is now underway to progress priority programs and projects within the seven focus areas.

The graphic above shows the seven focus areas of our Waste Avoidance and Resource Recovery.

Appendices

1 Materiality

Understanding the issues that are material to us and to our stakeholders is important for developing a comprehensive approach to managing our sustainability impacts. Defining our material issues helps to ensure that our efforts and resources are directed to activities that manage the impact of our operations and generate value for our stakeholders.

In 2020 we undertook a materiality assessment to develop a list of 20 topics[23] considered material to CSIRO. The assessment involved consideration of peer approaches to sustainability, interviews with internal and external stakeholders, a review of internal policies and strategies, industry trends and a media analysis. The topics were tested through stakeholder workshops and a validation workshop with members of CSIRO's Executive Team. The stakeholder engagement approach considered leading practice frameworks used by organisations to demonstrate leadership and performance in accountability, responsibility, and sustainability.[24]

The 20 topics fall into 5 key themes, with the materiality matrix shown in Figure A1.1, and the definitions of each topic included in the 'Appendix – Material topics'. Some topics represent our organisational impact on the most critical issues of our time, mirroring the approach of our research, whilst others represent significant issues that impact our organisation or stakeholders. These material issues informed the development of our Sustainability Strategy, and they will continue to help us define our short, medium, and long-term sustainability goals, and direct our risk management efforts. Our materiality assessment reflected our material topics at the point in time when it was undertaken. Based on changes in our internal and external environment, these topics (or their relative importance) may change over time. Accordingly, we will regularly review these topics and plan to complete our first full refresh of our materiality assessment in 2025.

Through the materiality process we identified priority actions or initiatives that form the basis of our approach to sustainability and provide a platform on which to better communicate with our stakeholders on the issues that matter. Our Sustainability Strategy focuses on six key focus areas (which we reported against in Part 1 of this report). We believe improvements in these areas will provide the most immediate impact on our performance and will better place us to respond to sustainability issues. Improved transparency through stronger governance processes and a commitment to public reporting are key elements that will help to keep our progress on track.

KEY FOCUS AREA 1: Governance and transparency – Increase transparency around sustainability performance through improved governance processes and systems, including regular public reporting aligned to the SDGs

KEY FOCUS AREA 2: Excellent and impactful – Apply CSIRO's technical expertise to solve internal challenges and respond to global priorities by creating internal and external partnerships that contribute to the SDGs

KEY FOCUS AREA 3: Our people and capacity building – Create a culture that supports our highly capable and diverse workforce on sustainable practices, and promote capacity building and understanding of sustainability issues through community and industry engagement
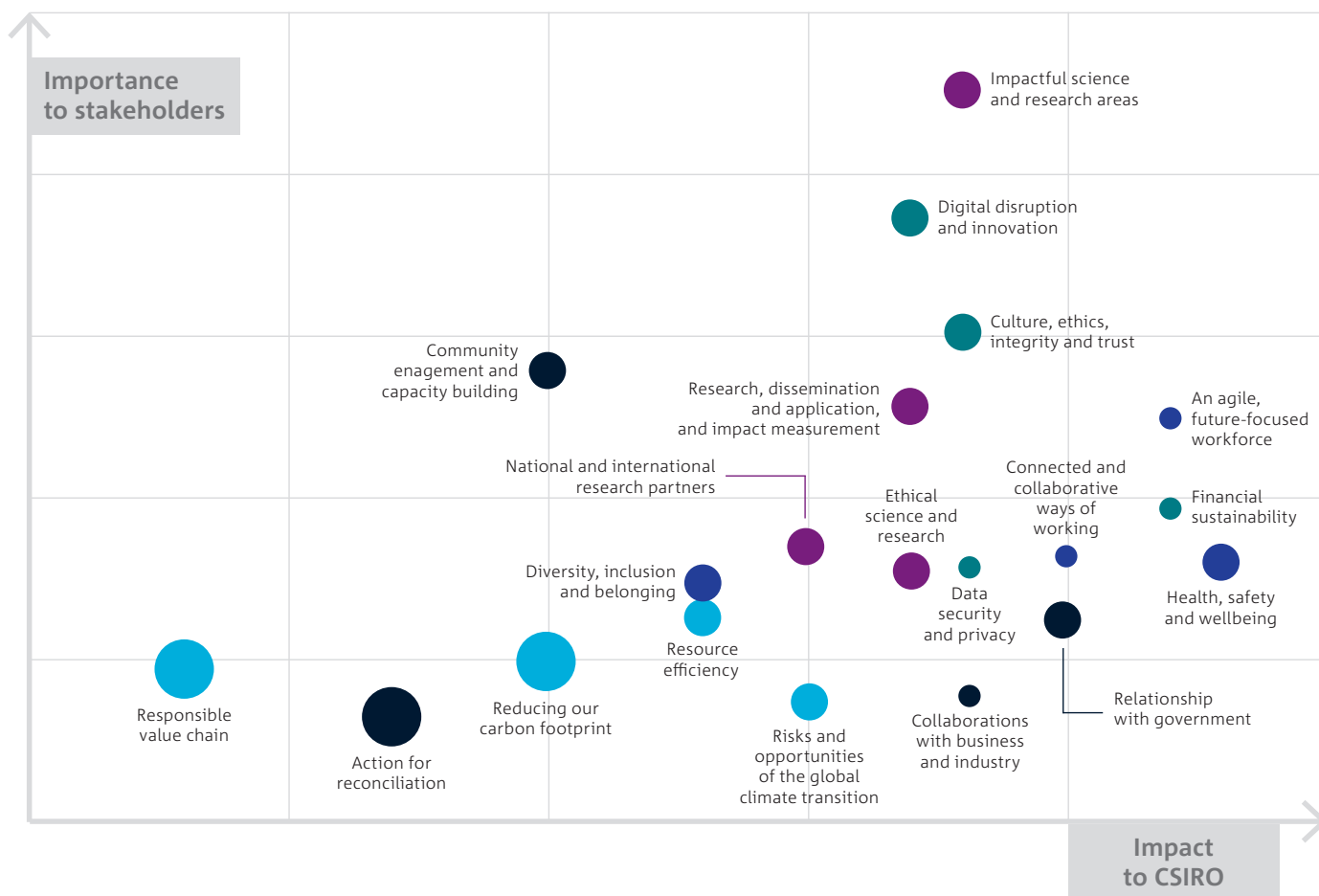
KEY FOCUS AREA 4: Sustainable property portfolio – Ensure fit-for-purpose buildings, aspiring to net zero carbon impact, that stimulate excellent science and improve staff health and well-being

KEY FOCUS AREA 5: Transition to a clean energy future – Improve energy demand management and efficiency to support the transition to net zero emissions

KEY FOCUS AREA 6: Responsible value chain and resource use – Understand the environmental and social impacts of purchase decisions, and embed circular economy thinking and the highest standards of responsible procurement

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23 See Appendix – Material topic definitions
24 GRI Reporting Principles, AA1000APS and AA1000SES

Figure A1.1 Materiality matrix (topics by theme)

Importance to stakeholders

Impact to CSIRO

- Impactful science and research areas
- Digital disruption and innovation
- Culture, ethics, integrity and trust
- Community enagement and capacity building
- Research, dissemination and application, and impact measurement
- An agile, future-focused workforce
- National and international research partners
- Ethical science and research
- Connected and collaborative ways of working
- Financial sustainability
- Diversity, inclusion and belonging
- Data security and privacy
- Resource efficiency
- Health, safety and wellbeing
- Responsible value chain
- Reducing our carbon footprint
- Risks and opportunities of the global climate transition
- Collaborations with business and industry
- Relationship with government
- Action for reconciliation

Time Scale
- Short term (feeling the impact now)
- Medium term (impact will become material in the next five years)
- Long term (impact felt out beyond five years)

Material topics
- Environmental and social impact
- Excellent science
- Foundations
- Our people
- Partnerships and engagement

2 Material topics

MATERIAL TOPIC AND DEFINITION	PROGRESS THIS YEAR	MANAGEMENT APPROACH AND WHERE TO FIND MORE INFORMATION
Culture, ethics, integrity and trust Developing and maintaining a culture of continuous improvement, good governance, and ethical and moral conduct to remain Australia's most trusted research institution.	• completed our third culture survey • CSIRO Board issued new Accountable Authority Instructions to strengthen our governance systems • established a contemporary register of legislative and regulatory obligations relevant to CSIRO programs, projects and operations, to inform compliance and assurance activities • continued to maintain a suite of mandatory training to uphold our legislative obligations and compliance • continued to apply our CSIRO Values, Code of Conduct and Fraud and Corruption Control Plan measures, and maintained the Public Interest Disclosure Scheme • continued to uplift CSIRO's approach to risk management, including by integrating risk management into governance procedures and performance management processes • launched SpeakUp@CSIRO in July 2023, providing an anonymous, independent reporting mechanism to raise concerns or provide feedback. Approximately 50% of closed cases to date resulted in positive action being taken in response to feedback or concerns • continued to operate our Child Safe Office. This year we launched a Child Safe Allies Network in CSIRO and established a community of practice for our staff managing activities and events involving children and young people. We continued to provide ongoing education, training and advice for CSIRO staff to ensure compliance with legislation, the National Principles for Child Safe Organisations and Child Safe Standards. We also reviewed relevant policies, procedures, guidance documents and recruitment and security requirements to improve our practices and procedures. The number of staff with a valid Working with Children/Vulnerable People Check increased by 46% this year. • ethics, integrity and anti-corruption training rates – see Table A1.1 below • FY24 business sentiment survey total trust score combining 'moderately trustworthy' and 'extremely trustworthy' 90% (compared with 94% FY23) • FY24 community sentiment survey total trust score combining 'moderately trustworthy' and 'extremely trustworthy' 85% (compared with 88% in FY23).	Annual Report 2024, Part 3 Our organisation, Governance and accountability https://www.csiro.au/about/Policies https://www.csiro.au/about/Corporate-governance **16 PEACE, JUSTICE AND STRONG INSTITUTIONS**
Financial sustainability Developing and implementing strategies, new business models and commercialisation approaches that complement CSIRO's strategic objectives to achieve long-term growth and sustainability.	• continued reporting of financial results to Executive Team and Board, presenting results but also re-systemised regular capture and reporting of risk/challenges and opportunities and medium term cashflow and investment planning • continued to evolve our annual performance and investment review to address financial planning on a four-year rolling basis • continued to report financial performance in our Annual Report • continued to apply our risk management framework and finance policy • we have commenced a reshaping of our non-science roles under our enterprise services reform, to ensure future financial sustainability.	Annual Report 2024, Part 4 Financial Statements **16 PEACE, JUSTICE AND STRONG INSTITUTIONS**

MATERIAL TOPIC AND DEFINITION	PROGRESS THIS YEAR	MANAGEMENT APPROACH AND WHERE TO FIND MORE INFORMATION
Digital disruption and innovation Continually assessing and leveraging digital innovation, to remain at the cutting edge of ways of doing research and facilitate a connected and agile workforce able to address the challenges and opportunities that arise from digital disruption.	• established the Digital Steering Committee to more effectively govern digital transformation and improve transparency of risks, issues, and outcomes • established the Digital Portfolio Office to drive improved governance practices and reporting for digital transformation • commenced the roll out of Enterprise Laboratory Information Management Systems to select labs through the Digital Support for Labs program • delivered the 'Cloud Right' project, which has enabled a standardised approach to using cloud services in our research projects • continued to deliver the Science Digital program • refocused the Enterprise Services Transformation to deliver tactical improvements to the delivery of enterprise services.	Annual Report 2024, Part 1 Delivering on our strategy, Objective 2 Purpose-driven science and technology, Science digital transformation; Objective 4 World-class infrastructure **9** INDUSTRY, INNOVATION AND INFRASTRUCTURE **16** PEACE, JUSTICE AND STRONG INSTITUTIONS

Data security and privacy
 	
Protecting the privacy[25] of our workforce, and security of scientific data, through maintaining trust and competency in IT systems and defences against cyber security breaches.
	• continued rollout of Cyber Security Uplift Program. Completed 7 projects this year to:
	  - uplift Microsoft365 security
	  - consolidate anti-virus technology
	  - select a governance, risk and compliance IT platform
	  - activate a new centralised logging platform
	• a review of the Cyber Security Uplift Program by the Australian Cyber Security Centre has indicated that the program is likely to complete 87% of its objectives
	• recruitment commenced for Chief Information Security Officer
	• continued to progress our security cultural change. Initiatives this year included:
	  - launching version two of our internationally recognised tool for managing the risk of foreign interference (the Research Engagement Sensitivities Tool)
	  - maturing our security governance framework
	  - delivering training and education to support our people to manage their security responsibilities efficiently (including training on changes to the *Defence Trade Control Act*)
	• continued to manage privacy compliance in line with applicable statutory requirements using measures including but not limited to our Privacy Management Plan and Data Breach Response Plan. During the reporting period we:
	  - had no notifiable data breaches under the Notifiable Data Breaches Scheme
	  - continued to improve and consolidate our privacy maturity against our Privacy Management Plan
	  - developed and implemented a new annual privacy training module targeted to key areas of concern as required under the Privacy Code
	• continued to improve our existing privacy compliance processes, including in relation to Privacy Impact Assessments and the Notifiable Data Breach Scheme.
		Annual Report 2024, Part 3 Our organisation, Operations
		
		9 INDUSTRY, INNOVATION AND INFRASTRUCTURE **16** PEACE, JUSTICE AND STRONG INSTITUTIONS

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25 This refers to personal information.

MATERIAL TOPIC AND DEFINITION	PROGRESS THIS YEAR	MANAGEMENT APPROACH AND WHERE TO FIND MORE INFORMATION
An agile, future-focused workforce Ensuring we have highly capable individuals with the skillsets we need now and for the future and building and sharing our people's capabilities and knowledge to support an agile workforce.	See 'Appendix – People report' below.	Sustainability Report 2024, Appendix – People report Annual Report 2024, Part 1 Delivering on our strategy, Objective 3 Engage and empower talent, Preferred place to work, World-class talent CSIRO's Indigenous Collaboration and Partnerships 2023–2024 CSIRO Enterprise Agreement 2023–26[26] **4** QUALITY EDUCATION **8** DECENT WORK AND ECONOMIC GROWTH
Connected and collaborative ways of working Supporting our geographically diverse and skilled workforce to connect, collaborate, innovate, and work productively, maximising the impact we can create.	See 'Appendix – People report' below.	Sustainability Report 2024, Appendix – People report Annual Report 2024, Part 1 Delivering on our strategy, Objective 3 Engage and empower talent, Greater adaptiveness **8** DECENT WORK AND ECONOMIC GROWTH **9** INDUSTRY, INNOVATION AND INFRASTRUCTURE
Health, safety, and wellbeing Protecting and promoting the health, safety and wellbeing of our people, partners, infrastructure, and environments in which we operate through effective safety risk management and promoting a safety culture.	See 'Appendix – People report' below.	Sustainability Report 2024, Appendix – People report Annual Report 2024, Part 1 Delivering on our strategy, Objective 3 Engage and empower talent, Preferred place to work https://www.csiro.au/about/Policies/Health-Safety-and-Environment-Policy **3** GOOD HEALTH AND WELL-BEING
Diversity, inclusion and belonging Creating and embracing an environment where each individual is included and supported and can realise their full potential and implementing business practices that leverage our diversity of talent, thoughts and ideas.	See 'Appendix – People report' below.	Sustainability Report 2024, Appendix – People report Annual Report 2024, Part 1 Delivering on our strategy, Objective 3 Engage and empower talent, Preferred place to work https://www.csiro.au/careers/life-at-csiro/Diversity-inclusion **5** GENDER EQUALITY **10** REDUCED INEQUALITIES

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26 https://www.csiro.au/about/Policies/CSIRO-Enterprise-Agreement

MATERIAL TOPIC AND DEFINITION	PROGRESS THIS YEAR	MANAGEMENT APPROACH AND WHERE TO FIND MORE INFORMATION
Relationship with government Working with, and maintaining our positive standing with government, to fulfil our function of undertaking science in the national interest, while maintaining our independence.	• adhered to the Minister of Industry and Science's Statement of Expectations as outlined in CSIRO's Statement of Intent • continued to conduct research, in collaboration with government, in the national benefit including research to give "effect to Australia's obligations under the Paris Agreement" (s9(1)(iiia) of the *Science and Industry Research Act 1949* (Cth)) • continued to deliver independent science and research to inform policy decisions across government and support the delivery of programs of departments and agencies, such as the Reef Restoration and Adaptation Program (RRAP).	Annual Report 2024, Part 1 Delivering on our strategy, Objective 1, Impact translation, Exponential networks https://www.csiro.au/about/Corporate-governance/Minister-and-Board
Collaboration with business and industry Collaborate closely with industry and business to enable more targeted and efficient delivery of technology and innovation, build capacity, and support Australia's future industries and jobs. This includes making it easier to do business with CSIRO.	• continued to create impactful science and commercial partnerships with business and industry • continued to progress Missions program with business and industry • continued to support the SME Collaboration Initiative • continued to develop commercial applications of CSIRO research through industry partnerships • net promotor score[27] for FY24 +54 (+49 FY23).	Annual Report 2024, Part 1 Delivering on our strategy, Objective 1 Impact translation, Exponential networks Annual Report 2024, Part 2 Annual performance statements, Analysis of our performance

Community engagement and capacity building
 	
Engaging the community in an ongoing two-way conversation, to inform our research ideas, share important research and innovation developments, and maintain awareness of and trust in the work we do.
	• continued to deliver STEM education and outreach programs, supporting over 100,000 students, over 6,800 educators and over 1,700 STEM professionals
	• continued to manage the citizen science program. Highlights in FY24 include:
	  - > 50% of Atlas of Living Australia records are now derived from citizen science
	  - launched Biosecurity Alerts Service to notify Australian management authorities of new invasive species incursions detected through citizen science
	  - conducted myrtle rust citizen science data collection and information campaign.
		Annual Report 2024, Part 1 Delivering on our strategy, Objective 1 Impact translation, Exponential networks; Objective 3 Engage and empower talent, World-class talent

Action for reconciliation Engaging with Aboriginal and Torres Strait Islander peoples through science, education and employment opportunities, and through pursuing innovation outcomes that create a positive impact for Aboriginal and Torres Strait Islander people.	• launched the Indigenous Cultural and Intellectual Property Principles • updated the Enterprise Agreement with new clauses and changes to support attraction and retention of Aboriginal and Torres Strait Islander employees. Changes include Cultural and Ceremonial Leave, public holiday flexibility, Community Language Allowance and inclusion of kinship relationships within the CSIRO definition for 'family' • supported 19 Indigenous Research Grant applications this year, bringing the total number of projects funded to 30 • launched the CSIRO Indigenous STEM Scholarship Program with 11 universities • welcomed 20 new graduates through the second cohort of the Indigenous Graduate Program • received endorsement from Reconciliation Australia to progress from an Innovate Reconciliation Action Plan (RAP) to a Stretch RAP • annual expenditure on Indigenous owned/operated businesses – $19,018,645 ($10,437,976 in FY23) • employees completing cultural awareness training – 99.73% of active employees (excluding casuals, affiliates and staff on long term absence) (98.97% in FY23).	Annual Report 2024, Part 1 Delivering on our strategy, Objective 1 Impact translation, Exponential networks Annual Report 2024, Part 1 Delivering on our strategy, Objective 3 Engage and empower talent, Preferred place to work CSIRO's Indigenous Collaboration and Partnerships 2023–2024 Reconciliation Action Plan[28]

27 The Net Promotor Score is a customer loyalty metric that measures the likelihood of customers recommending CSIRO to others. A score of +54 represents a 5 point increase from 2022–23, and exceeds the target KPI of +46. It should be noted however that the sample size is insufficient, and the result therefore has little application. There has been general hesitation across the customer community to respond to surveys and this has significantly impacted both the NPS and response rates in recent years.

28 https://www.csiro.au/about/Indigenous-Science-and-Engagement-Program/Reconciliation-Action-Plan

MATERIAL TOPIC AND DEFINITION	PROGRESS THIS YEAR	MANAGEMENT APPROACH AND WHERE TO FIND MORE INFORMATION
Ethical science and research Upholding strong processes, systems, safeguards and people that support scientific integrity.	• suite of training options provided for research staff to enhance capability levels and awareness of core responsibilities • revised internal procedures for authorship and publications • revised internal database systems to support a more consistent approach to data management • procurement process commenced for new electronic ethics management system to support full digital transition • CSIRO became an inaugural signatory to the Openness Agreement on Animal Research and Teaching in Australia • independent external review conducted of animal ethics arrangements to meet regulatory requirements and support continuous improvement • continued to apply the Australian Code for the Responsible Conduct of Research via our Code of Conduct and Science and Delivery Policy • continued to comply with internal and external monitoring and reporting requirements with support from the Ethics and Integrity team • continued to operate independent ethics committees for all human and live animal research • maintained a network of research integrity advisors to support early identification of issues and support best practice • prompt follow-up and resolution of issues related to areas of non-compliance.	Annual Report 2024, Part 3 Our organisation, Governance and accountability https://www.csiro.au/about/Policies/Ethical-human-research https://www.csiro.au/about/Policies/Ethical-animal-research https://www.csiro.au/about/Policies/Science-and-Delivery-Policy **16 PEACE, JUSTICE AND STRONG INSTITUTIONS**
Impactful science and research areas Identifying and solving the greatest challenges facing Australia through innovative science and technology. Ensuring we take a future-focus to our research and engagement, including through exploring how megatrends may affect the challenges we aim to solve.	• continued to pursue collaborative innovative science and technology development and dissemination through the Missions program • continued to progress research in areas responding to Australia's greatest challenges • ensured the future focus of our research through effective and validated strategic impact planning processes focused on challenges • continued to operate national research infrastructure for the benefit of the broader national innovation system.	Annual Report 2024, Part 1 Delivering on our strategy, Objective 1 Impact translation; Objective 2 Purpose-driven science and technology Annual Report 2024, Part 2 Annual performance statements The Value of CSIRO 2024 Report
Research dissemination and application, and impact measurement Facilitating dissemination and application of our research among communities, business and industries, to maximise the social, environmental and economic benefits of our work. Measuring and reporting on the impact of our research and using this data to continually improve.	• continued to progress open access arrangements for our research outputs • continued to commission and deliver impact case studies, further expanding coverage to program-level cases for broader portfolio performance visibility • implemented more regular organisation-wide performance monitoring processes to enable early management intervention and continuous improvement.	Annual Report 2024, Part 1 Delivering on our strategy, Objective 1 Impact translation; Objective 2 Purpose-driven science and technology CSIRO Science Health and Excellence 2023 Report

MATERIAL TOPIC AND DEFINITION	PROGRESS THIS YEAR	MANAGEMENT APPROACH AND WHERE TO FIND MORE INFORMATION
National and international research partners Partnering with universities and publicly funded research organisations and maintaining stewardship of science infrastructure to boost innovation and capacity and ensure optimum research outcomes.	• continued to develop new relationships and nurtured our established relationships to deliver impactful science across the CSIRO challenges • continued to progress Missions program • continued to participate in Collaborative Research Centres (CRCs) • continued to progress joint publications with national and international research partners • continued to position CSIRO in the international science and innovation ecosystem • supported National Collaborative Research Infrastructure Strategy funding and partnering goals.	Annual Report 2024, Part 1 Delivering on our strategy, Objective 1 Impact translation, Exponential networks 17 PARTNERSHIPS FOR THE GOALS
Resource efficiency Ensuring efficient waste, water, materials, and energy management to minimise the negative impact of our actions and operations on our environment. Considering and minimising the environmental footprint of our buildings and business travel.	See 'Part 2 Our performance: Sustainability strategy – Key focus area 6 – Responsible value chain and resource use' above.	Sustainability Report 2024, Part 2 Our performance: Sustainability strategy – Key focus area 6 – Responsible value chain and resource use 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Responsible value chain Minimising the upstream environmental and social risk of the goods and services we procure through updating our procurement processes and working with key suppliers.	See 'Part 2 Our performance: Sustainability strategy – Key focus area 6 – Responsible value chain and resource use' above.	Sustainability Report 2024, Part 2 Our performance: Sustainability strategy – Key focus area 6 – Responsible value chain and resource use 10 REDUCED INEQUALITIES 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Reducing our carbon footprint Minimising the carbon footprint of our assets and operations to contribute to global efforts to mitigate climate change.	See 'Part 2 Our performance: Sustainability strategy – Key focus area 5 – Transition to a clean energy future' above.	Sustainability Report 2024, Part 2 Our performance: Sustainability strategy – Key focus area 5 – Transition to a clean energy future 7 AFFORDABLE AND CLEAN ENERGY 13 CLIMATE ACTION
Risks and opportunities of the global climate transition Understanding and responding to the risks and opportunities of climate change and the transition to a lower carbon economy for our business and stakeholders, including adapting our research focus areas to better respond.	See 'Part 2 Our performance: Sustainability strategy – Key focus area 5 – Transition to a clean energy future' above. See 'Appendix – Commonwealth Climate Disclosure Pilot' below.	Sustainability Report 2024, Part 2 Our performance: Sustainability strategy – Key focus area 5 – Transition to a clean energy future; Appendix – Commonwealth Climate Disclosure Pilot 13 CLIMATE ACTION 16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Table A1.1 Ethics, integrity and anti-corruption training

ETHICS AND ANTI CORRUPTION TRAINING	GRI	2020–21	2021–22	2022–23	2023–24								
					NUMBER COMPLETED ALL STAFF	% COMPLETE ALL STAFF	NUMBER COMPLETED EXEC TEAM	% COMPLETE EXEC TEAM	NUMBER COMPLETED CLT	% COMPLETE CLT	NUMBER COMPLETED ALL LEADERS	% COMPLETE ALL LEADERS
Code of Conduct 2024	205-2	99.5%	100.0%	98.7%	3,512	n/a	7	n/a	19	n/a	712	n/a
Security Awareness	205-2	98.1%	99.7%	99.9%	6,319	100.0%	8	100.0%	32	100.0%	1,480	100.0%
Fraud and Corruption Control @ CSIRO	205-2	98.6%	99.7%	99.9%	6,304	99.9%	7	87.5%	32	100.0%	1,478	99.9%
Conflict of Interest	205-2	New 2022	86.6%	99.1%	6,253	99.6%	7	87.5%	32	100.0%	1,470	99.7%
Privacy: Induction Training	2-24; 205-2	New 2022	83.9%	99.5%	2,176	91.6%	2	100.0%	4	66.7%	300	89.6%
Privacy: Annual Training	2-24; 205-2	New 2023	New 2023	99.4%	5,969	94.8%	7	87.5%	25	96.2%	1,384	93.1%
Introduction to Phishing	205-2	98.3%	99.7%	99.8%	6,310	99.9%	7	87.5%	32	100.0%	1,478	99.9%
Research Excellence at CSIRO	2-26	99.5%	99.5%	99.2%	4,688	99.6%	7	87.5%	28	100.0%	1,310	99.6%

Note: **1**. Mandatory training completed (%) includes active employees only – excludes casuals, affiliates and staff on long term absence. Some training modules (e.g. Privacy: Induction Training) are only required to be completed by some staff. Not all ethics-related training is reported in this table. CSIRO has other training programs available to staff conducting different types of research. **2**. Code of Conduct 2024 was launched in March 2024 and was due for completion after 1 July 2024. Completion rate could not be provided as at 30 June 2024.

3   People report

At CSIRO, our people are our greatest asset and form the core of our success. We work hard to attract and retain diverse, world-class talent and provide an environment that prioritises the wellbeing, safety and security of our people, together with compelling and fulfilling career experiences. In this section of the report, we detail how we are attracting and supporting a skilful, agile and diverse workforce, and keeping CSIRO people safe and healthy. We highlight this topic area because it is not comprehensively reported on in other reports in our annual reporting suite.

Diversity, inclusion and belonging

Creating and embracing an environment where each individual is included and supported and can realise their full potential, and implementing business practices that leverage our diversity of talent, thoughts and ideas.

We know it's our diversity that drives our innovation, and so building an inclusive culture where differences are celebrated is essential to our success. CSIRO's Diversity Inclusion and Belonging (DIB) Strategy 2023–26 was endorsed by the Executive Team in October 2022. The focus of the strategy is to drive systemic change in the DIB landscape, where everyone plays a role in building a more welcoming, authentic, and connected culture, and where psychological safety is integral to inclusion.

Our strategy takes a multi-dimensional view of diversity. Although we have still identified key priority groups for targeted action plans, our new strategy emphasises *intersectionality*. We are working towards a more holistic and integrated approach, where all our people benefit.

Intersectionality is the interconnected nature of identity and lived experiences a person or group of people encounter and how they overlap with other systems of discrimination or disadvantage. That is, identity (such as gender) does not exist independently of other causes of discrimination (such as religion).

Photo: Members of CSIRO's Young Indigenous Women's STEM Academy, who were awarded the Aboriginal and Torres Strait Islander Engagement Impact Excellence Medal at the CSIRO Awards presentation at the National Gallery of Australia in November 2023. Pictured with Science Connect Director, Gail Fulton, and Indigenous Science & Engagement Program Director, Chris Bourke.

Progress this year

Set out below are some key metrics which reflect aspects of diversity, inclusion and belonging in our workplace. Please note that all our data excludes affiliates unless otherwise specified.

Table A3.1 Employees by gender

EMPLOYEES BY GENDER	GRI	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Total employees	2-7	5,915	5,319	5,221	5,672	6,316	6,618
Male	405-1(b)	57.8%	58.8%	57.9%	56.0%	54.7%	55.0%
Female	405-1(b)	42.1%	41.1%	42.0%	43.8%	44.9%	44.5%
Non-binary/prefer not to say	405-1(b)	0.1%	0.1%	0.2%	0.2%	0.4%	0.6%

Note: **1.** Total employees by headcount as at 30 June 2024 **2.** Percentage represents percentage of total employees.

Table A3.2 Employees by contract type (%)

EMPLOYEES BY CONTRACT TYPE	GRI	2018–19		2019–20		2020–21		2021–22		2022–23		2023–24	
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Permanent (ongoing) – Full Time *	2-7	42.4	22.7	46.3	25.1	45.9	25.6	42.1	24.5	39.2	23.8	38.6	24.1
Permanent (ongoing) – Part Time *	2-7	1.7	7.7	1.7	8.4	1.7	8.0	1.5	7.5	1.3	6.4	1.2	5.9
Temporary (non-ongoing) – Full Time *	2-7	10.2	7.2	9.6	5.9	9.0	6.1	10.3	8.2	12.1	11.1	12.8	11.3
Temporary (non-ongoing) – Part Time *	2-7	3.5	4.5	1.2	1.7	1.3	2.1	2.2	3.7	2.0	3.6	2.3	3.2
Employees completing APA **	404-3	97.2	96.5	97.7	96.3	96.3	95.6	94.4	93.1	94.3	93.5	-	-
Permanent (ongoing) – Full Time – APA completion **	404-3	New 2024		New 2024		New 2024		New 2024		94.5	92.9	-	-
Permanent (ongoing) – Part Time – APA completion **	404-3	New 2024		New 2024		New 2024		New 2024		90.7	96.8	-	-
Temporary (non-ongoing) – Full Time – APA completion **	404-3	New 2024		New 2024		New 2024		New 2024		93.7	92.6	-	-
Temporary (non-ongoing) – Part Time – APA completion **	404-3	New 2024		New 2024		New 2024		New 2024		92.0	92.9	-	-

Notes: **1.** Sum of percentages do not add up to 100, with remaining identifying as non-binary/prefer not to say. **2.** FY24 Annual Performance Appraisal (APA) completion not available at time of publication due to timing of reporting and timing of APA finalisation. **3.** Casual employees included in Temporary (non-ongoing) – Part Time. **4.** There are no significant seasonal variations. **5.** *represents percentage of total employees per financial year; ** represents percentage reference group in column heading.

Table A3.3 Employees by age and diversity groups (%)

EMPLOYEE CATEGORIES BY DIVERSITY GROUPS													
	GRI	2018–19		2019–20		2020–21		2021–22		2022–23		2023–24	
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Age < 30 years old	405-1(b)	5.8	4.4	3.8	2.7	3.7	2.6	4.8	3.6	4.8	4.5	5.0	4.4
Age > 30 years old < 50 years old	405-1(b)	31.0	24.2	31.9	24.0	30.5	24.3	28.8	25.0	29.2	26.0	29.5	25.8
Age > 50 years old	405-1(b)	21.0	13.5	23.1	14.4	23.7	15.1	22.5	15.3	20.8	14.5	20.7	14.5
Employees who identify as Aboriginal and Torres Strait Islanders	405-1(b)	0.8	1.2	0.6	1.0	0.5	1.0	0.5	1.2	0.5	1.3	0.9	1.6
Employees who identify with a disability	405-1(b)	2.4	1.7	2.4	1.6	2.4	1.7	2.4	1.9	2.5	2.0	2.3	2.1

Notes: **1.** Sum of percentages do not add up to 100, with remaining identifying as non-binary/prefer not to say. **2.** Percentage represents percentage of total employees.

Table A3.4 Leadership of governance bodies by gender and age (%)

LEADERSHIP OF GOVERNANCE BODIES BY GENDER AND AGE																
	GRI	2020–21				2021–22				2022–23				2023–24		
		BOARD	EXEC TEAM	CLT	ALL LEAD-ERS	BOARD	EXEC TEAM	CLT	ALL LEAD-ERS	BOARD	EXEC TEAM	CLT	ALL LEAD-ERS	BOARD	EXEC TEAM	CLT	ALL LEAD-ERS
Male	405-1(a)	50.0	62.5	68.2	62.4	37.5	50.0	52.0	58.9	42.9	50.0	64.0	56.7	57.1	50.0	61.5	56.5
Female	405-1(a)	50.0	37.5	31.8	37.6	62.5	50.0	48.0	41.1	57.1	50.0	36.0	43.3	42.9	50.0	38.5	43.4
Age < 30 years old	405-1(a)	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.6
Age > 30 years old < 50 years old	405-1(a)	12.5	0.0	27.3	51.8	12.5	25.0	24.0	53.7	0.0	25.0	16.0	56.1	0.0	12.5	19.2	56.6
Age > 50 years old	405-1(a)	87.5	100.0	72.7	47.6	87.5	75.0	76.0	45.8	100.0	75.0	84.0	43.3	100.0	87.5	80.8	42.8

Notes: **1.** Executive team includes our Chief Executive. **2.** 'CLT' means CSIRO Leadership Team and for reporting purposes includes all employees at Director level, excluding those considered 'General Managers'. **3.** CSIRO does not currently have any leaders or governance bodies identifying as non-binary/prefer not to say, however 0.1% of all leaders do. **4.** Leaders include any person whose job title contains the work 'Manager', 'Director', 'Leader' or 'Executive', excluding 'Executive Assistant' or 'Executive Officer'. **5.** Percentages represent percentage of reference group in column heading. **6.** Acting arrangements for CLT not included. **7.** Two board members started in June 2024 but onboarding had not been finalised by 30 June - they are included above.

Table A3.5 Employee categories by gender, age and diversity groups (%)

EMPLOYEE CATEGORIES BY DIVERSITY GROUPS	GRI	2020–21		2021–22		2022–23		2023–24	
		RESEARCH STAFF	NON-RESEARCH STAFF	RESEARCH STAFF	NON-RESEARCH STAFF	RESEARCH STAFF	NON-RESEARCH STAFF	RESEARCH STAFF	NON-RESEARCH STAFF
Male	405-1(b)	64.9	46.4	63.5	44.3	61.5	44.1	61.4	44.9
Female	405-1(b)	34.9	53.5	36.3	55.6	38.0	55.6	37.9	54.7
Non-binary/prefer not to say	405-1(b)	0.2	0.1	0.2	0.1	0.5	0.3	0.7	0.4
Age < 30 years old	405-1(b)	6.3	6.3	8.9	7.7	9.6	9.1	9.8	9.3
Age > 30 years old < 50 years old	405-1(b)	55.3	54.3	54.5	52.8	56.1	53.8	56.9	53.0
Age > 50 years old	405-1(b)	38.4	39.4	36.6	39.4	34.3	37.0	33.3	37.7
Employees who identify as Aboriginal and Torres Strait Islanders	405-1(b)	1.3	1.8	1.4	2.1	1.2	2.8	1.9	3.3
Employees who identify with a disability	405-1(b)	4.1	4.0	4.2	4.4	4.4	4.7	4.4	4.6
Employees from non-English speaking backgrounds	405-1(b)	31.5	12.1	32.5	13.1	35.5	14.2	36.8	14.1

Note: **1**. Percentage represents percentage of reference group in column heading

Table A3.6 New hires and turnover by gender

NEW HIRES AND TURNOVER BY GENDER													
	GRI	2018–19		2019–20		2020–21		2021–22		2022–23		2023–24	
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Number of new hires	401-1(a)	605	553	161	138	255	249	554	628	691	725	544	495
Turnover (%)	401-1(b)	11.7%	10.8%	12.8%	9.7%	10.2%	10.7%	11.1%	11.9%	9.4%	10.4%	8.6%	10.9%
Number of employee cessations	401-1(b)	New 2024		New 2024		New 2024		361	287	321	283	297	303

Note: **1**. Percentage represents percentage of reference group in column heading. **2**. Number of employee cessations is new in FY24. Comparative data is only available for reporting from 2021–22 onwards.

Table A3.7 New hires and turnover by age group

NEW HIRES AND TURNOVER BY AGE										
	GRI	2021–22			2022–23			2023–24		
		< 30 YEARS OLD	> 30 YEARS OLD < 50 YEARS OLD	> 50 YEARS OLD	< 30 YEARS OLD	> 30 YEARS OLD < 50 YEARS OLD	> 50 YEARS OLD	< 30 YEARS OLD	> 30 YEARS OLD < 50 YEARS OLD	> 50 YEARS OLD
Number of new hires	401-1(a)	244	727	221	330	885	228	338	561	151
Turnover (%)	401-1(a)	22.9%	12.0%	10.9%	16.6%	9.0%	11.3%	19.8%	8.2%	9.6%
Number of employee cessations	401-1(a)	77	352	221	74	290	241	103	290	212

Note: **1**. Percentage represents percentage of reference group in column heading.

Setting our strategic direction for DIB

We made some important systemic changes in our first year of implementation of our new DIB strategy. We have established a new governance structure for DIB decision-making, tracking progress, and maximising the impacts of our DIB work. We have also developed a new measurement and reporting system to support our strategy.

We have established four new action plan working groups (LGBTQIA+, disability and neurodiversity, faith and culture, and gender equity) as well as the CSIRO DIB Council. All groups are co-led by senior leaders and people with lived experience. All our research units have DIB committees that report quarterly to the Council as an accountability mechanism that aligns to the new DIB Strategy.

Building an inclusive culture

We are working to strengthen our culture of inclusivity. This year, we:

- conducted five cross-agency communities of practice, bringing together research unit DIB committee representatives and our action plan working groups to share learnings, challenges and new initiatives that could be applied in different areas of the organisation
- undertook an analysis of equity, diversity, and inclusion in written communications, and examined recent external communications to assess how they reflect equity, diversity, and inclusion priorities (in particular, gender equity)
- created DIB performance objectives for inclusion in staff members' Annual Performance Agreements
- provided the option to add an individual's pronouns on the Microsoft Suite (including Microsoft Teams)
- committing to centralise SpeakUp@CSIRO workshops to better support our people in raising concerns.

Learning programs

We also updated the DIB e-learning programs on the CSIRO Learning Management System with toolkits and discussion guides. The aim is to support our people in their understanding and awareness of important ways to foster inclusion. New modules include psychological safety behaviours, inclusive meetings, everyday inclusion, microaggressions in the workplace, debiasing techniques, and techniques to leverage diversity of thought. We are in the process of developing a final program for new 'Conscious Conversations' workshops, which were piloted this year.

Making our employment terms more inclusive

Our recently enacted CSIRO Enterprise Agreement 2023–2026 contains a number of new or amended conditions which address some of our previous DIB challenges. These include changes to parental leave and cultural leave, the addition of community language allowance, and public holiday substitution.

Key priority groups

Our work in relation to key priority groups under our DIB strategy, is reflected in Table A3.8. To find out more about the work we are doing to address our Indigenous impacts, see our report, Indigenous Collaboration and Partnerships 2023–2024.[29]

Table A3.8 – What we did to support our key priority groups this year

Gender equity	We will adopt a broader view of gender equity, inclusive of diverse genders and identities. We acknowledge that as part of this work we must address gendered violence and abuse in the workplace.	• Science in Australia Gender Equity (SAGE) Bronze accreditation (to 2026). • Awarded SAGE Cygnet for 'Inclusive Practices' in November 2023. • Awarded SAGE Cygnet for 'Recruitment of Women into Research Roles' in May 2024. • In 2022 CSIRO voluntarily reported to the Workplace Gender Equity Agency (WGEA) its gender pay gap. At the time our gender pay gap (based on 2021 data) was 14 per cent (total remunerations). In 2023 government reporting was made mandatory. WGEA expects to publish government gender pay gaps for the first time in early 2025.[30] • Submitted 2023 update for the Women in STEM Decadal Plan to the Australian Academy of Science.
Disability and neurodiversity	We will evaluate the work required to ensure that the social aspects of disability such as built environments, systems, attitudes and practices are minimised, so that people with disability can fully participate in work at CSIRO.	• Established Neurodivergent Employee Network in late 2023. • Investigating the possibility of using avatars on video calls to respond to the needs of people with disability who prefer to be off camera for periods during the day.
LGBTIQIA+	We will continue to grow a safe and inclusive culture that celebrates and makes visible CSIRO's LGBTIQ+ community.	• 80 marchers in the 2024 Sydney Gay & Lesbian Mardi Gras Parade. 81% were first time marchers. • Member, Pride in Diversity. • Australian Workplace Equality Index (AWEI) Gold Accreditation 2024.
Faith and culture	We recognise that our workforce consists of many varied cultures and faiths, and crosses nations abroad. As part of the refreshed strategy this is a new priority for CSIRO. We will undertake to work with communities to provide culturally appropriate services and support.	• Action Plan Working Group was established late 2023 and is currently in the process of developing CSIRO's first Faith and Culture Action Plan and Vision Statement. Key elements of this include education, celebration, and advocacy.
Aboriginal and Torres Strait Islander peoples	We will collaborate with our internal and external partners to improve employment outcomes for Indigenous People. This Strategy sits alongside and complements the work already progressing through the Reconciliation Action Plan, by serving as a tool to better understand the impacts of intersectionality.	• Increased Aboriginal and Torres Strait Islander staff representation from 1.8% to 2.5%. To find out more about the work we are doing to address our Indigenous impacts, see our report, Indigenous Collaboration and Partnerships 2023–2024.[31]

Gaps and challenges

We have identified a number of gaps and challenges over the course of our first year of implementing the DIB Strategy. Currently, we have limited data referencing people's experience of workplace inclusion/exclusion. To address this, we plan to investigate opportunities to obtain data about people's experience of inclusivity (or exclusivity) at CSIRO, so that we can better measure the impact of our DIB work and plan for the future.

We also know that enterprise-wide leadership programs require an integrated DIB approach. We plan to integrate

DIB considerations and targets in mentoring, acceleration and succession programs. We are also looking at developing a learning and development framework and implementation plan that builds the capacity of our people to be active bystanders and allies.

We know we have more work to do in relation to our policies, procedures and systems. We'll continue to proactively employ a DIB lens to our procedures and systems to minimise bias and create psychologically safe environments.

In our largest and most inclusive group of marchers yet, 80 people, representing almost all of CSIRO's business units and enterprise areas, marched this year in CSIRO's fifth Sydney Mardis Gras.

Health, safety and wellbeing

Protecting and promoting the health, safety and wellbeing of our people, partners, infrastructure and environments in which we operate through effective safety, risk management and promoting a safety culture.

3 GOOD HEALTH AND WELL-BEING

At CSIRO, we are committed to ensuring our people thrive and everyone goes home safely, every day. Our Health, Safety and Environment (HSE) Policy demonstrates our public commitment to health, safety, and the environment. These commitments are delivered through the implementation of the CSIRO HSE Management System. Opportunities for improvement are embedded in our four-year strategic HSE Plan (2020-24), which aims to drive improved systems, capability and proactive care for our people.

HSE is a shared responsibility, requiring the active commitment and participation of all our people, our leaders and our partners. We work together to learn and continually improve our performance.

Progress this year

We have performed favourably against each of the organisation-wide targets in our HSE Plan. Our lead HSE metrics show improvements in our HSE performance this year. As shown in Table A3.9 below, the rolling twelve-month Total Recordable Injury Frequency Rate of 1.98 fell again this year, reflecting a lower rate of incidents requiring medical treatment or lost time from work. Combined hazard reports and proactive conversations have continued to increase over the reporting period, reaching 4,242, doubling the annual target of 2,000. This reflects a greater embedding of a proactive safety and environmental culture among CSIRO people.
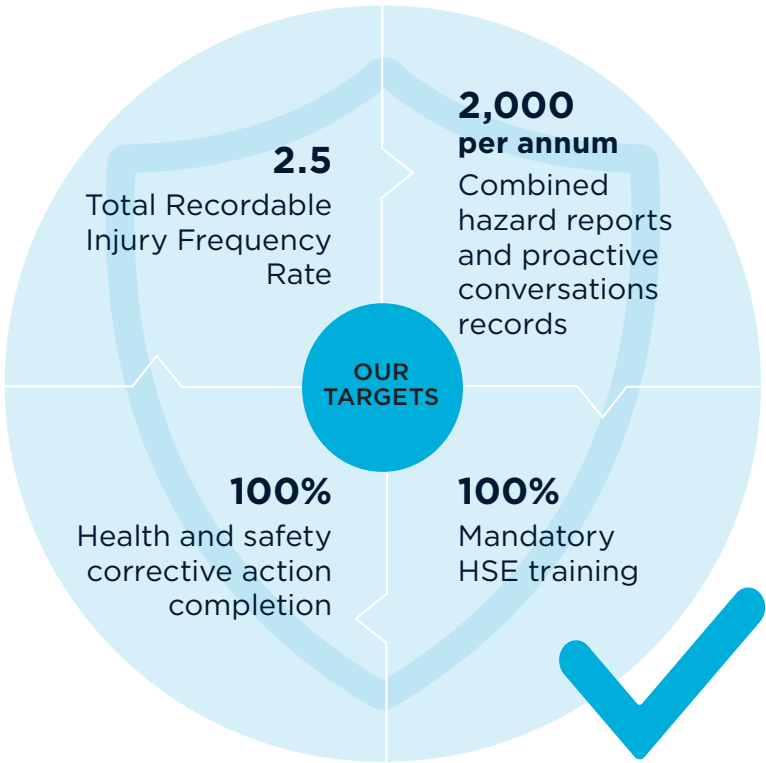
2.5
Total Recordable Injury Frequency Rate

2,000 per annum
Combined hazard reports and proactive conversations records

OUR TARGETS

100%
Health and safety corrective action completion

100%
Mandatory HSE training

Table A3.9. Health and safety indicators

HEALTH AND SAFETY INDICATORS	GRI	2019–20	2020–21	2021–22	2022–23	2023–24
Lost Time Injury (LTI)	403-9	36(2)	24	12 (1)	23	8 (2)
Medical Treatment Injury (MTI)	403-9	33(1)	24	25 (2)	16 (2)	21 (2)
Total hours (hours)	403-9	12,036,188	11,875,834	12,454,261	12,961,392	14,609,755
Total Recordable Injury Frequency Rate (TRIFR)	403-9	5.70	3.90	3.00	2.92	1.98
Health and safety corrective action completion %	403-2	-	99%	88%	92%	90%
Proactive hazard reporting	403-2	521	481	771	1,124	867
% to target	403-2	69%	45%	71%	n/a	n/a
HSE contacts	403-2	2,079	2,559	2,315	3,284	3,375
% to target	403-2	94%	106%	97%	n/a	n/a
Combined proactive hazard reporting and HSE contacts	403-2	n/a	n/a	n/a	4,408	4,242
% to target	403-2	n/a	n/a	n/a	408%	212%

Notes: **1.** Incidents are reported, assessed, classified and statistically represented in accordance with the CSIRO Health Safety and Environment Management System (HSEMS) and supporting Standard Operating Procedure for reporting. **2.** Lost Time Injury (LTI): A work-related injury/illness that results in the loss of one or more complete work days/shifts. **3.** Medical Treatment Injury (MTI): A work-related injury/illness requiring medical treatment beyond first aid or extensive therapeutic treatment prescribed by a medical practitioner but that has not resulted in lost time from work. **4.** Total Hours: Work schedules of CSOF staff minus leave plus estimated hours for affiliate workers covered under the CSIRO HSEMS. **5.** Total Recordable Injury Frequency Rate (TRIFR): Total Recordable Injury Frequency Rate = number of MTIs + LTIs per million hours worked **6.** Numbers in parentheses are contractor injuries that are not included in the frequency rate calculations. **7.** For the purposes of the limited assurance of the employees' work-related injuries metrics in Table A3.9, contractors are excluded. Refer to 'Appendix – KPMG Limited Assurance Statement'. **8.** 2022–23 data updated to reflect lag reported injuries and restated work hours. **9.** 'Actions' means any HSE-related corrective action recorded in our reporting system. We have renamed 'Health and Safety Actions Completed' with 'Health and Safety Corrective Action Completion' in the table above for clarity. **10.** 'Contacts' are short visits or discussions by senior leaders with CSIRO team members in their work environments, focussing on Health, Safety or Environment topics. **11.** Targets shift from year to year. In FY23, Hazards and HSE Contacts were combined to form a single lead reporting metric.

Table A3.10 below also demonstrates continuing commitment to HSE training.

Table A3.10. Mandatory HSE training

HSE TRAINING (MANDATORY) % COMPLETION	GRI	2020–21	2021–22	2022–23	2023–24
Starting with your safety	403-5	99.98%	Course no longer offered	Course no longer offered	Course no longer offered
The Work Health & Safety Act: Your Legal Duties	403-5	100.00%	Course no longer offered	Course no longer offered	Course no longer offered
HSE Induction (new in FY22)	403-5	n/a	99.83%	99.84%	99.94%
HSE for Supervisors & Managers	403-5	99.98%	96.46%	98.32%	98.06%
HSE Risk Management	403-5	n/a	n/a	99.36%	Course no longer offered
HSE Risk Management Module 1 (new in FY24)	403-5	n/a	n/a	n/a	92.49%
HSE Risk Management Module 2 (new in FY24)	403-5	n/a	n/a	n/a	90.96%

Notes: **1.** Compliance rates for those assigned the training; excluding affiliates, casual staff and staff on long term absences. **2.** 'HSE Induction' was new for FY22 and replaced the two courses referred to above as 'course no longer offered'. 'HSE Risk Management Module 1' and 'HSE Risk Management Module 2' were new in FY24, and replaced 'HSE Risk Management' **3.** Mandatory training completed (%) includes active staff only – excludes casuals, affiliates and staff on long term absence.

HSE Plan

This was the final year of our 2020–24 HSE Plan, and planning is now underway for our next HSE Plan.

This year we focused on the continued development of organisation-wide approaches to HSE risk management to support safe science. We completed a major review of our hazardous chemical and gas management procedure, and commenced major reviews of other hazard specific procedures such as contractor management and biorisk as part of our commitment to continuous improvement. Multiple HSE 'lessons learnt' papers were developed and distributed to ensure experiences and learnings were widely shared across the organisation.

We also continued development of a foundational psychosocial risk management framework with a focus on reporting mechanisms, toolkits and resources designed to help the organisation identify, report, manage and prevent injury due to psychosocial risk. This initiative aims to align the organisation with updates to the *Work Health and Safety Act 2011* (Cth) and positively impact the overall culture of the organisation.

Training

To enhance HSE capability, this year we have:

- **refreshed our HSE training packages** to provide practical and applied guidance for risk owners. To ensure our organisational risk assessment tools remain fit-for-purpose, we have included a new focus on environmental risks such as climate change, emissions and community impacts.
- **delivered incident and hazard investigation workshops** to build the skills of our people across the organisation.
- continued to roll out **mandatory HSE training**.

Digital solutions

We have developed an integrated digital solution for managing fieldwork activities. The solution centralises and aligns fieldwork activities, including HSE risk management, within one HSE digital platform. This will be rolled out next year to further support safe work practices. We also refined other elements of our HSE digital platform this year, enhancing organisational dashboards to support an informed approach to risk management. Further enhancements are forthcoming.

HS-Me Day

Each year, we 'down tools' and come together in a fun and hands-on way to celebrate and prioritise workplace health, safety and the environment on HS-Me Day. This year's event was the sixth of its kind, and was held in October. We celebrated the central theme 'Show Up for HSE, for yourself and for others', with both site-based HSE activities. We also offered organisation-wide webinars, supporting connectivity through:

- promoting wellbeing
- exploring neurodiversity
- addressing climate grief and adaptation
- promoting safe battery recycling
- waste management awareness.

CSIRO team members at our Adelaide site taking part in a litter pick up as part of HS-Me Day activities promoting health, safety and care for the environment.

Leadership excellence award

CSIRO was awarded the 2023 Leadership Excellence Award by WorkSafe Tasmania for its wellbeing hub of videos, workshops, exercises and educational resources, which helps workers manage their mental, physical, nutritional and spiritual wellbeing while working at sea for up to 60 days in an isolated environment with limited communication to family and friends.

Gaps and challenges

Over the last few years, we have worked to implement and refine our foundational HSE digital platform. We now need to pause and reflect, simplify where possible, and consistently embed application across the organisation. This will be a focus of our next HSE Plan.

An agile, future-focused workforce

Ensuring we have highly capable individuals with the skillsets we need now and for the future and building and sharing our people's capabilities and knowledge to support an agile workforce.

4 QUALITY EDUCATION

8 DECENT WORK AND ECONOMIC GROWTH

To solve Australia's most pressing challenges through innovative science and technology, we need to attract and retain talented people, and nurture their skills and capabilities. Here, we present a brief snapshot of our progress this year and links to further information.

Progress this year

GOAL	PROGRESS THIS YEAR
Talent mobility	• Launched Talent Marketplace to support internal mobility and connect our people with short-term career assignments.
Talent attraction	• Science Digital recruitment campaign for 24 roles, with 50/50 gender diversity achieved. • Recruited the second intake of the Indigenous Graduate Program and ran an orientation week in Adelaide. • Commenced advertising all roles on two Indigenous job boards, Indigenous Employment Australia and IndigCareers. • Refreshed the Indigenous careers website. • Won the SEEK STAR award for Best Employer Brand Campaign for 'Impossible without you'. • Won the Silver award - Digital, Social and/or Content Campaign in the PRIA Golden Target Awards for our 'Impossible without you' employer brand campaign. • Data61 Diversity Growth Hiring Campaign team won the CSIRO Award in the People category.
Talent retention	• Completed our third culture survey. • Digital Academy – empowering our people with essential digital skills and workforce capabilities. • Leading@CSIRO Micro Labs program – providing virtual leadership development programs. • Pro Skills Academy – providing project management professional skill development. • CSIRO Early Research Career Postdoctoral fellow learning program.
Working conditions	Our Enterprise Agreement 2023–2026 supports the success of our people through working conditions that attract and reward highly skilled and team-oriented people, support a safe and respectful workplace, and enable a positive work-life balance. Some examples of the new and improved conditions under the CSIRO Enterprise Agreement 2023–2026 include: • Sick and carers leave - an increase from 15 days to 18 days per year and a full year's credit, based on hours and type of employment, available on commencement with CSIRO. • Recreation leave - option for staff to take recreation leave at half pay. • Cultural, ceremonial and NAIDOC leave – for Indigenous staff, one day of NAIDOC leave per year and six days paid ceremonial leave over two years. For all staff, three paid days' cultural leave will be available for attending to religious and cultural needs. • Domestic family violence and abuse leave - uncapped paid leave for people in need (includes paid leave for casual officers). • Public holiday substitution - staff can choose to work on a public holiday, and take a day in lieu at a later time and within 12 months of the public holiday being substituted (subject to discussion and agreement with their manager).

Connected and collaborative ways of working

Supporting our geographically diverse and skilled workforce to connect, collaborate, innovate and work productively, maximising the impact we can create.

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
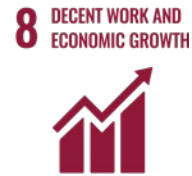
'Further Together' is one of our four key values, and collective problem solving is a key cultural aspiration for CSIRO. We have a geographically diverse workforce with over 6,600 employees working at 48 sites across Australia. The last few years have also seen an increase in flexible and hybrid ways of working, in part due to the pandemic. In this dynamic context, we are working to find new and enhanced ways for our people to connect, collaborate, innovate and work productively, even when we are geographically far apart. Here, we present a brief snapshot of our progress this year.

Progress this year

GOAL	PROGRESS THIS YEAR
Connecting skillsets with problems	• Our Missions programs are vehicles to coordinate our interdisciplinary science capability. • Launched Talent Marketplace to support internal mobility and connect our people with short-term career assignments.
Adapting and simplifying our support services	• We have adapted and improved our ways of working with the aim of aligning our impact focus, streamlining processes, creating a culture of empowerment and enabling greater collaboration, supported by digital systems and insights. • Our Enterprise Services Reform program targets changes in the way work is carried out across our Enterprise Services functions. • Our People function is working on a series of business projects designed to simplify or improve how work is achieved in our People function. This includes onboarding, global mobility, individual performance technology improvements (our Annual Performance Agreement system) and people services (process automation).
Adapting our physical workspaces	• We are moving to an Activity-Based Working (ABW) model in our office workspaces, where opportunities arise. ABW workspaces feature more diverse work settings and spaces to support a variety of collaborative and specialist work activities. ABW workspaces are designed to be shared to optimise occupancy of our facilities and improve the vibrancy of our sites. This year, ABW projects across our Clayton, Lindfield, and Dutton Park sites have significantly enhanced our workspaces. These projects have a combined total of 109 desks, accommodating up to 168 employees, and span a combined floor space of 1,256 square meters. The newly designed areas include collaboration spaces, meeting rooms, and hush pods, fostering a more dynamic and efficient work environment. • CSIRO's 'work from home' package was recently extended, providing our people with the equipment, resources and support to work more seamlessly between their home and a CSIRO site.

4 How we engage with our stakeholders

STAKEHOLDER GROUPS	CHANNELS FOR ENGAGEMENT	KEY TOPICS OF ENGAGEMENT
Australian Government and its agencies; state and territory governments and their agencies	• annual report and corporate plan • official reporting channels, including Ministerial briefings and correspondence • regular meetings, targeted briefings, reports, submissions to formal consultation processes • research collaborations and partnerships • working groups and committees	We share our research activities, listen to the needs of ministers and government departments, and provide scientific information and advice to inform policy development and program implementation.
Australian and global businesses and industries	• surveys • research collaborations and consortiums • education and outreach program partnerships • missions program • membership of or participation in industry associations or professional groups such as the Business Council of Australia and the Australian Climate Leaders Coalition • membership of international business networks • multi-stakeholder fora including the Energy Efficiency Council, Australian Ocean Energy Group, Future Earth • Cooperative Research Centres (CRCs) • SME programs • advisory services • innovation services	We bring together our partners in industry to co-create commercialisation outcomes that deliver the greatest impact and create economic value for the nation.
Australian and international research organisations and universities	• research collaborations • strategic partnerships with other national science and research agencies • membership of peak bodies such as Science & Technology Australia and Standards Australia and Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART) • multi-stakeholder fora including the Energy Efficiency Council, Australian Ocean Energy Group, Future Earth • CRCs	We partner with research institutions through co-location, co-publication, and collaborative research to boost innovation and ensure the best available research is used to solve the greatest challenges and deliver outcomes for Australia and the world.
The Australian and international community	• website • social media and podcasts • national research infrastructure • education and outreach programs • publications, including through CSIRO Publishing • ctizen science program • CSIRO Discovery Centre • CREST program • community and customer surveys • published reports	We deliver learning experiences for students, teachers, and the community to equip Australians with the knowledge they need to enter the workforce and increase their science, technology, engineering, and mathematics skills.
Employees	• internal communication channels, including interactive all staff webinars, online collaborative plaforms, organisation-wide newsletter and intranet • leadership blog and communications • employee engagement surveys • culture and pulse surveys • annual reporting • complaints process and PID Scheme • HSE resource hub • People Hub	We engage with our people on our strategic objectives, which includes delivering impact through innovation; having purpose driven science and technology; engaging and empower talent; and building collaborative networks, as well as topics related to capabilities and sustainability.
Suppliers	• procurement and contract management channels	Business continuity, data security, modern slavery.

5 Environmental reporting

CSIRO has extensive mandatory reporting obligations. In addition to progress against our net zero emissions targets, which we report on in detail in this sustainability report, our additional reporting includes:

Table A5.1 CSIRO mandatory and voluntary environmental reporting

REPORTING FRAMEWORK	BOUNDARY	OTHER INFORMATION
Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)	s516A	https://www.legislation.gov.au/C2004A00485/latest/text
National Greenhouse and Energy Reporting Scheme (NGERS)	As per NGERS methodology	https://cer.gov.au/schemes/national-greenhouse-and-energy-reporting-scheme
Corporate Emissions Reduction Transparency (CERT) Report	As per CERT methodology	https://cer.gov.au/markets/reports-and-data/corporate-emissions-reduction-transparency-report **Note: FY23 is the final reporting year**
APS Net Zero Emissions Reporting Framework (APS Net Zero)	As per APS Net Zero methodology Note: includes some scope 3 emissions	https://www.finance.gov.au/government/climate-action-government-operations/commonwealth-emission-reporting/australian-public-service-net-zero-emissions-reporting-framework#aps-net-zero-emissions-reporting-framework
Energy Efficiency in Government Operations Policy 2006 (EEGO)	As per CSIRO's interpretation of EEGO	https://www.energy.gov.au/publications/energy-efficiency-government-operations-policy **Note: FY24 is the final reporting year**
National Pollutant Inventory (NPI)	Four of our sites are required to report under the NPI which is administered by state and territory-based environmental protection agencies	https://www.dcceew.gov.au/environment/protection/npi

EPBC Act reporting

Section 516A of the *EPBC Act* requires that we report annually on how we accord with and contribute to ecologically sustainable development (ESD). This includes our environmental performance – covering the impact that our activities have on the natural environment, how these are mitigated and will be managed into the future. These topics are covered in detail throughout this report.

NGERS

CSIRO has been reporting on its greenhouse gas emissions under NGERS since 2008. The NGERS Greenhouse Gas Emissions Inventory details emissions over the FY24 period. Results are presented on the basis of carbon dioxide equivalent (CO_2e) emissions. NGERS methodologies differ from other reporting methods, and there are additional obligations for reporting under NGERS. See Table A5.10 below for a comparison of the different reporting methods. NGERS reporting for FY24 is submitted to the Clean Energy Regulator after the publishing date of this Sustainability Report and therefore figures are subject to change based on any adjustments made by the Clean Energy Regulator at the time of reporting. This year CSIRO has obtained limited assurance of its NGERS data and the emissions result set out in Table 5.2 below. The RV *Investigator* is not included in CSIRO's NGERS reporting as it is not considered to be under CSIRO's operational control.

Table A5.2 Scope 1 and 2 emissions and energy summary under NGERS

SCOPE 1 AND 2 EMISSIONS AND ENERGY SUMMARY	2023–24
Energy consumed total (GJ)	595,140
Energy consumed net (GJ)	581,846
Energy produced (GJ)	13,294
Total scope 1 emissions (t CO_2e)	10,769
Total scope 2 emissions (t CO_2e) location-based	65,084
Total location-based emissions (t CO_2e)	**75,853**

Notes: **1.** Energy and emissions are based on the NGER Act boundary which is based on operational control. **2.** For FY24, market-based scope 2 emissions are optional, so CSIRO has elected not to report market-based emissions for NGERS. **3.** Total energy reportable includes renewable energy commodities (such as solar energy for the purposes of producing solar electricity). Solar generation is only reported for solar systems which have capacity greater than 0.5MW and electricity production greater than 100,000 kWh per annum, in accordance with NGERS thresholds.

Table A5.3 Scope 1 emissions by gas under NGERS

SCOPE 1 EMISSIONS BY GAS (t CO_2e)	2023–24
Carbon dioxide (CO_2)	10,736
Methane (CH_4)	18
Nitrous oxide (N_2O)	10
Perfluorocarbons (PFCs)	-
Hydrofluorocarbons (HFCs)	-
Sulphur hexafluoride (SF_6)	5
Total	**10,769**

Notes: **1.** See notes for table A5.2 above.

CERT report

In 2021, Australia's Clean Energy Regulator (CER) commenced a new pilot energy and emissions reporting program, called the CERT report.[32] It aims to improve the accountability and transparency of organisations with voluntary emissions reduction commitments. For the purposes of the CERT report we adjust our emissions performance to align with NGERS reporting managed by the CER.

This year, we entered the third year of voluntary CERT reporting. The CERT report is published around June of each year and is based on the previous year's reporting results. Table A5.4 outlines the commitments made by CSIRO under the CERT report, and the estimated progress towards those commitments in FY23. In light of the APS Net Zero 2030 mandatory reporting requirements, we will no longer be submitting voluntary CERT reports to the CER.

Table A5.4: CSIRO commitments under the CERT report

	COMMITMENT 1	COMMITMENT 2
Commitment type	Net-only commitment (progress verified) combined net and gross emissions	Commitment (progress verified) renewable electricity consumption percentage
Statement	Net zero scope 1 and scope 2 emissions by 2030, applies to all sites where CSIRO staff are located, including where we are a tenant[33]	100% renewable electricity supply for all CSIRO sites by 2030
Estimated progress FY23	78.5%	88.6%

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32 https://www.cleanenergyregulator.gov.au/Infohub/Markets/cert-report

33 For the purposes of the CERT report, our emissions performance has been adjusted to align with our FY23 NGER reporting noting that for the FY23 the RV *Investigator* was not included in reporting.

APS Net Zero

APS Net Zero 2030 is the Government's policy for the Australian Public Service (APS) to reduce its greenhouse gas emissions to net zero by 2030, and transparently report on its emissions. As part of the *Net Zero in Government Operations Strategy* (NZGO Strategy), corporate Commonwealth entities are required to report on their operational greenhouse gas emissions.

The *Greenhouse Gas Emissions Inventory* presents greenhouse gas emissions over the 2023–24 period. Results are presented based on Carbon Dioxide Equivalent (CO_2e) emissions. Greenhouse gas emissions have been calculated in line with the *APS Net Zero Emissions Reporting Framework*, consistent with the Whole-of-Australian Government approach as part of the APS Net Zero 2030 policy. Not all data sources were available at the time of the report.

Tables A5.5 and A 5.6 set out our FY24 reporting against APS Net Zero 2030. Figures are also published each year in our Annual Report. These figures include some scope 3 emissions, such as those related to air travel, accommodation, hire car and solid waste to landfill.[34] In addition, the figures also include supply chain emissions associated with power loss in transmission or distribution, and extraction, refinement and shipping of fuels. Further information is available in Appendix F of CSIRO's Annual Report 2023–24.

This is the second year that government entities report under this policy and our reporting will continue to evolve as this process matures.

Table A5.5 Greenhouse gas emissions inventory – location-based method

EMISSION SOURCE	SCOPE 1 t CO_2e	SCOPE 2 t CO_2e	SCOPE 3 t CO_2e	TOTAL t CO_2e
Electricity (location-based approach)	N/A	59,077.872	5,418.838	64,496.710
Natural gas	8,896.411	N/A	1,200.412	10,096.823
Solid waste*	N/A	N/A	1,375.960	1,375.960
Refrigerants*†	0.000	N/A	N/A	0.000
Fleet and other vehicles	6,619.424	N/A	1,628.022	8,247.446
Domestic commercial flights	N/A	N/A	6,108.165	6,108.165
Domestic hire car*	N/A	N/A	62.777	62.777
Domestic travel accommodation*	N/A	N/A	1,576.365	1,576.365
Other energy	897.564	N/A	243.241	1,140.805
Total t CO_2e	16,413.399	59,077.872	17,613.780	93,105.050

Note: the table above presents emissions related to electricity usage using the location-based accounting method. CO_2e = Carbon Dioxide Equivalent. *****indicates emission sources collected for the first time in 2023–24. The quality of data is expected to improve over time as emissions reporting matures. Emissions from hire cars for 2023–24 have been sourced from third party providers and may be incomplete. **†**indicates optional emission source for 2023–24 emissions reporting, this will be phased in during the next reporting period. **1.** Voluntary LGCs are purchased monthly based on actual electricity usage. For FY24, the LGCs were surrendered on 9 August 2024.

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34 Note: These figures are different from our own net zero by 2030 target (see 'Key focus area 5 – Transition to a clean energy future'), which relates to our scope 1 and 2 emissions only (plus RV *Investigator*).

Table A5.6 2023–24 Electricity greenhouse gas emissions

EMISSION SOURCE	SCOPE 2 t CO_2e	SCOPE 3 t CO_2e	TOTAL t CO_2e	PERCENTAGE OF ELECTRICITY USE
Electricity (location-based approach)	59,077.872	5,418.838	64,496.710	100%
Market-based electricity emissions	8,302.722	1,030.466	9,333.188	11.93%
Total renewable electricity	-	-	-	88.07%
Mandatory renewables[1]	-	-	-	18.22%
Voluntary renewables[2]	-	-	-	69.86%

Notes: The table above presents emissions related to electricity usage using both the location-based and the market-based accounting methods. CO_2e = Carbon Dioxide Equivalent. **1.** Mandatory renewables are the portion of electricity consumed from the grid that is generated by renewable sources. This includes the renewable power percentage. **2.** Voluntary renewables reflect the eligible carbon credit units surrendered by the entity. This may include purchased large-scale generation certificates, power purchasing agreements, GreenPower and the jurisdictional renewable power percentage (ACT only).

EEGO

This year is the last time we will report our performance against EEGO. EEGO has now been fully superseded by NZGO Strategy, which uses the 'operational control' approach to set the reporting boundary. We report the figures in Table A5.7, A5.8 and A5.9 below for comparative purposes only. Information about the differences between CSIRO's net zero target / NZGO Strategy, EEGO and NGERS is set out in the Table A5.10 in next section.

Table A5.7 CSIRO's scope 1 and scope 2 emissions summary under EEGO policy

SCOPE 1 AND 2 EMISSIONS SUMMARY (EEGO) (kt CO_2e)	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Scope 1 emissions	20	21	20	16	20	16
Scope 2 emissions (location-based)	96	86	80	75	63	59
Scope 2 emissions (market-based)	n/a	n/a	21	6	4	3
Total location-based emissions	116	107	100	90	83	75
Total market-based emissions	n/a	n/a	41	21	24	19

Notes: **1.** This boundary is based on CSIRO's interpretation of the Energy Efficiency in Government Operations (EEGO) Policy. It excludes tenants on CSIRO operated sites, but includes sites where we are a subtenant. **2.** Market-based emissions account for our renewable energy purchases, including the surrender of large-scale generation certificates from our PPA. Under market-based emissions, the residual mix factor was used to calculate the emissions from the residual grid electricity, which is in accordance with Section 6.11.4 of the GHG Protocol scope 2 guidance. **3.** Dual figures are reported in accordance with the World Resources Institute's Greenhouse Gas Protocol – Scope 2 guidance.

Table A5.8 CSIRO's scope 1 and scope 2 emissions by fuel source under EEGO policy

EMISSIONS BY FUEL SOURCE (t CO$_2$e) (EEGO)	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
SCOPE 1						
Stationary						
Natural gas	10,499	10,606	10,533	10,230	9,361	8,348
Diesel	579	727	379	623	491	712
Petrol	83	96	92	79	124	21
LPG	511	255	320	326	264	184
Other	3	3	2	-	2	-
Transport						
Diesel	7,642	9,043	8,435	4,182	9,536	6,440
Petrol	345	254	220	158	290	178
Ethanol	-	-	-	-	-	-
LPG	-	-	-	14	6	-
SCOPE 2						
Electricity (off-grid)	1,757	1,738	1,302	1,353	1,137	1,348
Electricity (grid, location-based)	94,538	84,422	78,686	73,194	61,632	58,946
Electricity (grid, market-based)	-	-	19,699	4,190	2,406	2,674
Total (scope 1 and scope 2 (location-based)	115,955	107,142	99,968	90,160	82,844	76,178
Total (scope 1 and scope 2 (market-based)	-	-	40,872	21,157	23,618	18,557

Note: **1.** This boundary is based on CSIRO's interpretation of the Energy Efficiency in Government Operations (EEGO) Policy. It excludes tenants on CSIRO operated sites, but includes sites where we are a subtenant.

Table A5.9 CSIRO's energy consumption and exports by fuel source under EEGO policy

ENERGY CONSUMPTION AND EXPORT BY FUEL SOURCE (GJ) (EEGO)	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Electricity (grid)	403,044	371,773	354,283	339,835	318,784	321,798
Electricity (solar)	6,260	19,818	19,638	21,196	21,607	21,098
Electricity (off-grid)	10,106	9,929	7,559	8,547	7,582	8,990
Electricity (exported to grid)	-	-	623	1,038	595	613
Natural gas	204,852	205,819	204,399	198,527	181,653	162,002
Diesel	116,511	138,763	125,188	68,272	142,447	101,612
Petrol	6,327	5,161	4,603	3,510	5,996	2,940
LPG	8,428	4,204	5,285	5,617	4,454	3,039
Ethanol	54	18	12	-	9	142
Other - includes energy co-gen and genset, and all solar system, petrol based oils	767	3,292	2,985	2,813	2,892	2,756
Total energy consumed	756,349	758,777	723,952	648,316	685,424	624,377

Note: **1.** This boundary is based on the Energy Efficiency in Government Operations (EEGO) Policy boundary. It excludes tenants on CSIRO operated sites, but includes sites where we are a subtenant.

Reporting boundary comparison

A table is provided below demonstrating major differences between the operational control boundary for our target / NZGO Strategy, the NGERS boundary and the EEGO Policy boundary. It is important to note that NGERS reporting has other requirements beyond the operational control definition, and this can result in differences between our NGERS reporting and our net zero target reporting.

Table A5.10 Reporting boundary comparison

FACILITY ARRANGEMENT	REPORTING BOUNDARIES			EXAMPLE
	CSIRO NET ZERO TARGET / NZGO STRATEGY	NGERS / GRI (OPERATIONAL CONTROL)	CSIRO INTERPRETATION OF EEGO	
CSIRO-owned and operated (CSIRO people on-site, with or without tenants)	Included	Included	Included, minus estimated tenant energy use	Australian Centre for Disease Preparedness, Newcastle, Lindfield, Clayton
CSIRO-managed (on behalf of other entities)	Excluded	Included	Included	Tidbinbilla and New Norcia
CSIRO leased and CSIRO-managed (CSIRO people on-site, with or without sub-tenants)	Included	Included	Included, minus estimated tenant energy use	Waite campus, Adelaide
CSIRO leased, site managed and controlled by landlord	Excluded	Excluded	CSIRO-only energy use included	St Lucia, Dutton Park
CSIRO owned, managed by third party	Included	Excluded	Included	RV *Investigator* (operated by third party)

Note: **1.** The EEGO Policy does not explicitly define a boundary for emissions reporting. Accordingly, this reporting boundary was based on CSIRO's interpretation of the EEGO Policy.

Impact of change of boundary on our net zero 2030 target

Table A5.11 below compares our performance between the previous EEGO reporting boundary and our new 'operational control' boundary for our net zero 2030 target.

Table A5.11 CSIRO's net zero emissions 2030 target comparison – EEGO and operational control boundary

CSIRO NET ZERO TARGET COMPARISON: EEGO VS OPERATION CONTROL BOUNDARY	2018–19 (kt CO$_2$e)	2023–24 (kt CO$_2$e)	COMPARISON
EEGO boundary – total market-based emissions (scope 1 and 2 plus RV *Investigator*)	116	19	-84%
Operational control boundary – total market-based emissions (scope 1 and 2 plus RV *Investigator*)	110	25	-77%

6 Commonwealth Climate Disclosure Pilot

In previous reporting years, CSIRO referenced the Taskforce for Climate-related Financial Disclosures framework for its climate disclosures. In FY24, CSIRO commenced a review and assessment of the requirements of the *Commonwealth Climate Disclosure Pilot Guidance* released by the Department of Finance. *Commonwealth Climate Disclosure* is the Australian Government's policy for Commonwealth entities to publicly disclose their exposure to climate risks and opportunities, as well as their actions to manage them.

CSIRO is not required to undertake a Pilot Disclosure. However, we undertook the review and assessment below to identify where CSIRO can improve its documentation and business processes related to governance, risk management, metrics and targets, to align with the Pilot Disclosure requirements. This has been valuable preparatory work for future mandatory disclosure requirements and work is underway to address the gaps identified in the table below.

	DISCLOSURE CRITERIA	DISCLOSURE	GAP ANALYSIS
G1	Identification of the accountable authority, as defined under section 12 of the PGPA Act, responsible for the disclosure of the department's climate-related risks and opportunities.	CSIRO's accountable authority is the CSIRO Board. The Board also is the accountable authority for the Sustainability Strategy, see section of this report: *Key focus area 1 – Governance and transparency*. However, there is currently no explicit documentation identifying the Board as the accountable authority for climate-related risks and opportunities, or disclosing how the Board will oversee and supervise climate metrics and strategies.	• Public disclosure of accountable authority for climate-related risks and opportunities at Board and executive level. Updated documentation, including Accountable Authority Instructions. • Supporting internal evidence of how accountable authority oversees climate metrics and strategies, including minutes, materials used to inform the Board, and comments from the Board directing senior leadership on climate risk and opportunity management.
G2	Information about how the accountable authority executes their role in overseeing climate-related risks and opportunities, including: (a) how and where the accountable authority's responsibilities for climate-related risks and opportunities are set out.	Oversight processes for climate-related risks and opportunities are not explicitly documented. The Board is updated on CSIRO's Sustainability Strategy annually. This includes an update of work undertaken regarding net zero targets. The Board Audit and Risk Committee (BARC) provides oversight of risk. CSIRO's Risk Management Framework 2023–25 details responsibilities of the accountable authority in relation to risk management and oversight.	• Documented processes and policy for climate risk and opportunity management specifically in CSIRO's corporate governance charter, BARC terms of reference, and policies. • A Board-approved climate risk and opportunity assessment and risk appetite. • Documented directives from Board to executive on climate risk and opportunity management.
G2	(b) how the accountable authority determines whether appropriate skills and competencies are available or will be developed to oversee and manage strategies designed to respond to climate-related risks and opportunities.	Information about how the Board will assess the availability of skills and competencies to oversee and manage climate-related risks and opportunities is not explicitly documented. CSIRO undertakes programs to upskill employees across CSIRO, see section of this report: *Key focus area 3 – Our people and capacity building*. However, specific training programs in relation to climate-related risks and opportunities are not currently in place.	• Documented processes for the Board to assess and ensure the availability or development of appropriate skills and competencies. • Specific climate risk training and development programs for Board members and relevant employees.
G2	(c) how and how often the accountable authority is informed about climate-related risks and opportunities.	Board is not directly and specifically informed about climate-related risks and opportunities. The Board is informed of annual progress against CSIRO's Sustainability Strategy, see section of this report: *Key focus area 1 – Governance and transparency*.	• Documented processes for informing Board about climate-related risks and opportunities including frequency and channels.

DISCLOSURE CRITERIA	DISCLOSURE	GAP ANALYSIS
G2 (d) how the accountable authority oversees the entity's strategy and risk management processes and related policies, and how they make decisions in relation to major transactions. Departments must disclose whether and how the accountable authority considers trade-offs and Government policy constraints in relation to decisions made on climate-related risks and opportunities.	CSIRO does not currently have explicit documentation in relation to decision making on climate-related risks and opportunities.	• Documented information about how the Board oversees climate-related risks and opportunities within its strategy, risk management processes and major transactions. This includes documentation specifying the roles and responsibilities of supporting committees like the BARC and the Major Transactions Committee. • Documentation detailing how the Board considers trade offs and government policy constraints when making decisions related to climate risks.
G2 (e) how the accountable authority oversees the setting of targets related to climate related risks and opportunities, and monitors progress towards those targets.	CSIRO does not currently have explicit documentation to support this disclosure, except for CSIRO's net zero targets, see sections of this report: *Key focus areas 1 – Governance and transparency* and *Key focus area 5 – Transition to a clean energy future*.	• Development and documentation of climate risk-related targets, integrated into remuneration and KPIs. Board oversight to ensure their alignment with climate risks and opportunities. • Development of a regular target tracking and reporting systems or integrate with KPI progress tracking. • Integration of climate-related performance metrics into remuneration policies, ensuring that meeting climate targets directly influences employee and executive compensation.
G2 (f) whether, and to what extent, risk oversight is deputised to a specific management-level position or management-level committee (herein principal assignee) and how oversight is exercised over that position or committee.	Risk oversight remains at Board/executive level as detailed in *CSIRO Annual Report 2023–24* and *CSIRO Risk Management Framework 2023–25*. Climate risk is not explicitly deputised to management-level position or committee.	• Board consideration of whether to deputise of risk oversight to specific management level. • External and internal documentation to specify how the Board and executive level maintains oversight and deputises climate risk oversight to management-level position and/or committee. • Disclosure of how climate considerations are integrated and explicitly accounted for including in risk appetite statement.
G3 Information about the role and responsibilities the principal assignee and other senior management and governance committees (herein assignees) play in the oversight and administration of governance processes, controls and procedures of climate-related risks and opportunities, including: (a) whether the principal assignee and/or assignees use controls and procedures to support the oversight and management of climate-related risks and opportunities, and if so, how these are integrated with other internal functions. In addressing the criteria, departments must have regard to *The Australian Government's Approach to Climate Risk and Opportunity Management in the Public Sector 2024–2026*.	CSIRO does not currently have explicit documentation or processes to support this disclosure, however the Board Audit and Risk Committee oversees risk governance, controls and procedures. The adoption of the *Australian Government's Approach to Climate Risk and Opportunity Management in the Public Sector* is under consideration by CSIRO's risk function.	• Procedures for management in relation to climate risks for: sign offs, key responsibilities allocation, ensuring integrity of information (systems), ensuring correctness of information and data used for climate risk assessment, integrity of data, data inputs and outputs validation, what internal checks and validations take place internally. • Description of financial control framework, internal controls over climate metrics, and a process to document all the judgments and assumptions such as minutes, and description of the panel who reviews those assumptions. • Description of process of integration of climate risk with other functions. • Description of how CSIRO integrates the *Australian Government's Approach to Climate Risk and Opportunity Management in Public Sector* within its risk management framework.

DISCLOSURE CRITERIA	DISCLOSURE	GAP ANALYSIS
RM1 Information on the department's progress in completing its organisation-wide climate risk and opportunity assessment.	CSIRO has completed a high-level climate risk assessment and physical risk heat map of CSIRO sites, however CSIRO does not currently have explicit documentation to support this disclosure in relation to completing an organisation-wide climate risk and opportunity assessment.	• Integration of climate risks into CSIRO's organisation-wide risk assessment framework. • Identification of key climate related risks and opportunities and evidence of integration of findings into strategic planning. • Development of future targets for climate risk and opportunity management in annual report.
MT1 The annual greenhouse gas emissions produced by the department, as calculated by the Emissions Reporting Tool, including: (a) gross greenhouse gas emissions generated during the reporting year, expressed as metric tonnes of CO_2 equivalent (CO_2e), classified as scope 1 greenhouse gas emissions, scope 2 greenhouse gas emissions, scope 3 greenhouse gas emissions, for select scope 3 greenhouse gas emissions as per the APS Net Zero Emissions Reporting Framework (b) for electricity-related greenhouse gas emissions, departments must include location-based and market-based scope 2 and scope 3 greenhouse gas emissions. Where relevant, departments should also provide information about any contractual instruments necessary to inform users' understanding of its scope 2 and scope 3 electricity-related greenhouse gas emissions.	See section '*Key focus area 5 – Transition to a clean energy future*' and '*Appendix – Environmental reporting*' of this Sustainability Report. See also Annual Report 2023–24 *Appendix F APS Net Zero Emissions Reporting*.	• Improve data collection and greenhouse gas inventory. • Continually improve direct measurement and collection of actual data. • Basis of preparation for scope 3 emissions and develop further scope 3 decarbonisation goals in CSIRO's strategy.
MT2 The approach used to measure greenhouse gas emissions, in line with the APS Net Zero Emissions Reporting Framework and Pilot Metrics and Targets Factsheet, including: (a) the measurement approach, inputs and assumptions the department uses to measure its greenhouse gas emissions (b) the reason(s) why the measurement approach, inputs and assumptions were selected (c) for scope 3 greenhouse gas emissions, disclose the categories included within the measurement of scope 3 greenhouse gas emissions and the characteristics of the data inputs used to measure scope 3 greenhouse gas emissions.	See sections '*Key focus area 5 – Transition to a clean energy future*' and *Appendix – Environmental reporting*' of this Sustainability Report. See also Annual Report 2023–24 *Appendix F APS Net Zero Emissions Reporting*.	• Further disclosures on scope 3 inputs and assumptions used to measure greenhouse gas emissions. • Updated measurement approach, inputs and assumptions in CSIRO's internal basis of preparation. • Documented categories of CSIRO's measurement of scope 3 greenhouse gas emissions and detail data inputs used for measurement. • Scope 3 materiality assessment enabling material sources to be reported in future reporting years.

DISCLOSURE CRITERIA		DISCLOSURE	GAP ANALYSIS
MT3	A summary of the department's Emissions Reduction Plan, including initial actions underway to facilitate achievement of the APS Net Zero by 2030 target.	See sections '*Key focus area 5 – Transition to a clean energy future*' and '*Appendix – Environmental reporting*' of this Sustainability Report. See also Annual Report 2023–24 *Appendix F APS Net Zero Emissions Reporting*, and CSIRO's Net Zero Roadmap.	Updated CSIRO's Net Zero Roadmap.
MT4	Information on the APS Net Zero by 2030 target, including: (a) the metric used to set the target (b) the part of the department to which the target applies (c) the period of time over which the target applies (d) whether the target is a gross greenhouse gas emissions reduction target or a net greenhouse gas emissions reduction target (e) whether it is an absolute target or an intensity target (f) how the latest international agreement on climate change, including jurisdictional commitments that arise from the agreement, has informed the target (g) which greenhouse gases are covered by the target (h) whether scope 1, scope 2 or scope 3 greenhouse gas emissions are covered by the target (i) whether the target was derived using a sectoral decarbonisation approach.	See sections '*Key focus area 5 – Transition to a clean energy future*' and '*Appendix – Environmental reporting*' of this Sustainability Report. See also Annual Report 2023–24 *Appendix F APS Net Zero Emissions Reporting* and CSIRO's Net Zero Roadmap.	Updated CSIRO Net Zero Roadmap disclosing how targets align with the commitments, guidelines and frameworks from the Paris Agreement and details of how target was derived.

7 GRI content index

Statement of use	CSIRO has reported the information cited in this GRI content index for the period 1 July 2023 to 30 June 2024 with reference to the GRI Standards.
	CSIRO does not currently have data collection processes in place to address all disclosures. We are in the process of prioritising the various processes required to meet disclosure requirements, and will incrementally improve our disclosures each year.
	The comment column in the table below uses the following terms to describe our level of disclosure: • **complete** – all of the information required to address the disclosure requirement is available at the location identified. • **partial** – some of the information required to address the disclosure requirement is available at the location identified. • **not available** – information required to address the disclosure requirement is currently unavailable or incomplete.
GRI 1 used	GRI 1: Foundation 2021

DISCLOSURE	LOCATION	COMMENT
GRI 2: GENERAL DISCLOSURES 2021		
2-1 Organizational details	*Annual Report 2024* About us, p iii; Overview, pp 10–11 https://www.csiro.au/contact https://www.csiro.au/about/locations https://www.csiro.au/About	Complete
2-2 Entities included in the organization's sustainability reporting	This report relates to CSIRO's Australian operations. *Sustainability Report 2024* About this report, p 3	Complete For the purposes of reporting, this includes the SIEF and NICTA subsidiaries, but does not include the CSIRO Chile Research Fundacion or the US Office as referred to in the consolidated financial statements.
2-3 Reporting period, frequency and contact point	This report covers the financial year FY24 and aligns with our financial and annual reporting periods. Any enquiries about this report should be directed to sustainability@csiro.au *Sustainability Report 2024* About this report, p 3	Complete
2-4 Restatements of information	*Sustainability Report 2024* Part 2 – Key focus area 5 – Transition to a clean energy future, pp 20–32; Appendix – Environmental Reporting, pp 69–74 – Comparative tables for prior years in have been provided to show differences in performance under different reporting boundaries. Number of hybrid vehicles at 30 June 2023 also restated at page 31. *Sustainability Report 2024* Appendix – People report – Health, safety and wellbeing, p 63 – 2022–23 data HSE metrics updated to reflect lag reported injuries and restated work hours.	Complete
2-5 External assurance	KPMG has provided limited assurance over a selection of performance disclosures as outlined in their assurance statement. See *Sustainability Report 2024* Appendix – Limited Assurance Statement, pp 89–91	Complete The Board and senior executives are not involved in seeking the external assurance, but approval of the Chief Operating Officer is sought for publication of the Sustainability Report.
2-6 Activities, value chain and other business relationships	*Modern Slavery Statement 2023* Our supply chain https://modernslaveryregister.gov.au/ *Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible value chain and resource use, pp 33–35 *Annual Report 2024* About us p iii; Overview, Where we work, p 10; Our scientific value chain, p 16. https://www.csiro.au/work-with-us https://www.csiro.au/about https://www.csiro.au/work-with-us/International	Complete No significant changes to CSIRO's active sectors, value chain or other relevant business relationships compared to FY23–24.
2-7 Employees	*Sustainability Report 2024* Appendix – People Report, pp 55–61 *Annual Report 2024* Part 6 Appendices – Appendix – Management of human resources, p 184	Complete Employee numbers increased by approximately 5% between FY23 and FY24.

DISCLOSURE	LOCATION	COMMENT
2-8 Workers who are not employees	CSIRO has a number of affiliates covering a wide range of work-related activities. We had 2,203 affiliates as at 30 June 2024, including students, contractors, visiting scientists, CSIRO Board members and Fellows. There are notable fluctuations in numbers over the summer (Dec/Jan) when we have our summer vacation student intake. *Sustainability Report 2024* Appendix – People report – Diversity, inclusion and belonging, pp 55–61	Complete
2-9 Governance structure and composition	https://www.csiro.au/about/Corporate-governance/Minister-and-Board https://www.csiro.au/about/Corporate-governance/Chief-Executive-and-Executive-Team *Annual Report 2024 Overview*, Our Board, p 6; Part 3 Our organisation, Governance and accountability, Our Board, pp 105–6; Appendix – Accountable authority, pp 189–90; Appendix – Audit Committee, p 191	Complete
2-10 Nomination and selection of the highest governance body	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Our Board, pp 105–6 https://www.csiro.au/about/Corporate-governance https://www.csiro.au/about/Corporate-governance/Minister-and-Board/Board-Charter https://www.csiro.au/about/people/Board-Members	Partial Board members are appointed in accordance with s14A of the *Science and Industry Research Act 1949*. The criteria used by the Governor-General to nominate and select Board members is not specified in the Act.
2-11 Chair of the highest governance body	Ms Kathryn Fagg AO, Chair (non-Executive) *Annual Report 2024* Appendix – Accountable authority pp 189–90 https://www.csiro.au/about/people/Board-Members	Complete
2-12 Role of the highest governance body in overseeing the management of impacts	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, pp 105–11 *Sustainability Report 2024* Part 1 – Our approach to sustainability – Sustainability oversight, pp 7–8 https://www.csiro.au/about/Corporate-governance/Minister-and-Board/Board-Charter	Complete
2-13 Delegation of responsibility for managing impacts	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, pp 105–11 *Sustainability Report 2024* Part 1 – Our approach to sustainability – Sustainability oversight, pp 7–8 https://www.csiro.au/about/Corporate-governance	Complete
2-14 Role of the highest governance body in sustainability reporting	The CSIRO Board approved the CSIRO Sustainability Strategy 2020–2030, which incorporates our material topics. The Annual Report, containing sustainability information, is approved by the Board. The Sustainability Report is approved by our Chief Operating Officer. The Sustainability Steering Committee reviews the Sustainability Report and provides input and guidance.	Complete
2-15 Conflicts of interest	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Disclosure of interests and related entity transactions, pp 109–10 https://www.csiro.au/about/policies/code-of-conduct	Complete
2-16 Communication of critical concerns	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, pp 106–11; Compliance Index, pp 214–16	Complete

DISCLOSURE	LOCATION	COMMENT
2-17 Collective knowledge of the highest governance body	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, pp 105–7 *Sustainability Report 2024* Part 1 – Our approach to sustainability – Sustainability oversight, pp 7–8	Complete
2-18 Evaluation of the performance of the highest governance body	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Our Board, p 106	Partial Board performance reviewed by self-assessment in March 2024. Information is not currently available on actions taken by the Board in response to its self-assessment.
2-19 Remuneration policies	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Remuneration, pp 112–3; Part 4 Financial statements, Remuneration of Board Members, p 148; Appendix – Audit Committee, p 191	Complete
2-20 Process to determine remuneration	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Remuneration, pp 112–3 https://www.csiro.au/about/Corporate-governance/Minister-and-Board/BPHSC https://www.csiro.au/about/policies/csiro-enterprise-agreement	Complete 93% of staff who voted on the CSIRO Enterprise Agreement 2023–2026 voted in support of the agreement. A total of 4,836 people voted.
2-21 Annual total compensation ratio	CSIRO does not currently report this metric but will consider for future reporting years.	Not available
2-22 Statement on sustainable development strategy	*Sustainability Report 2024* – Message from our Chief Executive, p 1	Complete
2-23 Policy commitments	https://www.csiro.au/about/Policies *Modern Slavery Statement 2022*, pp 12, 13, 16 https://www.csiro.au/about/Corporate-governance *Annual Report 2024* Part 3 Our organisation, Governance and accountability, Policy Framework, p 111 *Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible value chain and resource use, pp 33–35	Partial CSIRO has a range of policy commitments which are relevant to various human rights, such as our Health, Safety and Environment Policy (safe and healthy workplace) and Child Safe Policy (safety and wellbeing of children and young people). We also have relevant non-policy documents, such as our Reconciliation Action Plan (Indigenous rights) and Procurement Procedure (labour conditions and payment of suppliers). However, CSIRO does not have a specific policy commitment to comply with all human rights. Similarly, CSIRO has a number of policies which address aspects of responsible business conduct (e.g. Ethical Human Research Policy, Ethical Animal Research Policy, Science and Delivery Policy). We also have relevant non-policy documents such as our Code of Conduct, Procurement Procedure and Supplier Code of Conduct. However, CSIRO does not have an explicit, overarching policy in relation to responsible business conduct. We have not completed an assessment of each of these policies to determine whether they address each of the requirements in GRI 2.23. All policies are approved by the Board and communicated to CSIRO people through internal communications channels such as our intranet site.
2-24 Embedding policy commitments	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, pp 106–11 *Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible value chain and resource use, pp 33–35; Key focus area 3 – Our people and capacity building, pp 14–16; Appendix – How we engage with our stakeholders, p 68 *Modern Slavery Statement 2022* https://www.csiro.au/about/Policies	Complete

DISCLOSURE	LOCATION	COMMENT
2-25 Processes to remediate negative impacts	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Administrative law, pp 110–11 *Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible value chain and resource use – Modern Slavery, p 34; Appendix – Material topics, p 48 *CSIRO Modern Slavery Statement 2022* https://www.csiro.au/contact/complaints CSIRO Enterprise Agreement 2023–26 Part I Dispute Procedures	Complete Refer more generally to the *Sustainability Report 2024* to understand how CSIRO is involved in remediation of negative impacts that it has caused or contributed to.
2-26 Mechanisms for seeking advice and raising concerns	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Administrative law, pp 110–11. *Sustainability Report 2024* Appendix – Material topics, p 48 *CSIRO Modern Slavery Statement 2022*	Complete
2-27 Compliance with laws and regulations	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, pp 105–11	Partial
2-28 Membership associations	CSIRO has membership of a range of organisations. Proposed memberships are considered in accordance with CSIRO's internal Memberships Procedure, which requires preparation of a proposal, conduct of due diligence and consultation within CSIRO. Decision making about proposed memberships is conducted in accordance with CSIRO's Delegations and Authorities Manual.	Partial CSIRO does not currently publish its register of memberships.
2-29 Approach to stakeholder engagement	*Sustainability Report 2024* Appendix – How we engage with our stakeholders, p 68	Complete
2-30 Collective bargaining agreements	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Remuneration, pp 112–13 CSIRO Enterprise Agreement 2023–2026 covers most CSIRO officers, other than senior executives who are members of the Executive Team and officers covered by the CSIRO Canberra Deep Space Communication Complex (CDSCC) Enterprise Agreement 2018–2021. Members of the Executive Team are covered by individual agreements based on similar terms to the Enterprise Agreement.	Partial CSIRO does not currently report on the percentage of total employees covered by its Enterprise Agreements.
GRI 3: MATERIAL TOPICS 2021		
3-1 Process to determine material topics	*Sustainability Report 2024* Appendix – Materiality, pp 46–7	Complete
3-2 List of material topics	*Sustainability Report 2024* Appendix – Materiality, pp 48–53	Complete
3-3 Management of material topics	*Sustainability Report 2024* Appendix – Material topics, pp 48–53	Partial The *Sustainability Report* indicates the definition of each of our material topics and identifies where further information can be found for the purposes of GRI 3-3. We do not currently disclose all of the details required by GRI 3-3 with respect to every material topic.

DISCLOSURE	LOCATION	COMMENT
GRI 201: ECONOMIC PERFORMANCE 2016		
201-1 Direct economic value generated and distributed	*Annual Report 2024* Part 4 Financial statements p 119 *The Value of CSIRO Report 2024* – https://www.csiro.au/reportingsuite2024	Partial Information about payments to government by country and community investments is not disclosed.
201-2 Financial implications and other risks and opportunities due to climate change	*Sustainability Report 2024* Part 2 – Key focus area 1 – Governance and transparency, pp 10–11; Key focus area 5 – Transition to a clean energy future p 31; Appendix – Commonwealth Climate Disclosure Pilot, pp 75–78.	Partial Whilst we report the work we are doing to prepare for upcoming Commonwealth Climate Disclosures and provide an analysis of our alignment with those requirements, we do not disclose currently disclose all of the risks and opportunities posed by climate change that have the potential to substantially change our operations, revenue, or expenditure.
201-4 Financial assistance received from government	*Annual Report 2024* Part 4 Financial statements, p 119 CSIRO is a corporate Commonwealth entity.	Not available The Annual Report discloses total revenue received from Australian governments, but does not disclose monetary value of other financial assistance received from any government.
GRI 203: INDIRECT ECONOMIC IMPACT		
203-2 Significant indirect economic impacts	*Annual Report 2024* Part 3 Objective 1 Impact translation, pp 23–38; Objective 2, pp 39–48 https://www.csiro.au/about/Corporate-governance/Ensuring-our-impact/Auditing-our-impact	Complete
GRI 204: PROCUREMENT PRACTICES 2016		
204-1 Proportion of spending on local suppliers	*Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible resource use and value chain – Responsible value chain, pp 34–35 For the purposes of this disclosure, CSIRO defines 'local' suppliers as those with an 11-digit numeric value ABN, and 'significant locations of operation' as Australia.	Complete
GRI205: ANTI-CORRUPTION 2016		
205-2 Communication and training about anti-corruption policies and procedures	*Sustainability Report 2024* Appendix – Material topics pp 48 and 54	Partial CSIRO does not report on the communication of anti-corruption policies and procedures by region, or to business partners.
GRI 302: ENERGY 2016		
302-1 Energy consumption within the organization	*Sustainability Report 2024* Part 2 – Key focus area 5 – Transitioning to a clean energy future, pp 26–27, 29	Partial Heating consumption and cooling consumption data is not currently available (although consumption by fuel source and for electricity is reported). CSIRO does not sell electricity, heating, cooling or steam.
302-3 Energy intensity		Not available
GRI 303: WATER AND EFFLUENTS 2018		
303-5 Water consumption	*Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible resource use and value chain – Responsible resource use, pp 38–39	Partial Water consumption data for areas with water stress is not available. Change in water storage data is not available.

DISCLOSURE	LOCATION	COMMENT
GRI 305: EMISSIONS 2016		
305-1 Direct (Scope 1) GHG emissions	*Sustainability Report 2024* Part 2 – Key focus area 5 – Transitioning to a clean energy future, p 24	Complete
305-2 Energy indirect (Scope 2) GHG emissions	*Sustainability Report 2024* Part 2 – Key focus area 5 – Transitioning to a clean energy future, p 24	Complete
305-3 Other indirect (Scope 3) GHG emissions	*Sustainability Report 2024* Part 2 – Key focus area 5 – Transitioning to a clean energy future, p 28	Partial The only scope 3 emissions reported are from air travel, water, waste, accommodation and hire car emissions.
305-4 GHG emissions intensity	*Sustainability Report 2024* Part 2 – Key focus area 5 – Transitioning to a clean energy future, p 26	Complete
305-5 Reduction of GHG emissions	*Sustainability Report 2024* Part 2 – Key focus area 5 – Transitioning to a clean energy future, pp 20–32	Partial CSIRO reports its total emissions reduction against baseline (and compared with FY23). We also describe emissions-reduction initiatives. However, we do not report the emissions reduction achieved as a direct result of individual emissions-reduction initiatives in metric tons of CO_2 equivalent.
GRI 306: WASTE 2020		
306-1 Waste generation and significant waste-related impacts	*Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible resource use and value chain – Responsible resource use – Progress this year, pp 36–39	Partial We are currently prioritising data collection and strategy development in relation to waste. We provide an overview of significant waste-related impacts of our operations in this report, but we do not provide a detailed description of the inputs, activities and outputs that lead or could lead to these impacts. We do not specifically discuss the impacts of waste upstream or downstream in our value chain.
306-2 Management of significant waste-related impacts	*Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible resource use and value chain – Responsible resource use, pp 36–39	Complete
306-3 Waste generated	*Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible resource use and value chain – Responsible resource use, pp 36–37	Complete
306-4 Waste diverted from disposal	*Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible resource use and value chain – Responsible resource use, pp 36–39	Partial CSIRO does not report on the total weight of hazardous waste diverted from disposal, or provide a breakdown of waste diversion from disposal by category of recovery operation.
306-5 Waste directed to disposal	*Sustainability Report 2024* Part 2 – Key focus area 6 – Responsible resource use and value chain – Responsible resource use, pp 36–39	Partial CSIRO does not report the breakdown of total waste directed to disposal by composition of the waste, or disposal method. CSIRO does not report with respect to hazardous waste.
GRI 401: EMPLOYMENT 2016		
401-1 New employee hires and employee turnover	*Sustainability Report 2024* Appendix – People report, Diversity, inclusion and belonging, Progress this year p 58	Complete Region is treated as Australia.

DISCLOSURE	LOCATION	COMMENT
GRI 403: OCCUPATIONAL HEALTH AND SAFETY 2018		
403-1 Occupational health and safety management system	*Sustainability Report 2024* Appendix – People report – Health, safety and well-being, pp 62–65 https://www.csiro.au/about/policies/health-safety-and-environment-policy	Partial CSIRO complies with all applicable laws and regulations and has clear internal management strategies, policies, systems and processes for managing the health and safety of our people and our environmental impact. However, we have not detailed the specifics of this framework in this report.
403-2 Hazard identification, risk assessment, and incident investigation	*Sustainability Report 2024* Appendix – People report – Health, safety and well-being, pp 62–65 https://www.csiro.au/about/policies/health-safety-and-environment-policy	Partial We have not detailed the specifics of our health and safety processes in this report.
403-3 Occupational health services	*Sustainability Report 2024* Appendix – People report – Health, safety and well-being, pp 62–65 https://www.csiro.au/about/policies/health-safety-and-environment-policy	Partial CSIRO has a dedicated Health, Safety and Environment Enterprise Unit. However, we do not report on that unit in detail in this report.
403-4 Worker participation, consultation, and communication on occupational health and safety	*Sustainability Report 2024* Appendix – People report – Health, safety and well-being, pp 62–65 https://www.csiro.au/about/policies/health-safety-and-environment-policy	Partial We do not report in detail on the processes for worker participation in health and safety management system development, implementation and evaluation in this report.
403-5 Worker training on occupational health and safety	*Sustainability Report 2024* Appendix – People report – Health, safety and well-being, pp 62–65	Partial We report completion of mandatory health and safety training by our people, but do not detail the non-mandatory training opportunities we offer in this report.
403-6 Promotion of worker health	CSIRO has several non-occupational medical and healthcare services available to its employees (e.g. Employee Assistance Program; Fitness Passport).	Partial We do not provide detailed specifics of these programs in this report.
403-8 Workers covered by an occupational health and safety management system	*Sustainability Report 2024* Appendix – People report – Health, safety and well-being, pp 62-65	Partial We do not currently report the number and percentage of non-employees covered by our health and safety management system.
403-9 Work-related injuries	*Sustainability Report 2024* Appendix – People report – Health, safety and well-being, pp 62–65	Partial CSIRO currently only reports lost time injuries, medical treatment injuries and the total recordable injury frequency rate for employees and affiliate workers covered under the CSIRO HSE management system. We do not report in detail on specific work-related hazards in this report.
403-10 Work-related ill health	*Sustainability Report 2024* Appendix – People report – Health, safety and well-being, pp 62–65	Partial The 'work related ill health' indicator is not currently used at CSIRO for benchmarking or HSE management review purposes. CSIRO utilises alternative metrics as outlined in this report.
GRI 404: TRAINING AND EDUCATION 2016		
404-3 Percentage of employees receiving regular performance and career development reviews	*Sustainability Report 2024* Appendix – People report – Diversity, inclusion and belonging, p 56	Complete

DISCLOSURE	LOCATION	COMMENT
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY 2016		
405-1 Diversity of governance bodies and employees	*Sustainability Report 2024* Appendix – People report – Diversity, inclusion and belonging, p 57	Complete
405-2 Ratio of basic salary and remuneration of women to men		Not available
GRI 408: CHILD LABOR 2016		
408-1 Operations and suppliers at significant risk for incidents of child labor	https://www.csiro.au/about/policies/child-safe-policy https://www.csiro.au/about/Policies/Child-Safe-Policy/statement-of-compliance *CSIRO Modern Slavery Statement 2023* https://modernslaveryregister.gov.au/statements/file/4bf1ffb2-5c65-47fc-8663-58b3e9c0166b	Partial Measures taken to contribute to the effective abolition of child labour and exploitation are set out at the referenced links. CSIRO does not currently report separately on operations and suppliers considered to have significant risk for incidents of child labour, or young workers exposed to hazardous work. However, CSIRO's Modern Slavery Statement does report on the risk of modern slavery in general (which includes the worst forms of child labour).
GRI 411: RIGHTS OF INDIGENOUS PEOPLES 2016		
411-1 Incidents of violations involving rights of Indigenous peoples		Not available
GRI 414: SUPPLIER SOCIAL ASSESSMENT 2016		
414-2 Negative social impacts in the supply chain and actions taken	*Sustainability Report 2024* Part 2 Key focus area 6 – Responsible resource use and value chain – Responsible value chain, pp 33–35 *CSIRO Modern Slavery Statement 2023* https://modernslaveryregister.gov.au/statements/file/4bf1ffb2-5c65-47fc-8663-58b3e9c0166b	Partial While data is not available on the specific number or percentage of suppliers assessed for social impacts or identified as having significant actual and potential negative impacts, we do report on our modern slavery compliance each year.
GRI 418: CUSTOMER PRIVACY 2016		
418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	*Annual Report 2024* Part 3 Our organisation, Governance and accountability, Archives, privacy and administrative decisions, pp 110–11	Partial CSIRO reports the number of notifiable data breaches each year under the *Privacy Act 1988* (Cth) but does not report the total number of 'substantiated complaints concerning breaches of customer privacy and losses of customer data' under the GRI (which uses different criteria to the Notifiable Data Breach scheme).

8 Glossary

TERM	DEFINITION
AA1000APS	The purpose of the AA1000APS (2008) is to provide organisations with an internationally accepted, freely available set of principles to frame and structure the way in which they understand, govern, administer, implement, evaluate and communicate their accountability. The AA1000 AccountAbility Principles provide the basis for understanding and achieving sustainability assurance.
APS Net Zero 2030	Refers to the Australian government's policy for the Australian Public Service (APS) to reduce its greenhouse gas emissions to net zero by 2030, and transparently report on its emissions. See Appendix – Environmental Reporting for more information.
CERT report	Means the Corporate Emissions Reduction Transparency report. See Appendix – Environmental Reporting for more information.
Circular economy	A circular economy is an economic system focused on eliminating waste and the continual use of resources. In circular economies, resources are recycled, re-used, shared, repaired, refurbished to create a closed-loop system, in turn reducing raw input use and the creation of waste.
CO_2e	Means carbon dioxide equivalent. It is a unit for comparing the emissions from various greenhouse gases on the basis of their global warming potential.
EEGO	Means the Energy Efficiency in Government Operations Policy. See Appendix – Environmental Reporting for more information.
Emissions	When referred to throughout this report means greenhouse gas (GHG) emissions, unless otherwise stated.
Global Reporting Initiative (GRI)	The GRI Sustainability Reporting Standards (GRI Standards) are the first and most widely adopted global standards for sustainability reporting. GRI helps businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being.
Intersectionality	Means the interconnected nature of identity and lived experiences a person or group of people encounter and how they overlap with other systems of discrimination or disadvantage. That is, identity (such as gender) does not exist independently of other causes of discrimination (such as religion).
Location-based emissions	This method of calculation shows our electricity emissions in the context of our physical locations. It does this by reflecting the emissions intensity of electricity generated within the relevant local area for each of our sites.
Market-based emissions	This method of calculation shows our electricity emissions in the context of our investments in different electricity products and markets.
Materiality	Materiality is a concept founded in financial accounting procedures, which has been adapted and applied to non-financial information. In sustainability reporting, material issues are those which are important enough to influence a stakeholder's decisions in relation to the business.
Net zero emissions	'Net zero emissions' refers to achieving an overall balance between emissions produced and emissions taken out of the atmosphere.
Net zero emissions targets	See 'Key focus area 5 – Transition to a clean energy future' for a detailed description of our emissions targets.
NZGO	Net Zero in Government Operations Strategy released by Department of Finance in December 2023.
NGERS	Means the National Greenhouse and Energy Reporting Scheme. See Appendix – Environmental Reporting for more information.
Responsible procurement	A procurement process that considers social, environmental and economic impacts to support sustainable development.

TERM	DEFINITION
Scope 1, Scope 2 and Scope 3 emissions	Greenhouse gas emissions are categorised into three groups or 'scopes' by the most widely used international accounting tool, the Greenhouse Gas (GHG) Protocol. Scope 1 covers direct emissions resulting from the consumption of energy sources such as gas and fuels on CSIRO owned or controlled sites. Scope 2 covers indirect emissions from the generation of electricity, steam, heating and cooling purchased by CSIRO. Scope 3 covers indirect emissions as a result of activities that occur across CSIRO's value chain.
Solid Waste	Solid waste excludes gaseous air emissions, wastewater and stormwater. Solid waste refers to any discarded or abandoned material that is no longer useful or desired. It can be in various physical forms, such as office waste, construction debris, packaging materials, scrap metal, plastics, organic, and hazardous waste. For the purposes of CSIRO's target, hazardous waste and grease trap waste is excluded.
Sustainable development	Means development which meets the needs of the present without compromising the ability of future generations to meet their own needs.
Sustainable development goals or 'SDGs'	Means the 17 sustainable development goals forming part of the United Nations 2030 Agenda for Sustainable Development published in 2015.

9 Limited assurance statement

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Independent Limited Assurance Report to the Directors of Commonwealth Scientific and Industrial Research Organisation

Conclusion

Based on the evidence we obtained from the procedures performed, we are not aware of any material misstatements in the Information Subject to Assurance, which has been prepared by Commonwealth Scientific and Industrial Research Organisation (CSIRO) with reference to the Global Reporting Initiative (GRI) Universal Standards 2021 and CSIRO's own basis of preparation disclosed in the CSIRO Sustainability Report 2023-2024 for the year ended 30 June 2024 (Sustainability Report 2024).

Information Subject to Assurance

Information Subject to Assurance, as presented in the Sustainability Report 2024, includes:

Selected Sustainability Metrics	Page
Total Energy of 581,846 GJ	70
Total Scope 1 GHG emissions of 10,769 tCO$_2$e	70
Total Scope 2 GHG emissions of 65,084 tCO$_2$e (location based method)	70
Employees Lost Time Injury of 8	63
Employees Medical Treatment Injury of 21	63
Employees Total Hours of 14,609,755	63
Employees Total Recordable Injury Frequency Rate of 1.98	63

(collectively, the Information Subject to Assurance).

Criteria Used as the Basis of Reporting

The Information Subject to Assurance has been prepared with reference to the GRI Universal Standards 2021 and CSIRO's own basis of preparation disclosed in the Sustainability Report 2024 *("the criteria")*.

Basis for Conclusion

We conducted our work in accordance with Australian Standard on Assurance Engagements ASAE 3000 *Assurance engagements Other Than Audits or Review of Historical Financial Information* (Standard). In accordance with the Standard, we have:

- used our professional judgement to plan and perform the engagement to obtain limited assurance that we are not aware of any material misstatements in the Information Subject to Assurance, whether due to fraud or error;
- considered relevant internal controls when designing our assurance procedures, however we do not express a conclusion on their effectiveness; and
- ensured that the engagement team possess the appropriate knowledge, skills and professional competencies.

Summary of Procedures Performed

Our limited assurance conclusion is based on the evidence obtained from performing the following procedures:

- enquiries with relevant CSIRO personnel to understand the internal controls, governance structure and reporting process of the Information Subject to Assurance;

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- reviews of relevant documentation including relevant CSIRO policies and management reporting to the CSIRO Board;
- analytical procedures over the Information Subject to Assurance;
- walkthroughs of the Information Subject to Assurance to source documentation;
- evaluating the appropriateness of the criteria with respect to the Information Subject to Assurance; and
- reviewed the Sustainability Report 2024 in its entirety to ensure it is consistent with our overall knowledge of assurance engagement.

How the Standard Defines Limited Assurance and Material Misstatement

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement. Consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Misstatements, including omissions, are considered material if, individually or in the aggregate, they could reasonably be expected to influence relevant decisions of the Directors of CSIRO.

Use of this Assurance Report

This report has been prepared for the Directors of CSIRO for the purpose of providing an assurance conclusion on the Information Subject to Assurance and may not be suitable for another purpose. We disclaim any assumption of responsibility for any reliance on this report, to any person other than the Directors of CSIRO, or for any other purpose than that for which it was prepared.

Management's responsibility

Management are responsible for:

- determining that the criteria is appropriate to meet their needs and the needs of *other intended user*s;
- preparing and presenting the Information Subject to Assurance in accordance with the criteria; and
- establishing internal controls that enable the preparation and presentation of the Information Subject to Assurance that is free from material misstatement, whether due to fraud or error.

Our Responsibility

Our responsibility is to perform a limited assurance engagement in relation to the Information Subject to Assurance for the year ended 30 June 2024, and to issue an assurance report that includes our conclusion.

Our Independence and Quality Management

We have complied with our independence and other relevant ethical requirements of the *Code of Ethics for Professional Accountants (including Independence Standards)* issued by the Australian Professional and Ethical Standards Board, and complied with the applicable requirements of Australian Standard on Quality Management 1 to design, implement and operate a system of quality management.

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Julia Bilyanska

Julia Bilyanska

Partner

Melbourne

25 October 2024

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology.

CSIRO. Creating a better future for everyone.