



Strategic Audit 2022-23

Implementation of environmental management systems by agencies and public authorities

COVER IMAGE: Melbourne, Australia. Aerial city skyline from helicopter.
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Traditional Owners

We acknowledge and respect Victoria's Traditional Owners as the original custodians of Victoria's land and waters. We acknowledge their unique ability to care for Country and their deep spiritual connection to it.

We honour Elders past and present, whose knowledge and wisdom have ensured the continuation of culture and traditional practices.

Commissioner's foreword

I am pleased to present the Strategic Audit 2022-23 Report on the implementation of environmental management systems (EMSs) by Victorian agencies and public authorities in accordance with section 8(b) of the *Commissioner for Environmental Sustainability Act 2003*.

This is the first such report since the frequency was changed from annual to biennial reporting and significant changes to the reporting model described by the Financial Reporting Direction (FRD) 24.

From 2003 to 2022, Victorian Government departments, the Environment Protection Authority (EPA) Victoria and Sustainability Victoria (SV) were the mandated agencies required to implement and report on an EMS for their office-based activities.¹ Since 2003, various iterations of FRD 24, from FRD 24A to FRD 24D, have set the requirements for EMS implementation and reporting.²

In June 2022, FRD 24 superseded FRD 24D and came into effect with the purpose of:

- providing transparency on public sector performance on environmental indicators in organisations year-on-year
- identifying and managing government exposure to climate-related risks
- promoting continuous improvement in environmental reporting by government entities.³

This Strategic Audit 2022-23 Report presents the first set of results under FRD 24, and accordingly, provides a new baseline for future biennial reporting. Given the significant changes to the FRD since the 2020–21 report, data from previous reporting periods usually used for trend analysis are not included in this report.

Pleasingly, FRD 24 moves beyond the approach applied for FRD 24A to FRD 24D of reporting on greenhouse gas (GHG) emissions and resource use (e.g. energy usage, water consumption, waste disposal and recycling rates) generally associated with 'office-based' activities, to reporting on the broader environmental footprint of the operational activities of public entities. Furthermore, entities have been classified into four reporting 'tiers' for FRD 24 that recognise the substantial variation in the size, environmental impact and capability of public entities to report on environmental data. Tier 1 entities are exclusively government departments and these are the focus of this report.

Given the significant shift in scope of reporting in FRD 24, trend analyses are not available. To provide context for the 2022–23 GHG emission results, for example, the 1,607,914 tonnes CO₂-e emitted by government departments is approximately 2% of Victoria's net GHG emissions.

The current version of the *Climate Change Act 2017* commits Victoria to achieve net-zero GHG emissions by the year 2050.⁴ The Victorian Government has announced an intention to bring forward the commitment for achieving net zero from 2050 to 2045.⁵ For Victoria to achieve the target of net-zero GHG emissions, as well as the interim GHG emission reduction targets, it will be important that Victorian Government departments make considerable progress to reduce net GHG emissions from their operations. Significantly reducing GHG emissions from the energy sector is critical to achieving this target. The collated information that is now available for Victorian Government departments as part of FRD 24 reporting can be used to track government performance and guide departmental decision-making in the longer term.

This report also takes the practical step of including an 'Opportunities' section to highlight potential enhancements to improve the utility of FRD 24, and ultimately, support the reduction of emissions by Victorian Government departments and their operations.

1. Applies to all entities as defined in part (a) of the definition of 'department' under section 3 of the *Financial Management Act 1994*.

2. Department of Treasury and Finance (DTF) 2018, 'FRD 24D reporting of office-based environmental data by government entities (May 2018)', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/2018-05/FRD%2024D%20Reporting%20of%20office-based%20environmental%20data%20by%20government%20entities.DOCX> Accessed 26 September 2023.

3. Department of Treasury and Finance (DTF) 2022, 'FRD 24 reporting of environmental data by government entities (June 2022)', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/document/FRD%2024%20Reporting%20of%20environmental%20data%20by%20government%20entities.DOCX> Accessed 26 September 2023.

4. Parliament of Victoria 2017, *Climate Change Act 2017*, <https://content.legislation.vic.gov.au/sites/default/files/2023-05/17-5aa009-authorized.pdf> Accessed 5 January 2023.

5. Premier of Victoria 2023, 'Setting an ambitious emissions reduction target', <https://www.premier.vic.gov.au/setting-ambitious-emissions-reduction-target> Accessed 5 January 2024.

These opportunities leverage the potential of the new reporting paradigm to improve our understanding of government operations and efficiencies. For instance, a centralised database of environmental performance data so that all entities (not just Tier 1) can be tracked in future audit reports, and clarity around reporting the percentage of departments' electricity that is renewably sourced, could improve reporting and departmental outcomes.

This reform could also increase the clarity of organisational reporting boundaries for entities, helping departments and entities in different reporting tiers apply the reporting boundaries consistently. For example, water corporations report separately from DEECA, their line agency. Collectively, water corporations emit more GHGs than any single department but are listed as Tier 2 and Tier 3b reporting entities.⁶ Victoria's 18 water corporations emitted almost 1 million tonnes of GHGs in the 2019-20 financial year. For context, the net GHG emissions from all Victorian Government departments, as provided in this report, was 1.6 million tonnes.

Furthermore, more rigour could be applied through the independent auditing of EMSs and the mandatory reporting of 'optional sustainable procurement' indicators. Better categorisation of the source of electricity consumption would also improve responses and actions.

It is pleasing that some Victorian Government departments are achieving significant progress by implementing targeted, and often bespoke, programs. Some noteworthy examples are highlighted throughout this report and can be found within the report under the 'Examples of departmental progress' sub-sections.

Finally, my sincere thanks to the dedicated EMS Coordinators for their important contribution to improving the environmental performance of their organisations and for their support in the development of this Strategic Audit 2022-23 Report. Having champions and leaders working at all levels within an organisation with a focus on, and passion for, reducing the environmental footprint of government operations is critical to achieving the collective impact we aspire to and will continue to track through this reporting program. It is an honour to serve as Victoria's Commissioner for Environmental Sustainability and to work with so many dedicated people committed to reporting and reducing the environmental footprint of the Victorian Public Service.



Dr Gillian Sparkes AM

Commissioner for Environmental Sustainability, Victoria



6. Department of Energy, Environment and Climate Action (DEECA), 'Greenhouse gas emissions from the water sector', East Melbourne, Victoria, <https://www.water.vic.gov.au/our-programs/climate-change-and-victorias-water-sector/greenhouse-gas-emissions-from-the-water-sector#:~:text=Our%2018%20water%20corporations%20released,come%20directly%20from%20wastewater%20treatment> Accessed 23 January 2024.

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Executive summary

The focus of this Strategic Audit 2022-23 Report on the implementation of environmental management systems (EMSs) by agencies and public authorities is Victorian Government departments. This is due to Financial Reporting Direction (FRD) 24 requiring departments to implement an EMS.⁷ FRD 24 also prescribes the environmental performance information Victorian Government entities must include in their annual reports. This audit report is the first since significant revisions to FRD 24 in June 2022. Accordingly, this report provides a new baseline for future, biennial strategic audit reports.

One of the most important changes to FRD 24 was to move beyond the traditional approach of reporting environmental impacts that were generally associated with 'office-based' activities to a requirement that the environmental footprint of all operational activities of government departments be reported. Detail on the changes to FRD 24 can be found in the 'Scope of strategic audit' section of this report.

Given the change to the scope of reporting in the new FRD 24, trend analyses are not available. To provide context for the 2022-23 greenhouse gas (GHG) emission results, for example, the 1,607,914 tonnes CO₂-e emitted by government departments is approximately 2% of Victoria's net GHG emissions. The current version of the *Climate Change Act 2017* states that the long-term GHG emissions reduction target for Victoria is net-zero GHG emissions by 2050.⁸ The Victorian Government has announced an intention to bring the net-zero commitment forward from 2050 to 2045, although this is yet to be legislated.⁹ For Victoria to achieve net-zero GHG emissions by 2045, as well as interim GHG emission reduction targets, it will be important that Victorian Government departments make considerable progress in reducing net GHG emissions from their operations.

In 2022-23, 95% of departmental GHG emissions were attributed to a combination of the Department of Health (48% of total departmental GHG emissions), Department of Transport and Planning (28%), Department of Education (14%) and Department of Justice and Community Safety (5%). This reflects the operational requirements of these departments. Most of the GHG emissions reported by the Department of Health (DH) were from energy use associated with health services (e.g. hospitals), while emissions by the Department of Transport and Planning (DTP) are largely from the public transport network (i.e. trains, trams and buses). The emissions by the Department of Education (DE) are predominantly from schools and those reported by the Department of Justice and Community Safety (DJCS) from prisons. The remaining departments emit fewer GHG emissions, as the scope of their operations is more focused on office-based activities. However, it is important to note that Victorian water corporations report separately to the Department of Energy, Environment and Climate Action (DEECA). Collectively, water corporations emit more GHGs than any single department.^{10, 11}

As Victoria pursues the target of net-zero GHG emissions by 2045, significantly reducing GHG emissions from the energy, transportation and water sectors will be critical. The information collated in this report aims to guide and support the individual and collective decision-making of Victorian Government departments.

Key findings for 2022-23

- Electricity consumption comprised 48% of the total energy used by Victorian Government departments. One third of this electricity (16% of the total energy usage by departments) was used to operate the metropolitan electric train and tram networks.
- Natural gas makes up 38% of the total energy used by Victorian Government departments. The Victorian Government released a Gas Substitution Roadmap in 2022 that details how the state can use energy efficiency, electrification, hydrogen and biogas to reduce emissions from gas over time. Natural gas consumption from Victorian Government operations should be trending downward. The baseline result of 4,531,017,688 MJ of natural gas energy usage reported for 2022-23 will be tracked in future strategic audits.

7. In simple terms, FRD 24 does not specifically require that strategic audit reports should focus on Victorian Government departments. FRD 24 separates entities into reporting tiers. Of those reporting tiers, only entities in Tier 1 (i.e. Victorian Government departments) are required to have an EMS. The CES adopts that specific EMS requirement as the basis for focussing strategic audit reports on Tier 1 entities.

8. Parliament of Victoria 2017, *Climate Change Act 2017*, <https://content.legislation.vic.gov.au/sites/default/files/2023-05/17-5aa009-authorized.pdf> Accessed 5 January 2023.

9. Premier of Victoria 2023, 'Setting an ambitious emissions reduction target', <https://www.premier.vic.gov.au/setting-ambitious-emissions-reduction-target> Accessed 5 January 2024.

10. Water Corporations are listed as Tier 2 and Tier 3b reporting entities. In 2022-23 they reported separately from DEECA (a Tier 1 entity). The full list of reporting entities and Tiers is provided in Appendix B of this report.

11. Department of Energy, Environment and Climate Action (DEECA), 'Greenhouse gas emissions from the water sector', East Melbourne, Victoria, <https://www.water.vic.gov.au/our-programs/climate-change-and-victorias-water-sector/greenhouse-gas-emissions-from-the-water-sector#:~:text=Our%2018%20water%20corporations%20released,come%20directly%20from%20wastewater%20treatment> Accessed 23 January 2024.

- Excluding electricity consumed to run public transport networks, 13% of the total energy was consumed in the transportation sector.
- Only 9.4% of the energy used by Victorian Government departments is renewably sourced.
- On-site electricity generation by Victorian Government departments is only a small proportion of their total electricity consumption. The total electricity offsets were 299,376 MWh, which is 19% of the total electricity consumption.
- The Victorian Government has pledged to source 100% renewable electricity for all government operations from 2025. From the results published by departments in their annual reports in accordance with FRD 24, it is unclear what percentage of the electricity consumed by Victorian Government departments is renewably sourced.
- The Victorian Government has pledged to add 400 zero emissions vehicles (ZEVs) to the government fleet by December 2023. In 2022–23, there were only 81 ZEVs in the Victorian Government fleet. Therefore, significant progress will need to be made in 2023–24 to achieve this target.
- Nearly half (45%) of energy used in transportation by Victorian Government departments was attributed to diesel consumption by buses operated by DTP. In 2023, DTP released the Zero Emission Bus Transition Consultation Paper, which sets out Victoria's proposed approach to transitioning Victoria's bus network of approximately 4,500 buses to zero emission from 2025.
- In accordance with the Victorian Government's circular economy policy, Recycling Victoria – A New Economy, departments must ensure that certain single-use plastics are not supplied with procured food and drinks. There was widespread acknowledgement of this in departmental annual reports, with most entities confirming they had phased out the use of specific single-use plastics at all sites and for all operations.
- Among public hospitals, 81% (107 out of 132) had National Australian Built Environment Rating System (NABERS) energy ratings of 4 stars or lower, while 71% (93 out of 131) had NABERS water ratings of 4 stars or lower.¹² These results highlight that there are opportunities to improve the energy and water efficiency of Victorian public hospitals.
- Currently, sustainable procurement is not meaningfully quantified and analysed as part of FRD 24 reporting because departments are only required to provide qualitative information.
- Not all departments were using an up-to-date EMS in 2022–23, despite this being a requirement of FRD 24. However, all 10 departments are either developing a new EMS, have recently had their EMS audited (since 2020) or are planning to have their EMS audited in 2023–24. This represents a significant improvement from the preceding 5 to 10 years, when some departments were not using an EMS or not regularly having them audited.

Note that a summary of all Tier 1 (Victorian Government departments) results for FRD 24 indicators is available in Appendix A of this report.

12. NABERS ratings are on a scale of one to six stars. Three stars represents average performance, while a rating of six stars indicates market leading performance.

Opportunities

Six opportunities to improve the reporting of Victorian Government environmental performance per FRD 24 and EMS implementation are suggested below.

1. Annual environmental performance data reported by Victorian government entities could be uploaded to a centralised database and made available in a standard format.

This would facilitate reporting of the environmental performance for a broader range of entities, not just Tier 1 (i.e. departments). This is particularly important for high GHG emitters not in Tier 1 (e.g. water corporations). Victoria's water corporations are listed as either Tier 2 or Tier 3b entities. Although they are significant GHG emitters, their emissions are not currently included in Tier 1 reporting by DEECA and, therefore, not captured in this report. Victoria's 18 water corporations emitted almost 1 million tonnes of greenhouse gases in the 2019-20 financial year.¹³ For context, the net GHG emissions from all Victorian Government departments and their operations, as provided in this report, was 1.6 million tonnes.

The data in this Strategic Audit 2022-23 Report were manually collated by the Commissioner's team. This manual process is possible for ten Tier 1 entities, however, it is not feasible or practical to do this for all ~300 entities that are required to report environmental performance as part of FRD 24.

The following statement made in the Commissioner for Environmental Sustainability's Strategic Audit 2020-21 Report is still relevant:

'The Commissioner's data analysis and reporting would be made more efficient if the Commissioner could extract data in a standardised format from a single database to which each reporting entity uploaded their data. A process modernisation such as this would improve efficiency and reduce the potential to introduce erroneous data in the reporting cycle.'¹⁴

2. Increase the clarity of organisational reporting boundaries for entities to enable departments and entities to apply the reporting boundaries consistently across tiers, avoid duplication of results and enable a more robust comparison of results between Tier 1 entities (i.e. departments).

For 2022-23, the organisational reporting boundaries were applied inconsistently across departments (i.e. Tier 1 entities). For example, DH reported environmental data from health services, office-based activities and cemeteries.¹⁵ The health services category included Victoria's public hospitals and health services. Under FRD 24, metropolitan hospitals are classified as Tier 2 entities; other health services and hospitals (e.g. Ambulance Victoria and regional, sub-regional, local, small rural, multipurpose and statewide health services) are classified as Tier 3a entities.¹⁶ This resulted in duplication of environmental performance reporting across different tiers for the health services in 2022-23. Contrastingly, DEECA (a Tier 1 entity) did not report results for supporting portfolio entities in lower reporting tiers (i.e. DEECA reporting did not include results for water corporations that reported as Tier 2 or 3b entities).¹⁷ This inconsistency between departments, combined with the absence of a centralised database — as highlighted in Opportunity 1 — is not optimal and leads to inconsistencies when comparing results between departments.

13. Department of Energy, Environment and Climate Action (DEECA), 'Greenhouse gas emissions from the water sector', East Melbourne, Victoria, <https://www.water.vic.gov.au/our-programs/climate-change-and-victorias-water-sector/greenhouse-gas-emissions-from-the-water-sector#:~:text=Our%2018%20water%20corporations%20released,come%20directly%20from%20wastewater%20treatment> Accessed 23 January 2024.

14. Commissioner for Environmental Sustainability (CES) 2022, 'Strategic audit 2020-21 implementation of environmental management systems in Victorian Government', Melbourne, Victoria, https://www.ces.vic.gov.au/sites/default/files/publication-documents/Commissioner%20for%20Environmental%20Sustainability_Strategic%20Audit%202020-21.pdf Accessed 17 January 2024.

15. Department of Health (DH) 2023, 'Annual Report 2022-23', Melbourne, Victoria, <https://www.health.vic.gov.au/sites/default/files/2023-11/department-health-annual-report-2022-23.pdf> Accessed 23 January 2024.

16. The full list of reporting entities and Tiers is provided in Appendix B of this report.

17. Department of Energy, Environment and Climate Action (DEECA) 2023, 'Annual Report 2022-23', East Melbourne, Victoria, https://www.deeca.vic.gov.au/_data/assets/pdf_file/0025/686014/2022-23-deeca-annual-report.pdf Accessed 23 January 2024.

3. FRD 24 could be updated so that entities are required to clearly report the percentage of their electricity that is renewably sourced.

The results published by departments in their annual reports, in accordance with FRD 24, are currently unclear regarding the percentage of electricity consumed that is renewably sourced.

Given that the Victorian Government has pledged to source 100% renewable electricity for all government operations from 2025, it would be useful if FRD 24 is updated to require Victorian Government entities to clearly report the percentage of their electricity that is renewably sourced.

4. The optional sustainable procurement quantitative indicators in FRD 24 could become mandatory indicators for Tier 1 entities.

Currently, sustainable procurement is not meaningfully quantified and analysed as part of FRD 24 reporting because departments are only required to provide qualitative information.

5. FRD 24 could include a requirement for departments to have their EMSs independently audited within a specific timeframe (e.g. at least once every three years).

Furthermore, when new government departments are created as part of machinery-of-government changes, the new departments could be required to have an EMS developed within 6 months of the department's commencement.

It is positive that all 10 departments are either developing a new EMS, have recently had their EMS audited (since 2020) or are planning to have their EMS audited in 2023-24. However, FRD 24 does not require departments to independently audit their EMS periodically.

6. The reported electrical consumption could be required to be categorised by source, so that electricity consumed for transport can be identified.

As more transport becomes electrified, it will be important to be able to segment electricity-usage data associated with transport. This cannot be segmented currently. For example, FRD 24 does not require the electricity used to run the train and tram networks to be itemised in departmental reporting. Despite not being required to do so, DTP did itemise the electricity consumed as part of operating trains and trams on the public transport network.

As per the current guidance on environmental disclosures under FRD 24, electricity used to power wired public transportation, such as the metropolitan train and tram network, should not be reported under the transportation indicators, but instead reported in the electricity indicators. This is significant, as the electrified metropolitan train and tram networks use more energy (1,872,192,456 MJ in 2022-23) than the entire Victorian Government departmental transportation energy reported under Indicator T1.

Scope of strategic audit

Section 8(b)(i) of the *Commissioner for Environmental Sustainability Act 2003* (CES Act) requires that, once every 2 years, the Commissioner for Environmental Sustainability (CES) must conduct strategic audits of, and prepare reports on, the implementation of EMSs by agencies and public authorities.¹⁸

From 2003 to 2022, Victorian Government departments, the Environment Protection Authority (EPA) Victoria and Sustainability Victoria (SV) were required to implement and report on an EMS for their office-based activities.¹⁹ Various iterations of FRD 24, from FRD 24A to FRD 24D, were used to set the requirements for EMS implementation and reporting.²⁰

In June 2022, FRD 24 superseded FRD 24D and came into effect with the purpose of:

- providing transparency on public sector performance on environmental indicators in organisations year-on-year
- identifying and managing government exposure to climate-related risks
- promoting continuous improvement in environmental reporting by government entities.²¹

Overview of FRD 24

The following quotes are from FRD 24 Reporting of Environmental Data by Government Entities (June 2022):

'An entity's Annual Report of Operations must disclose information on aspects of energy and resource consumption and environmental performance.'

'Applies to all entities defined as either a public body or a department under section 3 of the *Financial Management Act 1994*, with the exception of universities.'

'The organisational boundary of the entity for the purpose of environmental reporting must include: all operations of the entity; the operations of any other public sector entity hosted entirely within the entity's facilities (where there is agreement between the entities for the reporting of these operations); and operations of any public asset by a private entity.'²²

There are significant changes to environmental reporting with the introduction of FRD 24. These include an increase to approximately 300 public entities being covered under FRD 24, compared with approximately 10 departments as well as EPA Victoria and SV that were required to adhere to FRD 24D.²³ There is also a shift to report more holistically on the environmental impacts of entity operations, rather than focussing on the office-based environmental footprint. FRD 24 now specifies that the organisational boundary of an entity for the purpose of environmental reporting must include all operations of the entity.²⁴

Furthermore, public entities have been classified into reporting 'tiers' for FRD 24. This recognises the substantial variation in the size, environmental impact and capability of public entities to report on environmental data. These tiers are defined in Appendix 1 of FRD 24, with each tier subject to different disclosure requirements that are listed in Appendix 2 of FRD 24.²⁵ These tiers and entities are included in Appendix B of this report.

18. Parliament of Victoria 2003, *Commissioner for Environmental Sustainability Act 2003*, <https://www.legislation.vic.gov.au/in-force/acts/commissioner-environmental-sustainability-act-2003/017> Accessed 26 September 2023.

19. Applies to all entities as defined in part (a) of the definition of 'department' under section 3 of the *Financial Management Act 1994*.

20. Department of Treasury and Finance (DTF) 2018, 'FRD 24D reporting of office-based environmental data by government entities (May 2018)', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/2018-05/FRD%2024D%20Reporting%20of%20office-based%20environmental%20data%20by%20government%20entities.DOCX> Accessed 26 September 2023.

21. Department of Treasury and Finance (DTF) 2022, 'FRD 24 reporting of environmental data by government entities (June 2022)', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/document/FRD%2024%20Reporting%20of%20environmental%20data%20by%20government%20entities.DOCX> Accessed 26 September 2023.

22. Ibid.

23. Department of Treasury and Finance (DTF), 'Application of reporting tiers to public entities under FRD 24', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/document/Guidance%20on%20the%20application%20of%20reporting%20tiers%20under%20FRD%2024.docx> Accessed 26 September 2023.

24. Department of Treasury and Finance (DTF) 2022, 'FRD 24 reporting of environmental data by government entities (June 2022)', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/document/FRD%2024%20Reporting%20of%20environmental%20data%20by%20government%20entities.DOCX> Accessed 26 September 2023.

25. Ibid.

Tier 1 entities are exclusively government departments. The departments are required to report on their EMS for their activities, how it conforms with the Standard AS/NZS 14001: Environmental Management Systems, and when it was last audited. FRD 24 does not extend the requirement to either having or reporting on an EMS beyond Tier 1 entities.²⁶

Given the CES Act requires the CES to conduct strategic audits of, and prepare reports on, the implementation of EMSs by agencies and public authorities, this strategic audit is confined to an analysis of results for Tier 1 entities (i.e. Victorian Government departments).²⁷

The guidance document for making environmental disclosures under FRD 24 states that Tier 1 entities should produce a baseline disclosure statement outlining the entity's approach to understanding and managing climate-related risks and opportunities relating to the entity's assets, operations and service delivery. The disclosure statement should consider risks related to the physical impacts of climate change and the transition to a net-zero carbon economy.²⁸

The Victorian government's FRD 24 requires that entities disclose aspects of:

- electricity production and consumption
- stationary fuel use
- transportation
- total energy use
- sustainable buildings and infrastructure
- sustainable procurement
- water use
- waste and recycling
- GHG emissions
- associated information relevant to understanding and improving the sustainability of their operations.²⁹

Now that the CES's strategic audit reporting is biennial, this Strategic Audit 2022-23 Report presents the first environmental performance and analysis for the new FRD 24 reporting paradigm, with a focus on results for 2022-23 rather than 2021-22, as the 2022-23 results provide a new baseline for Victorian government environmental reporting. Reported data by entities for 2021-22 was done in accordance with FRD 24D, and the requirements for reporting were significantly different to 2022-23. This means that comparing 2022-23 results for indicators (e.g. GHG emissions) with results from 2021-22 and earlier does not provide a consistent comparison. The next strategic audit report is scheduled to include data for 2023-24 and 2024-25.

The findings in this Strategic Audit 2022-23 Report are based on material provided to the CES, or obtained from annual reports, and are in general accordance with FRD 24 and consistent with section 18 of the CES Act.

26. Department of Environment, Land, Water and Planning (DELWP), 'Guidance for FRD reporting - Guidance manual for FRD 24 reporting of environmental data by government entities', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/document/Guidance%20on%20environmental%20disclosures%20under%20FRD%2024.DOCX> Accessed 26 September 2023.

27. Parliament of Victoria 2003, *Commissioner for Environmental Sustainability Act 2003*, <https://www.legislation.vic.gov.au/in-force/acts/commissioner-environmental-sustainability-act-2003/017> Accessed 26 September 2023.

28. Department of Environment, Land, Water and Planning (DELWP), 'Guidance for FRD reporting - Guidance manual for FRD 24 reporting of environmental data by government entities', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/document/Guidance%20on%20environmental%20disclosures%20under%20FRD%2024.DOCX> Accessed 26 September 2023.

29. Department of Treasury and Finance (DTF) 2022, 'FRD 24 reporting of environmental data by government entities (June 2022)', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/document/FRD%2024%20Reporting%20of%20environmental%20data%20by%20government%20entities.DOCX> Accessed 26 September 2023.

The Department of Government Services (DGS) did not report on FRD 24 indicators for 2022–23. The department stated in its 2022–23 Annual Report that: ‘For the current reporting period, no data have been collected as DGS did not hold operational control of any departmental sites or assets.’³⁰ This means that this Strategic Audit 2022-23 Report is focussed on the EMSs and environmental reporting of the other nine Victorian Government departments, which are:


- Department of Education (DE)
- Department of Energy, Environment and Climate Action (DEECA)
- Department of Families, Fairness and Housing (DFFH)
- Department of Health (DH)
- Department of Jobs, Skills, Industry and Regions (DJSIR)
- Department of Justice and Community Safety (DJCS)
- Department of Premier and Cabinet (DPC)
- Department of Transport and Planning (DTP)
- Department of Treasury and Finance (DTF).

30. Department of Government Services (DGS) 2023, ‘Annual report 2022-23’, Melbourne, Victoria, <https://content.vic.gov.au/sites/default/files/2023-11/Department-of-Government-Services-202223-annual-report.pdf> Accessed 17 January 2024.

Data integrity, reporting, and analysis limitations

Manual data entry and data quality

The current data acquisition process for conducting strategic audits requires all data to be manually collated by the CES. In the CES's previous strategic audit report (2020–21), it was stated:

 'As part of the next iteration of FRD 24, the Commissioner's data analysis and reporting would be made more efficient if the Commissioner could extract data in a standardised format from a single database to which each reporting entity uploaded their data. A process modernisation such as this would improve efficiency and reduce the potential to introduce erroneous data in the reporting cycle.'³¹

The update to FRD 24 that came into effect for the 2022–23 reporting cycle was not complemented with an FRD database where standardised data could be uploaded.

During FRD 24 data collation for this strategic audit, several errors were observed in departmental annual reporting and the erroneous values were corrected after follow-up discussions between the CES's reporting team and individual departments. In some cases, the errors were due to calculation mistakes, while other errors were found when departments had correctly calculated indicator values but had transcribed the wrong values into their annual reports. There were also instances when departments had omitted mandatory indicators in their annual reports.

One improvement from previous strategic audits completed by the CES was that departments are now using a standardised spreadsheet to calculate their results for several FRD indicators. This spreadsheet was provided to departments by DEECA, along with a considerable amount of guidance material, and would have minimised calculation errors. It also proved to be a useful tool that could determine the source of some erroneous data detected in annual reports. The spreadsheet could be further utilised as the starting point in future reporting years for creating the standardised database of FRD 24 data.

Analysing trends

An important part of conducting this strategic audit is analysing the change in the Victorian Government's environmental footprint over time. However, trend analyses are constrained by the limitations described below.

FRD 24 changes

The update made to FRD 24 that came into effect in June 2022 is the most significant change made to environmental reporting since the FRD 24 was introduced. These changes are detailed in the 'Scope of strategic audit' section of this report. A broader scope of environmental reporting is one of the most important updates in FRD 24. Specifically, this involves a move beyond the traditional approach of reporting environmental impacts associated with 'office-based' activities. Now the environmental footprint of the entire operational activities of government entities must be reported.

This means that comparing results for indicators (e.g. GHG emissions) for 2022–23 with those of previous years does not provide a consistent comparison. For example, in 2022–23, Victorian Government departments reported their combined total of GHG emissions to be 1,607,914 tonnes CO₂-e, which compares with a combined total of 53,609 tonnes CO₂-e reported for 2021–22 (i.e. the final year of reporting under FRD 24D).

31. Commissioner for Environmental Sustainability (CES) 2022, 'Strategic audit 2020-21 implementation of environmental management systems in Victorian Government', Melbourne, Victoria, https://www.ces.vic.gov.au/sites/default/files/publication-documents/Commissioner%20for%20Environmental%20Sustainability_Strategic%20Audit%202020-21.pdf Accessed 17 January 2024.

Machinery-of-government changes

As of 30 June 2023, there are ten Victorian Government entities included in EMS reporting. During the past decade there has been an average of roughly one 'machinery-of-government' change per year. The net effect of these changes, which were introduced to meet the policy objectives of successive governments, is that it is difficult to consistently track and compare EMS data over time, particularly at a departmental level.

Several significant machinery-of-government change occurred during 2022–23. These included the former Department of Jobs, Precincts and Regions being replaced on 1 January 2023 by the Department of Jobs, Skills, Industry and Regions (DJSIR) and the Department of Government Services. There were also changes for the former Department of Environment, Land, Water and Planning (DELWP), which changed to the Department of Energy, Environment and Climate Action (DEECA) on 1 January 2023. Also on 1 January 2023, the former Department of Transport took on the planning function of DELWP as it became the Department of Transport and Planning (DTP).

Due to the frequency of departmental changes, the most reliable way to track EMS performance of Victorian Government entities is to look at the 'total' combined results for all entities, with additional analysis of individual entities performed selectively when the extra layer of detail adds value and is required to understand an overall change or trend.

Results

Greenhouse gas emissions

The inclusion of departmental undertakings beyond 'office-based' activities is one of the most significant changes in the updates to FRD 24 that took effect in 2022–23. This is the first strategic audit to incorporate the broader departmental reporting footprint. In the previous strategic audit, completed using 2020–21 data, only 59,764 tonnes CO₂-e were reported to be within the scope of FRD 24 reporting. While for 2021–22 (i.e. the final year of reporting under FRD 24D), Victorian Government departments reported a combined total of 53,609 tonnes CO₂-e, in accordance with FRD 24D.

The increase to 1,607,914 tonnes CO₂-e for 2022–23 is a more useful and accurate representation of the departmental GHG emissions footprint (Table 1). It is also important to note that the increase in GHG emissions reported in 2022–23 does not reflect an increase in the actual amount of GHGs emitted by Victorian Government departments.

Table 1: Greenhouse gas emission results for Tier 1 entities for 2022–23.

Indicator notation	Indicator name	Value	Unit
G1	Total Scope 1 (direct) GHG emissions	353,872	t CO ₂ -e
G2	Total Scope 2 (indirect electricity) GHG emissions	1,043,953	t CO ₂ -e
G3	Total Scope 3 (other indirect) GHG emissions	210,089	t CO ₂ -e
N/A	Total reported net GHG emissions	1,607,914	t CO ₂ -e
N/A	Total GHG emission offsets purchased*	82,627	t CO ₂ -e

* The offsets have been incorporated within the values for indicators G1, G2 and G3.

Given the dramatic change to the scope of GHG reporting in the new FRD 24, trend analysis of GHG emissions is unavailable. To provide context for the 2022–23 results, the 1,607,914 tonnes CO₂-e emitted by government departments is approximately 2% of Victoria's net GHG emissions.³²

The current version of the *Climate Change Act 2017* states that the long-term GHG emissions reduction target for Victoria is to achieve net-zero GHG emissions by the year 2050.³³ The Victorian Government has announced an intention to bring forward the commitment for achieving net zero from 2050 to 2045, although this is yet to be legislated.³⁴ As part of the requirements of the *Climate Change Act 2017*, the Victorian Government has set the following targets that provide a clear path to net-zero emissions:

- a 28% to 33% reduction from 2005 GHG emission levels by 2025
- a 45% to 50% reduction by 2030
- a 75% to 80% reduction by 2035.

For the state to achieve these reductions, it will be important that Victorian government departments make considerable progress in reducing net GHG emissions from their operations.

32. To calculate this percentage, the most recently reported value of Victoria's net GHG emissions has been used. In 2023, DEECA reported a value of 80.1 Mt CO₂-e for Victoria's annual net GHG emissions for the year 2021. That report is available at the following link: https://www.climatechange.vic.gov.au/_data/assets/pdf_file/0036/687825/Victorian-Greenhouse-Gas-Emissions-Report-2021.pdf.

33. Parliament of Victoria 2017, *Climate Change Act 2017*, <https://content.legislation.vic.gov.au/sites/default/files/2023-05/17-5aa009-authorized.pdf> Accessed 5 January 2023.

34. Premier of Victoria 2023, 'Setting an ambitious emissions reduction target', <https://www.premier.vic.gov.au/setting-ambitious-emissions-reduction-target> Accessed 5 January 2024.

For 2022–23, 95% of the departmental GHG emissions were attributed to a combination of DH (48% of total departmental GHG emissions), DTP (28%), DE (14%) and DJCS (5%). This is shown in Figure 1 and reflects the operational requirements of these departments. Most of DH's GHG emissions come from energy use associated with health services (e.g. hospitals), while DTP's emissions are largely from the public transport network (i.e. trains, trams and buses). DE's emissions are mainly from schools and DJCS's emissions are predominantly from prisons. The remaining departments emit fewer GHG emissions as the scope of their operations is more focused on office-based activities. It is important to note that water corporations report separately from DEECA. Collectively, water corporations emit more GHGs than any single department.^{35,36} Victoria's 18 water corporations emitted almost 1 million tonnes of greenhouse gases in the 2019-20 financial year. For context, the net GHG emissions from all Victorian Government departments, as provided in this report, was 1.6 million tonnes.

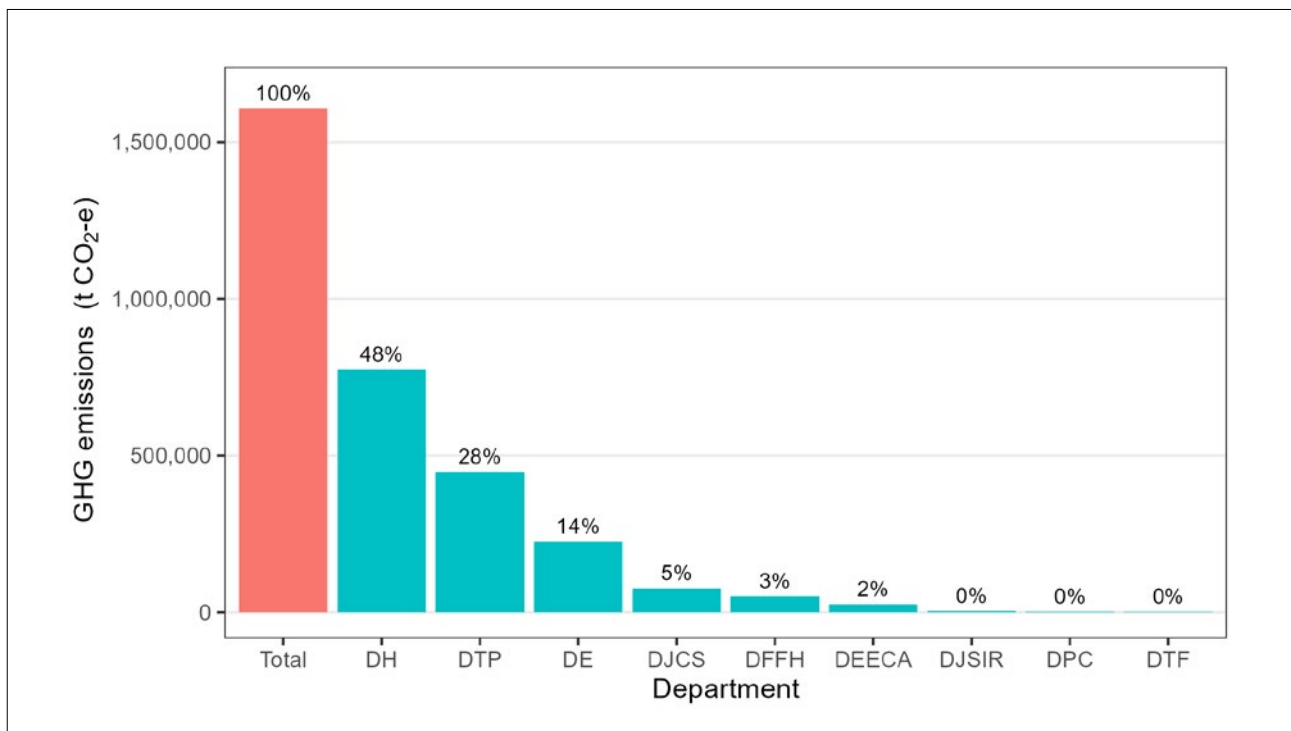


Figure 1: Net greenhouse gas emissions by Victorian Government department for 2022–23.

Under FRD 24 reporting, GHG emissions are categorised into the following three scopes:

- Scope 1 (Indicator G1): Emissions released to the atmosphere as a direct result of an activity (e.g. burning fossil fuels in the motor vehicle fleet).
- Scope 2 (Indicator G2): Emissions released to the atmosphere from the indirect consumption of an energy commodity (e.g. use of electricity from the grid that still uses coal and gas-fired power generation).
- Scope 3 (Indicator G3): Indirect emissions that are generated in the wider economy. They occur because of the activities of a facility, but from sources not owned or controlled by that facility's business (e.g. from corporate air travel and waste disposal).

35. Water Corporations are listed as Tier 2 and Tier 3b reporting entities. In 2022-23 they reported separately from DEECA (a Tier 1 entity). The full list of reporting entities and Tiers is provided in Appendix B of this report.

36. Department of Energy, Environment and Climate Action (DEECA), 'Greenhouse gas emissions from the water sector', East Melbourne, Victoria, <https://www.water.vic.gov.au/our-programs/climate-change-and-victorias-water-sector/greenhouse-gas-emissions-from-the-water-sector#:~:text=Our%2018%20water%20corporations%20released,come%20directly%20from%20wastewater%20treatment> Accessed 23 January 2024.

Figure 2 shows the breakdown of GHG emissions by department and scope of emissions. DH, DTP and DE are the three departments responsible for the most GHG emissions from their operations, with each having significantly more Scope 2 emissions compared with Scope 1 or Scope 3 emissions.

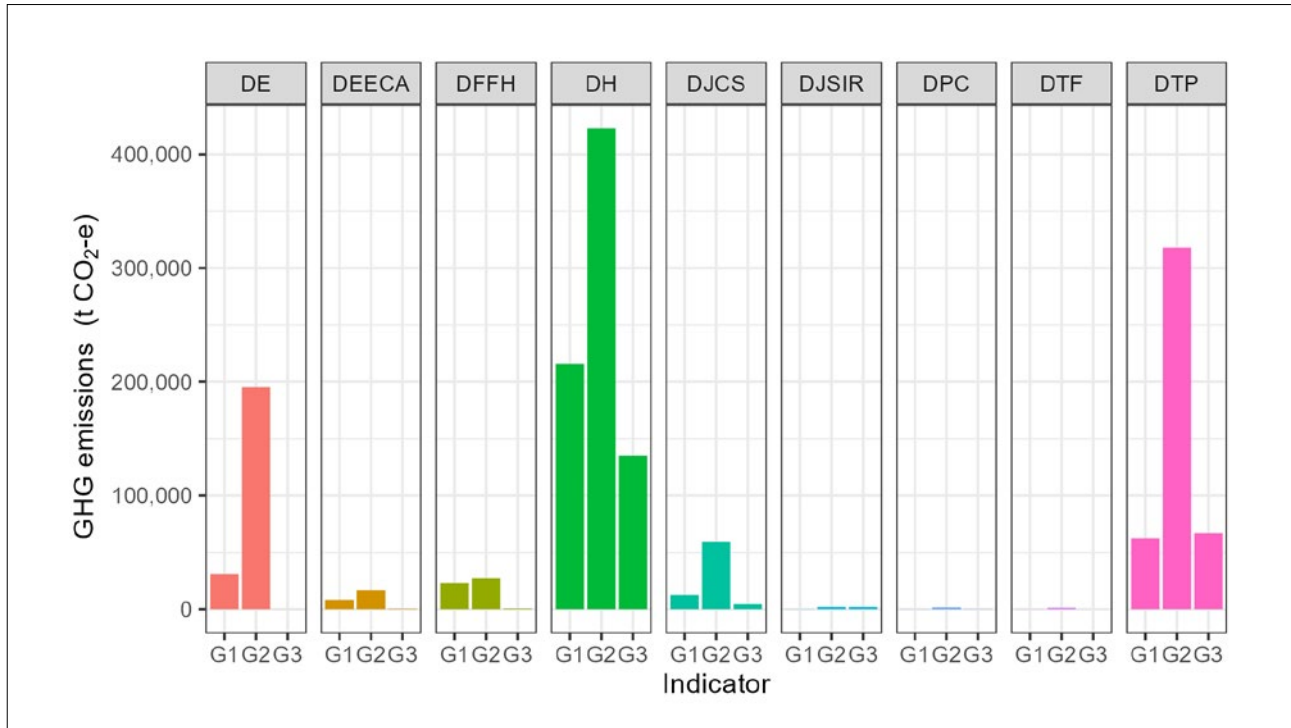


Figure 2: Greenhouse gas emissions by Victorian Government department and scope of emission for 2022-23.³⁷

Examples of entity progress

In their annual reports, many departments noted that they are working with the Shared Service Provider (SSP) to reduce GHG emissions through several energy efficiency projects.³⁸ These include reviewing waste reduction programs as well as upgrading to more efficient electric heating and cooling systems and light-emitting diode (LED) lights.

The below examples are relevant extracts from departmental annual reports.

- Department of Energy, Environment and Climate Action: 'For the reporting period, the department has offset 50% of Scope 1 emissions associated with operational vehicles and gas use in buildings through the purchase of Australian Carbon Credit Units.'
- Department of Energy, Environment and Climate Action: 'A total of 14,748 tonnes CO₂-e have been offset over the 2022-23 reporting period. These emissions would have been in addition to the reported greenhouse gas emissions.'

37. GHG emissions are categorised into three scopes which correspond to the GHG indicators G1, G2 and G3. Indicator G1 reports on the total direct (Scope 1) GHG emissions. Indicator G2 reports on the total indirect electricity (Scope 2) GHG emissions. Indicator G3 reports on the total of other indirect (Scope 3) GHG emissions.

38. The Shared Service Provider (SSP) delivers accommodation services for Victorian Government leased and owned properties. The SSP operates through the Department of Government Services and is supported by their partner in service delivery, Jones Lang LaSalle.

Energy

This 'Energy' section provides an overview of the combined results for all the energy themes (i.e. 'Electricity', 'Stationary fuel use' and 'Transportation') that are individually discussed elsewhere in this Strategic Audit 2022-23 Report.

In 2022-23, Victorian Government departments used a total of 11.9 PJ of energy as part of their operations.³⁹ The results for each FRD 24 energy indicator are provided in Table 2.

Comparing this result with the most recently available energy usage data highlights the benefits of the expanded scope of reporting that came into effect in 2022-23 with the updated FRD 24. In 2020-21, the reported energy use for Victorian government departments, EPA Victoria and SV combined was 0.26 PJ (98% less than the value of 11.9 PJ reported in 2022-23). The reporting in 2020-21 was constrained to office-based energy usage and the passenger vehicle fleet. It is important to note that the large increase in energy usage reported here for 2022-23 is not a reflection of Victorian Government departments using more energy, rather it is due to an expanded scope of reporting that now accounts for all departmental operations rather than just office-based activities and passenger motor vehicles. Future strategic audits will be able to track energy trends using the more broadly-scoped and useful 2022-23 data as a baseline.

Table 2: Energy results for Tier 1 entities for 2022-23.

Indicator notation	Indicator name	Value	Unit
E1	Total energy usage from fuels	6,230,398,649	MJ
E2	Total energy usage from electricity	5,648,943,376	MJ
E3	Total energy usage	11,879,342,025	MJ
	Total energy usage (renewable sources)	10,768,225,734	MJ
	Total energy usage (non-renewable sources)	1,111,116,291	MJ
E4	Units of energy used normalised by full-time equivalent (FTE), headcount, floor area, or other entity or sector specific quantity	15,781 ⁴⁰	MJ / FTE

As Victoria pursues the legislated target of net-zero GHG emissions by 2045, significantly reducing GHG emissions from the energy sector will be critical. The collated information now available for Victorian Government departments as part of FRD 24 reporting can be used to track government performance and guide departmental decision-making. Useful data calculated for 2022-23 includes:

- Electricity consumption comprised 48% of the total energy used by Victorian Government departments. One third of this electricity (16% of the total energy usage by departments) was used to operate the metropolitan electric train and tram networks (Figure 3 and Figure 4).
- Natural gas makes up 38% of the total energy used by Victorian Government departments.
- Excluding electricity consumed to run public transport networks, 13% of the total energy was consumed in the transportation sector.
- Only 9.4% of the energy used by Victorian Government departments is renewably sourced (Figure 5).

39. One 1 petajoule (PJ) equates to 1,000,000,000 megajoules (MJ).

40. Of the nine departments reporting E4 values, seven reported an E4 value normalised by FTE and the other two departments (DH and DJCS) normalised energy usage by floor area. To calculate an E4 value for all departments combined, the results have been normalised by the most frequent normalisation method (i.e. total energy use normalised by FTE). This means that the 'total' departmental E4 value only incorporates results for DE, DEECA, DFFH, DJSIR, DPC, DTF and DTP. The energy use per FTE results for these seven departments have been weighted by total energy use. For example, after removing DH and DJCS from total energy usage, DTP accounts for 42% of energy usage. Therefore, DTP energy use per FTE value is weighted to contribute 42% towards the average energy use by FTE for all departments.

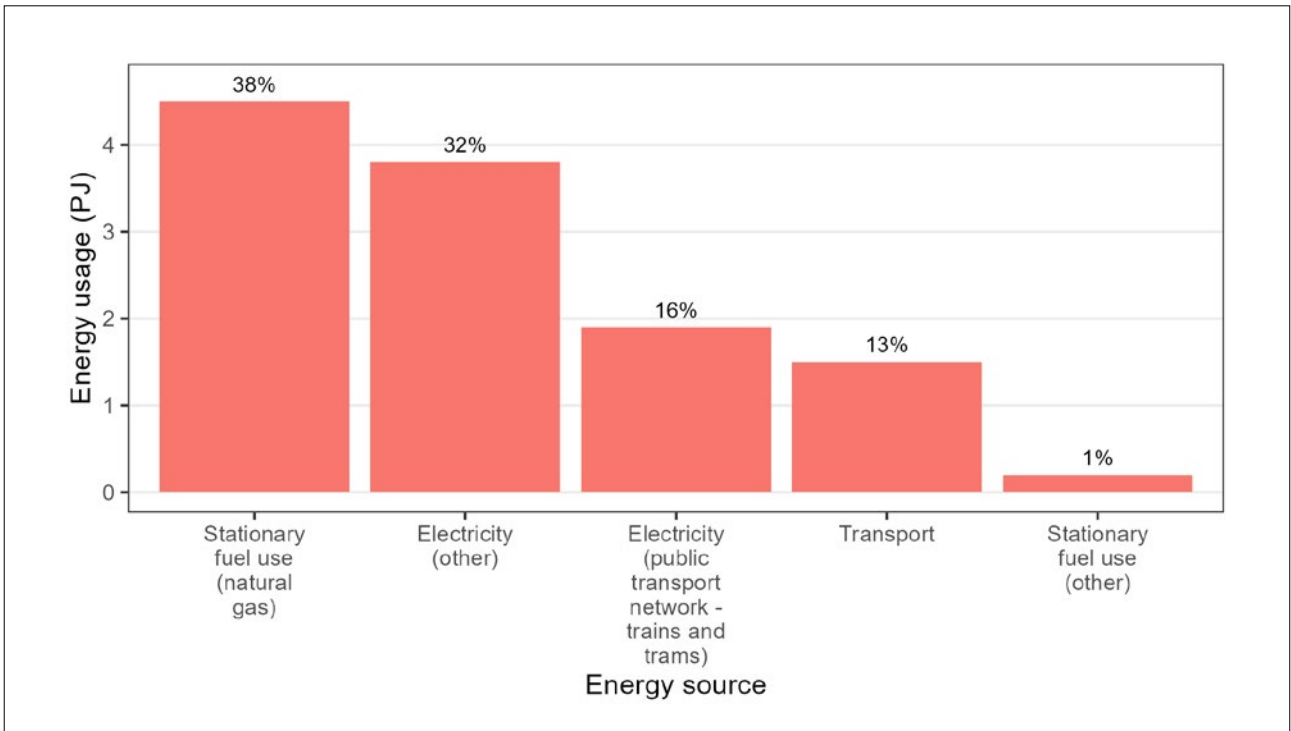


Figure 3: Energy usage by source for 2022-23.

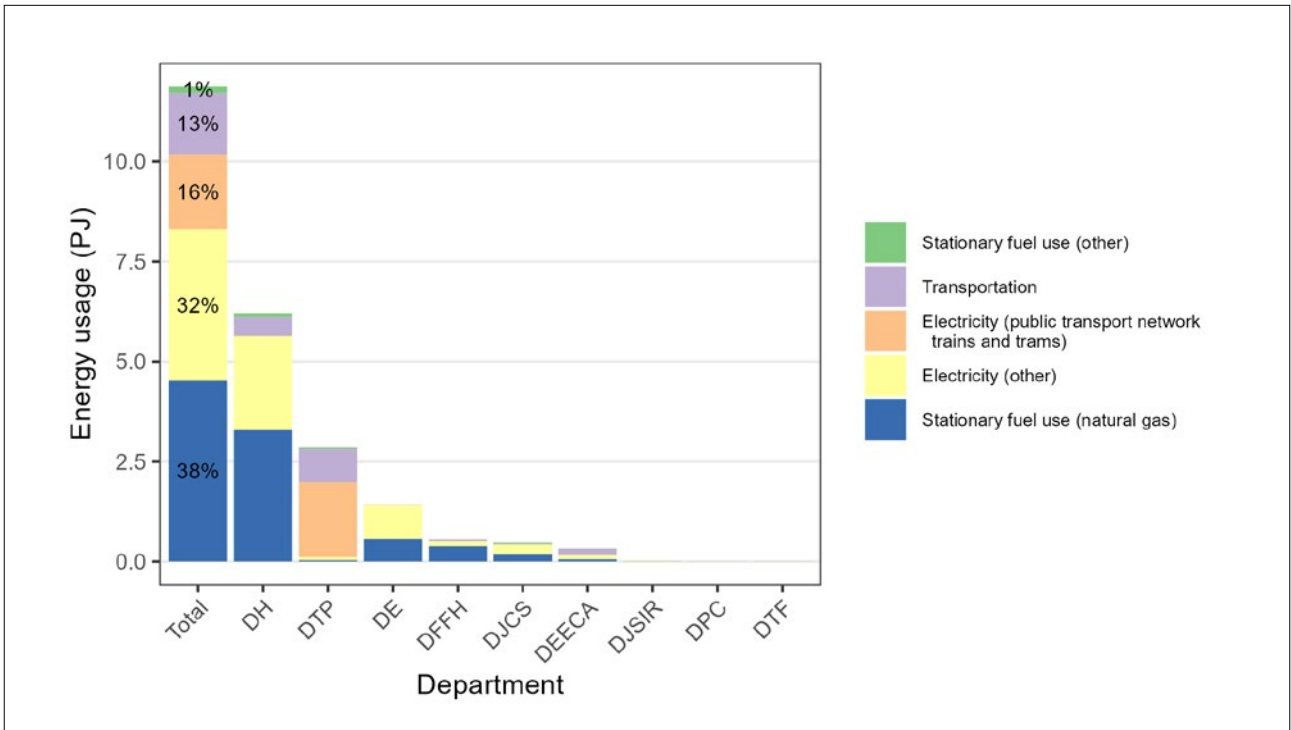


Figure 4: Energy usage by source and Victorian Government department for 2022-23.

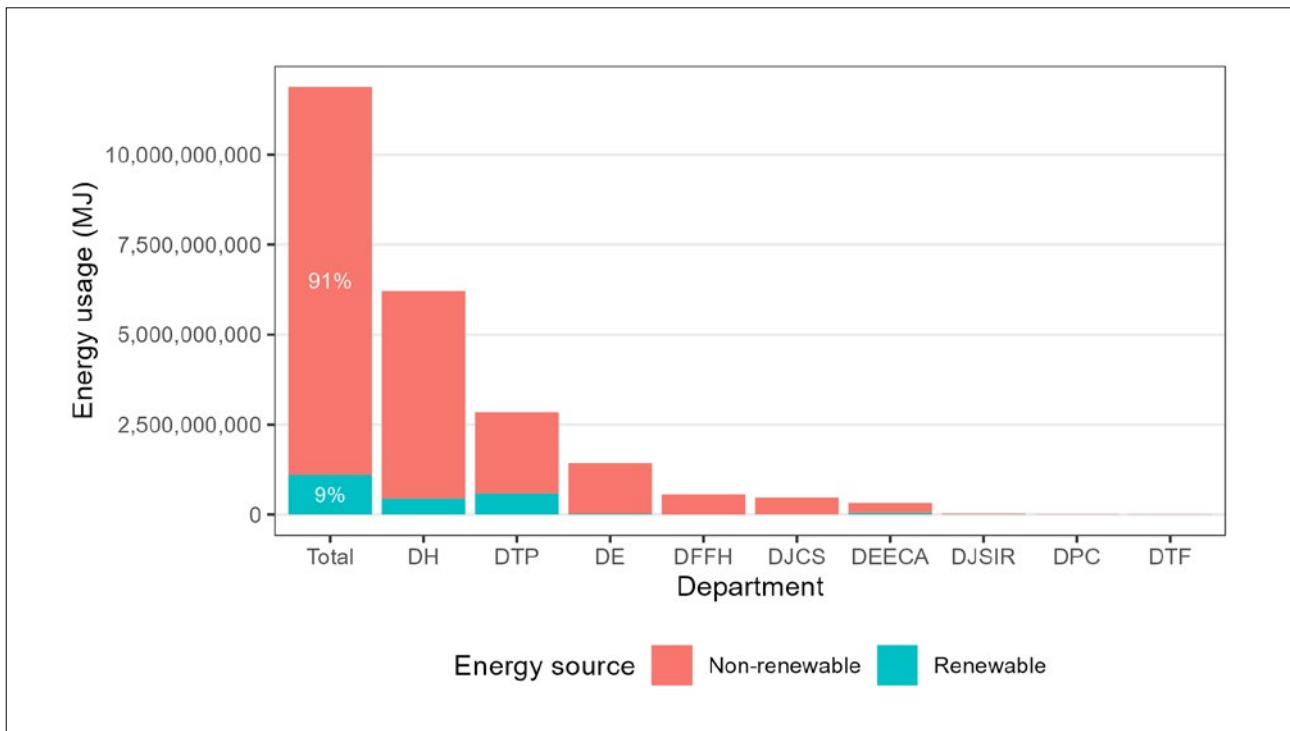


Figure 5: Renewable and non-renewable energy usage by Victorian Government department for 2022-23.

Examples of entity progress

The below examples are relevant extracts from departmental annual reports.

- Department of Health: 'The department continued implementation of the \$40 million energy efficiency and solar program. In 2022-23, the department:
 - supported energy audits at Dental Health Services Victoria and the Thomas Embling Hospital
 - allocated \$8.5 million to deliver 7,122 kilowatt-peak solar across 10 health services
 - allocated \$2.5 million to Ambulance Victoria for energy efficiency, solar and electrification works
 - commissioned energy audits across nine health services in the Barwon South West region.'
- Department of Education: 'The SSP is developing a list of proposed capital upgrades. The department has requested a list of proposed upgrades to evaluate potential energy efficiencies across the portfolio. All new government-schools and early childhood education facilities are constructed in accordance with ecologically sustainable development principles in the Building Quality Standards Handbook.'
- Department of Transport and Planning: 'In 2022-23 the Department and Kinetic utilised Greener Government Buildings funding to install solar photovoltaics systems at Sunshine West, Heatherton and Thomastown bus depots as part of the Metropolitan Bus Franchise. All Melbourne Bus Franchise depots now have solar photovoltaics systems installed, reducing energy costs and greenhouse gas emissions.'
- Department of Treasury and Finance: 'Prior to machinery of government changes which came into effect on 1 January 2023, DTF delivered the Greener Government Buildings program, funding \$93.8 million in energy efficiency and renewable energy projects. This program was moved to the Department of Transport and Planning.'

Electricity

Electricity generation is the largest source of GHG emissions in the energy sector.⁴¹ The Victorian Government's Energy sector pledge, made in 2021, recognised the importance of reducing GHG emissions from electricity as part of achieving Victoria's overall legislated target of net-zero GHG emissions by 2050. The Victorian Government has pledged to source 100% renewable electricity for all government operations from 2025.

Table 3: Electricity results for Tier 1 entities for 2022-23.

Indicator notation	Indicator name	Value	Unit
EL1	Total electricity consumption	1,567,286	MWh
EL2	On-site electricity generated	54,015	MWh
EL3	On-site installed generation capacity	4,114	MW
EL4	Total electricity offsets	299,376	MWh

For 2022-23, Victorian Government departments consumed 1,567,286 MWh of electricity (Table 3). Departments generated 54,015 MWh of electricity on-site, with most of the on-site electricity being consumed and a small amount being exported. Figure 6 highlights that on-site electricity generation by Victorian Government departments is only a small proportion of their total electricity consumption. The total electricity offsets were 299,376 MWh, which is 19% of the total electricity consumption.

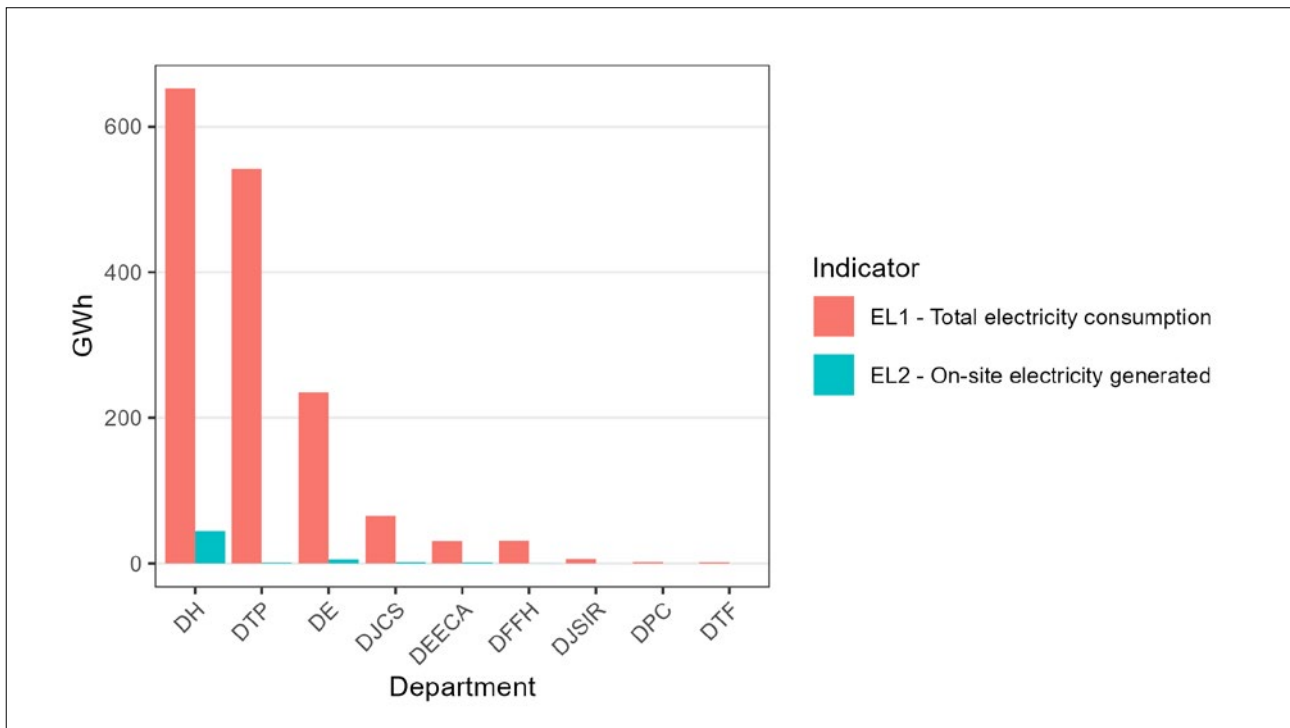


Figure 6: Total electricity consumption and on-site electricity generated by Victorian Government department for 2022-23.

41. Department of Environment, Land, Water and Planning 2021, 'Energy sector emissions reduction pledge', East Melbourne, Victoria, <https://www.climatechange.vic.gov.au/victorian-government-action-on-climate-change/Energy-Sector-Pledge-Accessible.pdf> Accessed 24 January 2023.

From the results published by departments in their annual reports in accordance with FRD 24, it is unclear what percentage of the electricity consumed by Victorian Governments departments is renewably sourced. The proportion of total energy usage (i.e. electricity consumption, stationary fuel use and energy used in transportation) that is renewably sourced is 9%.

Examples of entity progress

The below examples are relevant extracts from departmental annual reports.

- Department of Education: 'The Greener Government Schools Buildings program funded 232 schools to install solar panel systems. Once fully implemented, the total estimated capacity of 9.3 MW of solar power systems installed across the school portfolio is expected to generate on site over 12,700 MWh of electricity each year, reduce greenhouse gas emissions by more than 14,000 tonnes per year and save more than \$2.5 million on electricity bills for schools each year.'
- Department of Education: 'Ten new schools were designed to include large solar power systems. Five of these have solar capacity over 100 kW and the rest have up to 100 kW.'
- Department of Education: The department is coordinating with the Department of Energy, Environment and Climate Action, which is leading a project to transition all schools to renewable electricity contracts.'
- Department of Transport and Planning: 'In the 2022–23 financial year Keolis Downer Rail and the Department partnered under the Greener Government Buildings funding scheme to deliver sustainability improvements. The partnership has financed over \$1.5 million of energy saving and renewable energy initiatives across six of the seven Yarra Tram depots. Solar photovoltaics systems totalling 195 kW were installed and have been operating savings over 350 kWh and more than 300 tonnes CO₂-e.'
- Department of Transport and Planning: 'In 2022–23 Metro Trains Melbourne continued with lighting improvement works funded under the Greener Government Buildings scheme. Metro Trains Melbourne has replaced inefficient lighting with low energy alternatives at six train stations and on over 150 trains during 2022-23. This has saved more than 1 MW of energy and 400 tonnes CO₂ to date.'
- Department of Justice and Community Safety: 'The department's solar panels produced 1688 MWh of power, saving over 1705 tonnes of carbon dioxide equivalent. The department's solar power capacity increased by approximately 2447 kW through expansion works.'
- Department of Energy, Environment and Climate Action: 'The progress towards purchasing 100% Green Power at DEECA managed sites has also offset a proportion of electricity emissions over the reporting period. All remaining DEECA managed sites will progressively purchase 100% Green Power from July 2023 onwards. The remaining sites will come under the commitment of 100% renewable electricity for government operations by 2025.'
- Department of Energy, Environment and Climate Action: 'All DEECA new builds and significant rebuilds have LED lighting and solar installation as a standard requirement and are built to both 6-star NABERS ratings and Green Star principles.'
- Department of Energy, Environment and Climate Action: 'For the reporting period, an additional 71 kilowatts of solar PV have been installed at three sites and LED lighting upgrades undertaken at a further two sites.'
- Department of Jobs, Skills, Industry and Regions: 'In 2023–24 the department will investigate a switch to 100% Green Power in line with government commitments.'
- Department of Families, Fairness and Housing: 'The department continues to implement energy efficiency policies across its sites to reduce electricity use. These measures include: the progressive installation of LED lighting; switching to efficient electric appliances (e.g. minimum 7-star energy-efficient refrigerators when they are replaced); and adjustments to heating and cooling systems to optimise electricity savings.'

Stationary fuel use

Table 4 shows that the combined stationary fuel consumption for all departments over the reporting period was 4,690,662,223 MJ. Of this, 97% was from natural gas.

Table 4: Stationary fuel use results for Tier 1 entities for 2022–23.

Indicator notation	Indicator name	Value	Unit
F1	Total fuels used in buildings and machinery, segmented by fuel type	4,690,162,224	MJ
	Total fuels used in buildings and machinery (natural gas)	4,531,017,688	MJ
	Total fuels used in buildings and machinery (other than natural gas)	159,144,539	MJ
F2	GHG emissions from stationary fuel consumption segmented by fuel type	243,999	t CO ₂ -e

The Victorian Government released a Gas Substitution Roadmap in 2022 that details how the state can use energy efficiency, electrification, hydrogen and biogas to reduce emissions from gas over time. Even though the Gas Substitution Roadmap is a broad roadmap encompassing residential fuel combustion, as well as from the industrial and commercial sector, the roadmap is a useful lens through which to view Victorian Government natural gas usage. Natural gas consumption from Victorian Government operations should be trending downward.

With the updates to FRD 24 that came into effect in the 2022–23 reporting cycle, this is the first strategic audit report where natural gas consumption can be provided. Therefore, time-series data cannot be presented and analysed. However, a baseline result of 4,531,017,688 MJ of natural gas energy usage is reported and changes in usage will be tracked in future strategic audits.

In the context of total energy usage, including energy used in electricity and transport, natural gas makes up 38% of the total energy used by Victorian Government departments.

At an individual departmental scale, activities associated with DH's operations are responsible for 73% of the natural gas used by Victorian Government departments. The department that accounts for the next largest proportion of natural gas consumption is DE, with 13% (Figure 7). Most of DH's natural gas usage is associated with health services (e.g. hospitals), while DE's natural gas usage is mainly in schools.

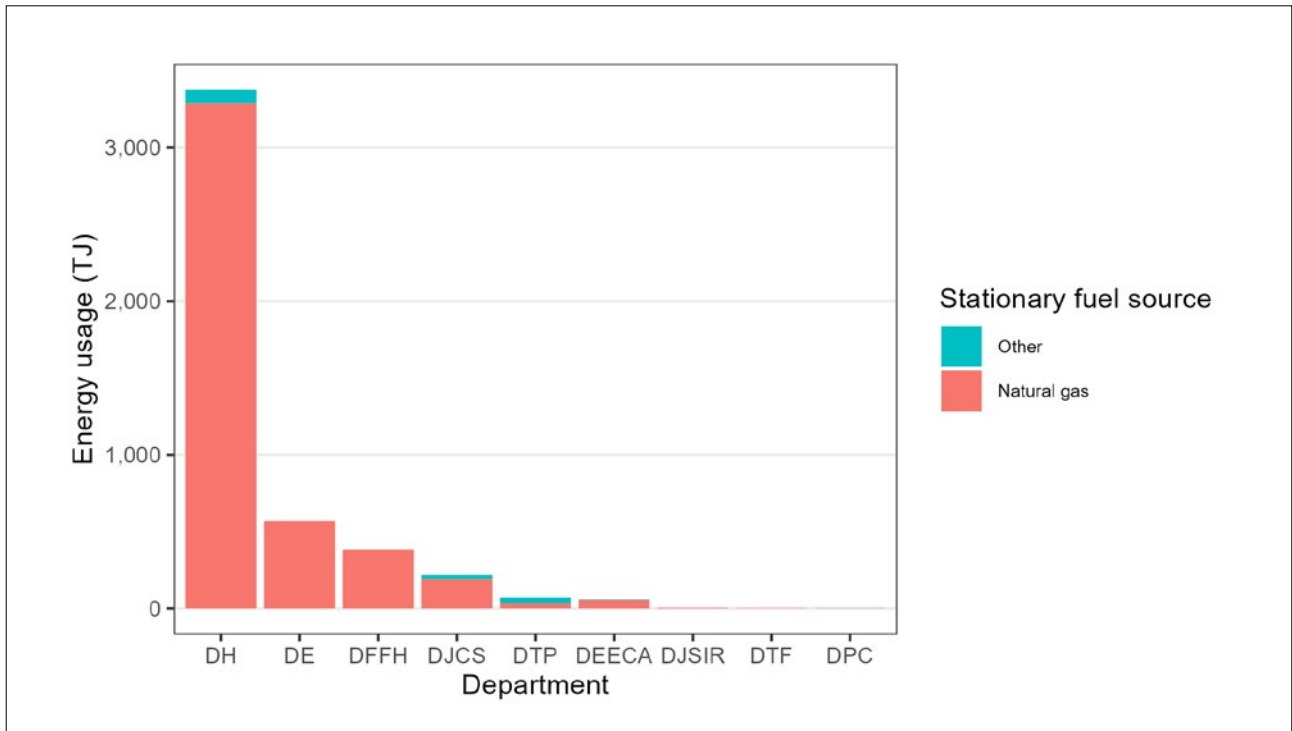


Figure 7: Stationary fuel use by Victorian Government department and source for 2022-23.

Examples of entity progress

The below examples are relevant extracts from departmental annual reports.

- Department of Health: 'On 30 June 2023, the department switched off two end-of-life 6-megawatt cogeneration systems located at Dandenong Hospital and St Vincent's Hospital Melbourne. Such actions are assisting the public health portfolio to transition away from natural gas by reducing the amount of gas used by hospitals for the generation of on-site electricity.'
- Department of Education: 'All new government-owned school and early childhood buildings are constructed without gas connections. Natural gas is provided only where required for teaching needs in laboratories or trade workshops.'
- Department of Energy, Environment and Climate Action: 'DEECA will continue to audit gas consumption across all sites and work to phase out consumption wherever practical, to support the Victorian Government Gas Substitution roadmap.'
- Department of Jobs, Skills, Industry and Regions: 'DJSIR will continue to work with the DGS SSP to audit gas consumption across all departmental worksites and work with facility management to phase out consumption wherever practical, to support the Victorian Government Gas Substitution roadmap.'

Transportation

Victoria's Climate Change Strategy was published in 2021. The strategy sets out the Victorian Government's existing action on climate change and what the next steps would be. To help coordinate this action, the government prepared emissions reduction pledges for each emissions sector for 2021 to 2025 – the first in a progression of five-yearly pledges required under the *Climate Change Act 2017*.

Transport is the second largest source of GHG emissions in Victoria.⁴² The transport sector pledge recognised the importance of reducing GHG emissions from transport as part of achieving Victoria's overall legislated target of net-zero GHG emissions by 2050.

Included with the transport sector pledge was a target that 400 ZEVs would be added to the Victorian Government fleet by December 2023. Indicator T2 in Table 5 shows that, as of 2022–23, there were only 81 ZEVs in the Victorian Government fleet. Therefore, significant progress will need to be made in 2023–24 to achieve this target.

It is important to note that the results presented in Table 5 include more than just the Victorian Government's passenger vehicle fleet, as was the case in the previous strategic audits. As part of the new FRD 24 that came into effect in 2022, transportation now also includes operational vehicles and operational aviation (e.g. aviation used as part of health services).

Table 5: Transportation results for Tier 1 entities for 2022–23.

Indicator notation	Indicator name	Value	Unit
T1	Total energy used in transportation within the entity segmented by fuel type and vehicle category	1,540,236,433	MJ
	Total energy used in transportation (diesel)	1,141,833,303	MJ
	Total energy used in transportation (aviation fuel)	206,089,070	MJ
	Total energy used in transportation (petrol)	169,764,694	MJ
	Total energy used in transportation (hybrid)	17,714,299	MJ
	Total energy used in transportation (other/unknown)	4,835,066	MJ
T2	Number and proportion of vehicles in the organisational boundary segmented by engine/fuel type and vehicle category	5,360	N/A
	Number and proportion of vehicles in the organisational boundary (diesel)	2,412	N/A
	Number and proportion of vehicles in the organisational boundary (hybrid)	1,781	N/A
	Number and proportion of vehicles in the organisational boundary (petrol)	1,085	N/A
	Number and proportion of vehicles in the organisational boundary (ZEV)	81	N/A
	Number and proportion of vehicles in the organisational boundary (LPG)	1	N/A

42. Department of Energy, Environment and Climate Action (DEECA) 2023, 'Victorian greenhouse gas emissions report 2021', East Melbourne, Victoria, https://www.climatechange.vic.gov.au/_data/assets/pdf_file/0036/687825/Victorian-Greenhouse-Gas-Emissions-Report-2021.pdf Accessed 5 January 2024.

Indicator notation	Indicator name	Value	Unit
T3	GHG emissions from vehicle fleet segmented by fuel type and vehicle category	102,759	t CO ₂ -e
	GHG emissions from vehicle fleet (diesel)	80,402	t CO ₂ -e
	GHG emissions from vehicle fleet (aviation fuel)	12,257	t CO ₂ -e
	GHG emissions from vehicle fleet (petrol)	11,471	t CO ₂ -e
	GHG emissions from vehicle fleet (other)	3,818	t CO ₂ -e
	GHG emissions from vehicle fleet (offsets)	-5,190	t CO ₂ -e
T4	Total distance travelled by commercial air travel	21,870,553	km (passenger)

As per the Guidance For FRD Reporting under FRD 24, electricity used to power wired public transportation, such as the metropolitan train and tram networks, should not be reported under the transportation indicators, but instead reported in the electricity indicators. This is significant, as the electrified metropolitan train and tram networks use more energy (1,872,192,456 MJ in 2022–23) than the complete Victorian Government departmental transportation energy reported in Indicator T1 (Table 5).

Nearly half (45%) of energy used in transportation by Victorian Government departments was attributed to diesel consumption by buses operated by DTP. The diesel buses also emitted 48% of the transportation GHGs from Victorian Government operations.

If electricity usage from trains and trams in the metropolitan public transport network was included with transport energy usage, diesel buses would account for 20% of transportation energy usage (Figure 8).

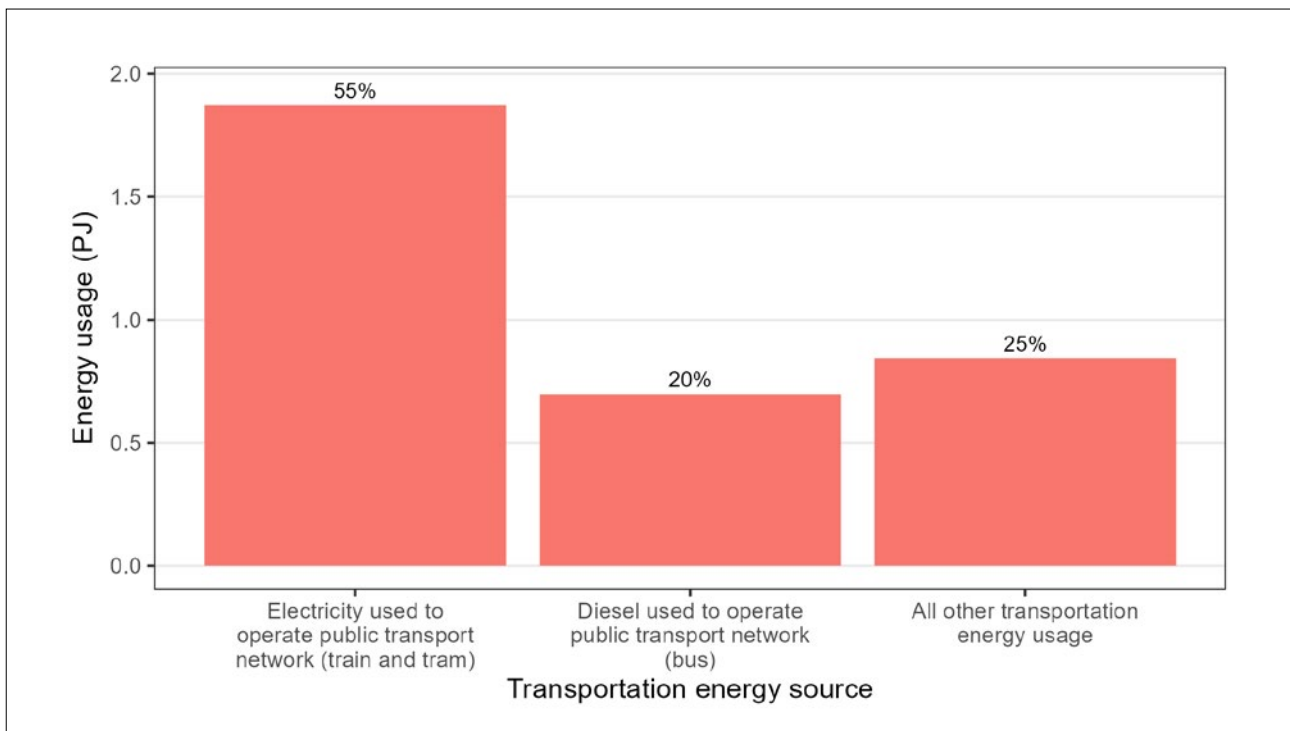


Figure 8: Energy usage from transportation energy sources as part of Victorian Government department operations for 2022–23.

The Victorian Government has recognised the importance of reducing GHG emissions from buses. The transport sector pledge included a commitment that 100% of bus purchases for use in the public transport network would be zero emission buses from 2025.

In 2023, DTP released the Zero Emission Bus Transition Consultation Paper, which sets out Victoria's proposed approach to transitioning Victoria's bus network of approximately 4,500 buses to zero emission from 2025. It is anticipated that the final Zero Emission Bus Transition Plan will be released in mid-2024, ahead of the policy commencement in mid-2025.

Examples of entity progress

The below examples are relevant extracts from departmental annual report.

- Department of Education: 'The department has plans to replace 21 vehicles with zero emission vehicles in 2023–24.'
- Department of Education: 'In 2022–23, the department had a net-zero carbon footprint for its corporate travel, including air travel, accommodation, and car rental by purchasing 480 tonnes of greenhouse gas emissions offsets.'
- Department of Transport and Planning: 'Melbourne's tram network is now 100% offset by renewable energy through the Solar Trams Initiative where the Victorian Government purchases and surrenders about 82,000 MWh in large-scale Generation Certificates each year from Bannerton Solar Park near Robinvale and Numurkah Solar Farm near Shepparton, matching the electricity consumption of Melbourne's entire tram network.'
- Department of Transport and Planning: 'Thirty-six zero emission buses will be in operation by the end of 2025 with 16 currently in operation. To support the battery electric buses' charging infrastructure, new solar arrays have been installed at Sunshine West and Heatherton.'
- Department of Justice and Community Safety: 'Examples of fleet reduction activities include vehicle charging infrastructure installation at Geelong and Shepparton offices; replacement of operational transport vehicles with electric versions; and ongoing implementation of the supplementary Motor Vehicle Policy mandating low-emission vehicles as a default unless exceptional operational requirements need to be considered.'
- Department of Energy, Environment and Climate Action: 'The progress towards offsetting all departmental air travel through the State Purchasing Contract (SPC) has seen the department offset a proportion of air travel emissions over the 2022–23 reporting period. DEECA offset all staff air travel through the SPC from April 2023.'
- Department of Energy, Environment and Climate Action: 'DEECA continues to support the policy of 'Zero Emissions Vehicle (ZEV) first' for the shared passenger vehicle fleet. The DEECA fleet will transition to ZEVs as current leases expire, with supporting charging infrastructure also installed to assist with this transition. There are now 365 vehicles in the shared passenger fleet which includes 38 ZEVs.'
- Department of Jobs, Skills, Industry and Regions: 'The department is planning to transition to 100% zero emissions vehicles for the passenger vehicle fleet in line with government commitments.'
- Department of Treasury and Finance: 'The increase in carpool trips also reflects fewer or shorter trips with diesel vehicles with a shift towards hybrid and petrol vehicles, which also had a positive effect on the greenhouse gas emissions.'

Waste and recycling

Table 6: Waste and recycling results for Tier 1 entities for 2022-23.

Indicator notation	Indicator name	Value	Unit
WR1	Total units of waste disposed of	32,395,108	kg
	Disposal (e.g. landfill)	8,571,695	kg
	Recycling/recovery	23,823,413	kg
WR2 ⁴³	Dedicated collection services provided in offices (as percentage of total office locations) for:		
	• e-waste	89%	%
	• printer cartridges	13%	%
	• batteries	36%	%
	• soft plastics	36%	%
WR3	Total units of waste disposed normalised by FTE, headcount, floor area, or other entity or sector specific quantity	10.51	kg / FTE
WR4	Recycling rate	74	%
WR5	GHG emissions associated with waste disposal	55,235	t CO ₂ -e

Since 2018-19, the CES has been able to include waste and recycling data in the strategic audit for the first time in 2022-23. Waste audits were severely disrupted by the COVID-19 pandemic during this period. In the Strategic Audit 2018-19 Report, the CES indicated that 'the reduction of waste disposed of by government entities is one of the best long-term environmental improvements made within government.'

With the changes to the scope of FRD 24 that came into effect in 2022-23, comparisons of the waste and recycling data for 2022-23 with the previous data are unsuitable.

The data presented here for 2022-23 provide a new baseline for the overall departmental waste and recycling results (Table 6). The results are more comprehensive and account for a broad range of departmental activities, rather than just the office-based activities that were previously in the audit scope.

Eighty-two percent of departmental waste was due to DTP activities (Figure 9). This is not surprising given that DTPs reporting includes the operation and maintenance of Victoria's transport network, but it does highlight that DTP will be a critical department for future reduction and disposal of waste.

43. Note that results for Indicator WR2 have been averaged across the number of departments, rather than across the number of sites at each department, because the number of sites for each department was not available.

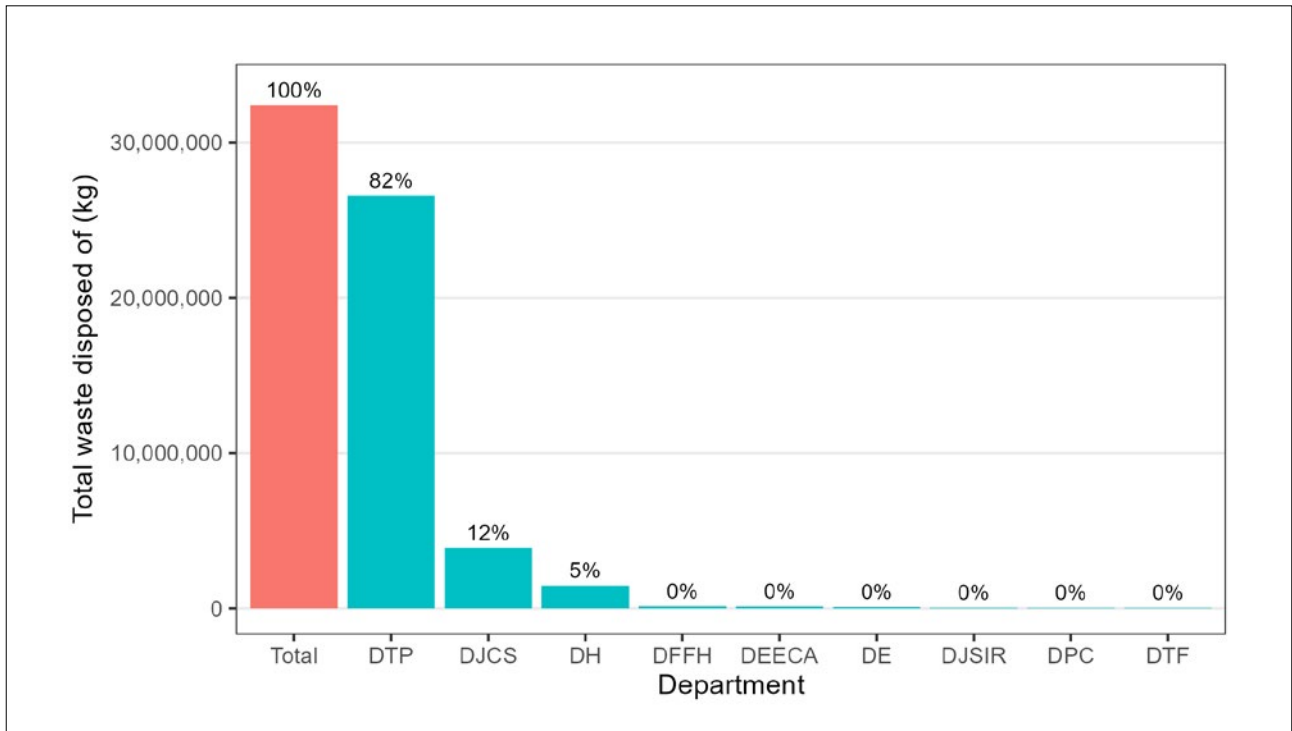


Figure 9: Total waste disposed of by Victorian Government department for 2022-23.⁴⁴

Given DTP was responsible for most departmental waste, it is positive to note that DTP had the highest rate of recycling and materials recovery, at 84% (Figure 10). The next best result was DJSIR, with 62%.

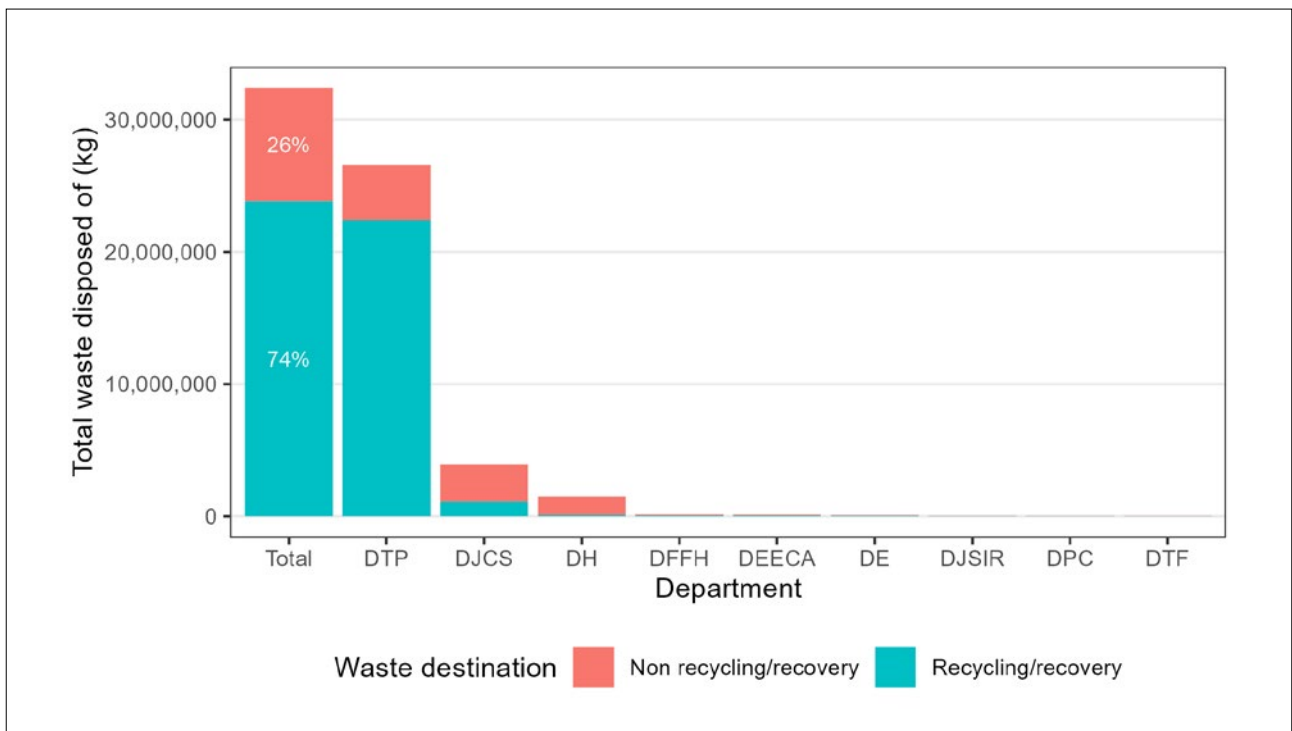


Figure 10: Total waste disposed of by Victorian Government department and waste destination for 2022-23.⁴⁵

44. The percentage labels in the graph are the percentage of total departmental waste for each department. For example, DTP was responsible for 82% of departmental waste.

45. The percentage labels in the graph are the percentage of total departmental waste that was recycled/recovered (in the blue column) and not recycled or recovered (in the red column).

For all departments, except DH, there were between 0.25 and 1.14 kg CO₂-e emitted for every kilogram of waste generated. However, for DH this value was 29.66 kg CO₂-e for every kilogram of waste (Figure 11). The primary reason for this is that DH's recycling and recovery rate was only 7%, which was significantly lower than every other department. Lower rates of recycling and recovery are associated with more GHG emissions. Most of DH's reported waste came from cemeteries, with cemeteries accounting for 88% of DH's total waste and 4% of waste for all departments. In DH's 2022–23 Annual Report, it was noted that 'As FRD 24 is a new requirement for Class A cemeteries, limited data are available for this reporting period. The department will work with Class A cemeteries to improve future reporting.' Given the significance of cemeteries with respect to total waste and GHG emissions from waste, it is essential that DH gives greater focus and rigour to the waste data for cemeteries in its 2023–24 annual report.

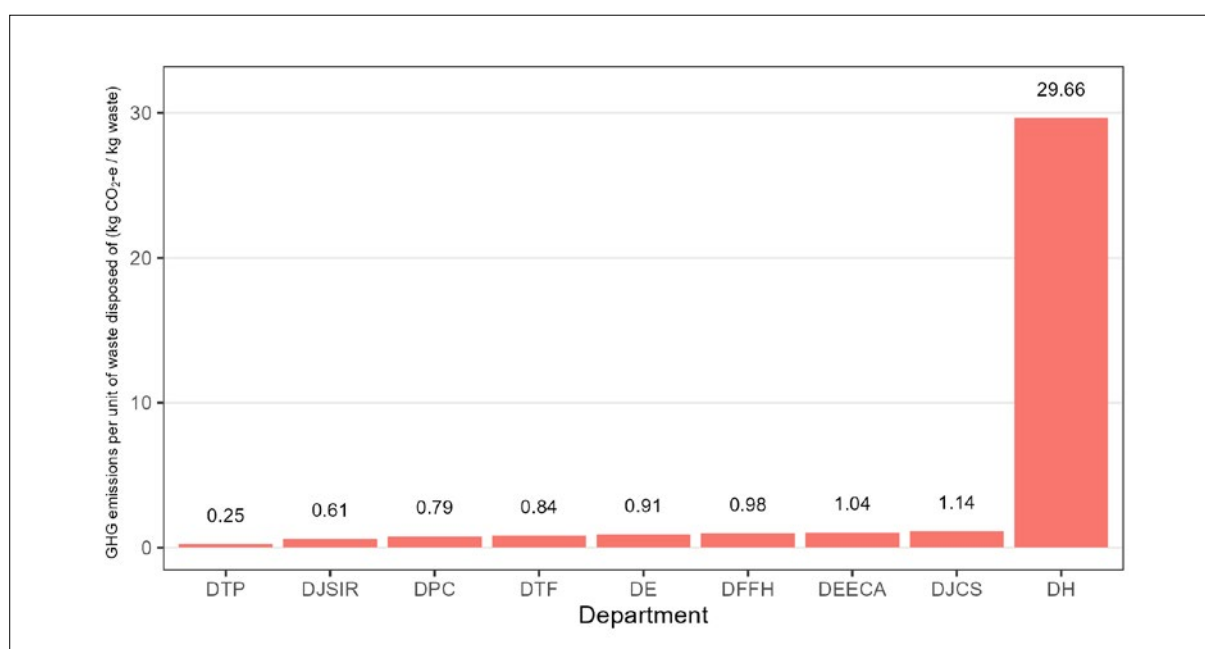


Figure 11: Greenhouse gas emissions per kilogram of waste disposed of by Victorian Government department for 2022–23.

Examples of entity progress

In accordance with the Victorian Government's circular economy policy, Recycling Victoria – A New Economy, departments must ensure that certain single-use plastics are not supplied with procured food and drinks. There was widespread acknowledgement of this in departmental annual reports, with most entities confirming they had phased out the use of specific single-use plastics at all sites and for all operations.

The below examples are relevant extracts that relate to waste and recycling from departmental annual reports.

- Department of Justice and Community Safety: 'Examples of waste reduction and diversion activities include: increasing the number of composting sites at correctional facilities; diverting over 951.2 tonnes of prison industries waste, 87.7 tonnes of paper and cardboard, 36.6 tonnes of e-waste and 35.8 tonnes of commingled waste from landfill; revamp of its batteries collection for offices with larger tenancy, with a trial at 121 Exhibition St (largest tenancy) and two other CBD offices; use of responsible buildings materials with relevant certifications and recycled content across the department's capital works program as per the Environmentally Sustainable Design guidelines.'
- Department of Energy, Environment and Climate Action: 'Excess office furniture and fit-out materials are reused and recycled, reducing waste generated by office moves across all sites.'
- Department of Jobs, Skills, Industry and Regions: 'The department also collects an additional 3,900 kg of metal, plastics, batteries, mobile phones, stationery, IT equipment, printer and toner recycling through the Green Collect recycling scheme. Excess office furniture and fit-out materials are reused and recycled, reducing waste generated by office moves across all sites.'

Water

With the changes to the scope of FRD 24 that came into effect in 2022–23, comparisons of the water consumption data for 2022–23 with values presented in previous strategic audit reports published by the CES are unsuitable.

The data presented here for 2022–23 provide a new baseline for overall departmental water consumption (Table 7). The results are more comprehensive and account for a broader range of departmental activities, rather than just the office-based activities that were in scope previously.

Almost all (98%) departmental water consumption was from the activities of DH (71% of all water consumed by departments), DFFH (19%) and DTP (8%).

Table 7: Water consumption results for Tier 1 entities for 2022–23.

Indicator notation	Indicator name	Value	Unit
W1	Total units of metered water consumed by water source	6,981,423	kL
W2	Units of metered water consumed normalised by FTE, headcount, floor area, or other entity or sector specific quantity ⁴⁶	6.46	kL / FTE

For DH, most water is consumed within health services (e.g. hospitals), while for DFFH most of the water consumption is attributed to potable water consumption from housing services. The relatively high DTP water consumption compared to most other departments is due to the inclusion of transport network assets within the scope of the new FRD 24.

Future strategic audits will track the trend of water consumption by departments.

Examples of entity progress

The below examples are relevant extracts from departmental annual reports.

- Department of Transport and Planning: 'Two water refill stations were installed at Southern Cross Station providing free drinking water. The Department, Civic Nexus and Great Western Water teamed up to provide and install the units in early May as part of the Be Smart Choose Tap campaign. The tap water refill stations help reduce single use plastic waste and keep people hydrated and healthy on the increasing number of hot days we will experience due to climate change.'
- Department of Justice and Community Safety: 'The department's water reduction projects include installation of multiple stormwater and rainwater harvesting systems across capital works projects to allow for irrigation and toilet flushing activities; continued use of rainwater tanks to reduce demand on potable water; greywater recycling at Shepparton Justice Service Centre; and requiring water efficiencies for new builds as per the department's Environmentally Sustainable Design guidelines.'
- Department of Energy, Environment and Climate Action: 'Water storage tanks continue to be installed at sites to support both firefighting operations and a reduced demand for mains water.'

⁴⁶. Because most Tier 1 entities normalised their units of metered water consumed by FTE, the results for these entities have been combined to represent a Tier 1 value. Two entities normalised the results by floor area and the results for these departments have not been included in the value.

Sustainable buildings and infrastructure

The Victorian Government published Office Accommodation Guidelines in 2007. These guidelines set accommodation principles, benchmarks, and leasing guidelines.

In October 2021, an interim addendum to the 2007 Office Accommodation Guidelines was released. This addendum was designed to complement the 2007 guidance document with updated sustainability goals and objectives.

The SSP delivers accommodation services for properties leased and owned by the Victorian Government. The SSP operates through the Department of Government Services and is supported by their partner in service delivery, Jones Lang LaSalle.

Leases negotiated on behalf of government departments are done so within a framework that incorporates a Green Lease Schedule into the Standard Government Lease. The Green Lease Schedule outlines obligations for both the landlord and tenant to maintain the property and/or premises to a minimum NABERS rating for energy, water, waste and/or indoor environment.

All new builds and significant rebuilds will have LED lighting and solar installation as a standard requirement and will be built to both 6-star NABERS ratings and Green Star principles.

As part of FRD 24 Indicator B5, departments have reported environmental performance ratings achieved for entity-owned assets. In total, the departments reported that there were 157 buildings with NABERS energy ratings and 136 buildings with NABERS water ratings. Of these buildings, there were only 25 office sites with NABERS energy ratings and five office sites with NABERS water ratings. The other sites were all public hospitals.

Of the office sites, 21 out of 25 (84%) had energy ratings of 5 stars or better. The four office sites with lower than 5-star energy ratings were two DEECA offices (150 Lonsdale St Melbourne and 171–173 Nicholson Street Orbst), one DE office (41 St Andrews Place East Melbourne) and one DPC office (35 Collins St Melbourne). All five office sites with water ratings were rated as 5.5 stars or better.

The Victorian Health Building Authority maintains the Guidelines for Sustainability in Health Care Capital Works. These guidelines:

- set minimum design targets for the department's healthcare capital works
- require a suite of standard practice items
- mandate all-electric plant for some types of facilities
- allocate a dedicated budget to invest in sustainability and climate adaptation measures.

Eighty-one percent of public hospitals (107 out of 132) had NABERS energy ratings of 4 stars or lower, while 71% (93 out of 131) had NABERS water ratings of 4 stars or lower. These results highlight that there are opportunities to improve the energy and water efficiency of Victorian public hospitals.

Examples of entity progress

The below examples are relevant extracts from departmental annual reports.

- Department of Transport and Planning: 'Since its establishment in 2009, Greener Government Buildings has facilitated \$300 million in energy efficiency and renewable energy projects across 50 projects. Combined, these projects are estimated to achieve annual savings of \$47 million, abate over 200,000 tonnes of GHGs per year and avoid over \$90 million in capital costs. In 2022-23, Greener Government Buildings made a significant impact by supporting seven energy efficiency and renewable energy projects. The program played a vital role in various stages of these projects, including providing technical advice, securing funding and project facilitation. Combined, these projects are estimated to save the government \$5 million in annual utility and operational expenses and reduce GHG emissions by 15,000 tonnes. Over the next five years, savings from these projects will be returned to the program to enable Greener Government Buildings to fund further projects.'

-
- Department of Health: 'During 2022–23, the department completed technical sustainability reviews of 31 projects to ensure consistent application of the guidelines. Projects reviewed include the New Melton Hospital, the youth prevention and rehabilitation centre program, the Thomas Embling Hospital, Frankston Hospital redevelopment, the New Footscray Hospital, and the public sector residential aged care program. A key focus of the technical sustainability reviews in 2022–23 was electrification of assets, air tightness of the building façade, future proofing for electric vehicles and increasing the recycled content of construction materials.'

Sustainable procurement

Currently, sustainable procurement is not meaningfully quantified and analysed as part of FRD 24 reporting because departments are only required to provide qualitative information.

FRD 24 requires all departments to 'disclose aspects of sustainable procurement' in their annual reports.

In addition to this, FRD 24 provides two 'optional' sustainable procurement indicators:

- One indicator is for departments to discuss how their procurement and investment activities are environmentally responsible and/or consistent with the Environmental Impact in Procurement – Goods and Services Procurement Guide and the Sustainable Investment Guidelines. This was generally covered by entities as part of their qualitative descriptions of their approach and achievements with sustainable procurement.
- The other indicator is for departments to report, where data are available, the percentage and description of goods contracts that use recycled content, remanufactured/refurbished material content, and repurposed or reused materials. This data would add considerable accountability to sustainable procurement reporting and lead to meaningful analysis. However, it is an optional indicator, and no departments included it in their annual reports.

All departments included a section focused on sustainable procurement in their 2022–23 annual reports. Generally, departments highlighted that environmental considerations were being integrated into all tender specifications. For example, DTP noted in its 2022–23 annual report: 'Since March 2020, all tenderers on Victorian major transport projects have had to demonstrate within their bid how they will optimise the use of recycled and reused materials.'

Departments also have sustainable procurement obligations as part of the Victorian Government's Social Procurement Framework. The framework establishes requirements that apply to Victorian Government departments and agencies when they procure goods, services and construction. The framework also requires departments to report on their social procurement activities in their annual reports. One of the measures required for reporting is for departments to provide an aggregated output of the proportion of suppliers with environmentally sustainable practices. This measure was not reported in departmental annual reports during 2022–23.

Examples of entity progress

DTF has had responsibility for whole-of-government sustainable procurement activities. For example, in 2022, DTF managed two electricity SPCs that included renewable energy options for government buyers. Between 2021–22 and 2022–23, the uptake of green power increased by 67%.

The DTF has also been implementing the transition of the government vehicle fleet to help achieve net-zero emissions. Four hundred vehicles in the government fleet are being transitioned to ZEVs. This work includes the procurement of associated electric vehicle charging infrastructure, with 394 charging stations now operational.

Environmental management system audits

FRD 24 requires that, within their annual reports, Tier 1 entities (i.e. Victorian government departments) must disclose a description of the entity's EMS, how it conforms with AS/NZS ISO 14001:2016: Environmental Management Systems, and when it was last audited.^{47, 48}

This is a change from the previous FRD 24 reporting model (i.e. FRD 24D) that required each entity's EMS to be audited every two years by an environmental auditor appointed under the *Environment Protection Act 1970*, with the reports provided to the CES.⁴⁹

Table 8 summarises the critical EMS information reported by Tier 1 entities in their annual reports or provided to the CES upon request.

Of the 10 departments, six were using an up-to-date EMS in 2022–23. Of the four departments that were not (DGS, DJSIR, DPC and DTP), all are in the process of developing a new EMS. A range of machinery-of-government changes was the primary reason most of these departments were not using current EMSs in 2022–23 – DGS is a new department, while DJSIR and DTP have updated portfolios.

It is important to note that all 10 departments are developing a new EMS, have recently had their EMS audited (since 2020) or are planning to have their EMS audited in 2023–24. This represents a significant improvement from the preceding 5 to 10 years, when some departments were not using an EMS or not regularly having them audited.

Table 8: Tier 1 entity environmental management systems.

Department	Was an EMS used in 2022–23?	When was the last EMS audit completed?	When is the next EMS audit scheduled?	Comments made in department's 2022–23 annual report
DE	Yes	2023	Nothing scheduled as an audit was completed in 2023	'The EMS was last audited in 2013. An external independent audit is currently in progress and was completed in September 2023.'
DEECA	Yes	2021	Commenced September 2023	'The former DELWP EMS was last audited in 2021 and the first audit of the DEECA EMS is scheduled to occur in September 2023.'
DFFH	Yes	2020	2023–24	'The EMS was last audited in 2020 under the former Department of Health and Human Services. The EMS is scheduled to be audited in the 2023–24 financial year.'
DGS	No	The EMS needs to be developed first	The EMS needs to be developed first	'DGS acknowledges the importance of establishing a robust environmental management system (EMS) as a guiding framework for its environmental efforts. DGS is in the process of planning and developing an EMS designed to align with the AS/NZS ISO 14001:2016 standard.'

47. Department of Treasury and Finance (DTF) 2022, 'FRD 24 reporting of environmental data by government entities (June 2022)', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/document/FRD%2024%20Reporting%20of%20Environmental%20data%20by%20government%20entities.DOCX> Accessed 26 September 2023.

48. AS/NZS ISO 14001:2016: Environmental management systems – the international standard that specifies requirements for an effective EMS. It provides a framework that an organisation can follow, rather than establishing environmental performance requirements.

49. Department of Treasury and Finance (DTF) 2018, 'FRD 24D reporting of office-based environmental data by government entities (May 2018)', Melbourne, Victoria, <https://www.dtf.vic.gov.au/sites/default/files/2018-05/FRD%2024D%20Reporting%20of%20office-based%20environmental%20data%20by%20government%20entities.DOCX> Accessed 26 September 2023.

Department	Was an EMS used in 2022-23?	When was the last EMS audit completed?	When is the next EMS audit scheduled?	Comments made in department's 2022-23 annual report
DH	Yes	2020	Unknown	'The department has in place an environmental management system (EMS) developed by the then Department of Health and Human Services. The EMS was last independently audited in 2020. The department will continue to maintain and update the EMS in order to improve environmental performance.'
DJCS	Yes	2022	Unknown	'In 2022, an audit reported the department demonstrates good environmental performance and maintains an acceptable environmental management system.'
DJSIR	No ^a	The new EMS needs to be developed first	2023-24	'The first audit of the DJSIR EMS will take place during the 2023-24 reporting cycle.'
DPC	No	The EMS needs to be developed first	The EMS needs to be developed first	'DPC understands that maturing in this space is an ongoing process and will require collaborative efforts and consistent dedication. Through targeted initiatives and the integration of sustainable practices into its operations, DPC aims to develop a mature and impactful environmental management system that aligns with the ISO standard, fostering a greener and more sustainable future.'
DTF	Yes	Unknown	Unknown	'The office-based EMS controls all operational activities within DTF's offices and aims to minimise the generation of waste and the use of energy, water, paper, travel, vehicle fleet and greenhouse gas emissions during operation.'
DTP	No ^b	The new EMS needs to be developed first	The new EMS will be developed before audits are scheduled	'A new EMS is currently under development, which will bring together environmental aspects across the transport (including road and rail), planning and land and property portfolios. Implementation across the department is anticipated to commence in 2024.'

^a A draft EMS is in development to reflect significant machinery-of-government changes to the department. The draft EMS is expected to be completed in the first half of 2024.

^b Due to previous machinery-of-government changes, individual EMSs were in use during 2022-23 for various divisions within DTP. A new departmental-wide EMS is being developed.

Appendix A - Summary of Tier 1 (Victorian Government departments) results for FRD 24 indicators

Table 9: Summary of Tier 1 entity results for FRD 24 indicators.

Theme	Indicator notation	Indicator name	Value	Unit
Greenhouse gas emissions	G1	Total Scope 1 (direct) GHG emissions	353,872	t CO ₂ -e
	G2	Total Scope 2 (indirect electricity) GHG emissions	1,043,953	t CO ₂ -e
	G3	Total Scope 3 (other indirect) GHG emissions	210,089	t CO ₂ -e
	N/A	Total reported net GHG emissions	1,607,914	t CO ₂ -e
	N/A	Total GHG emission offsets purchased ^a	82,627	t CO ₂ -e
Energy	E1	Total energy usage from fuels	6,230,398,649	MJ
	E2	Total energy usage from electricity	5,648,943,376	MJ
	E3	Total energy usage	11,879,342,025	MJ
		Total energy usage (renewable sources)	10,768,225,734	MJ
		Total energy usage (non-renewable sources)	1,111,116,291	MJ
	E4	Units of energy used normalised by full-time equivalent (FTE), headcount, floor area, or other entity or sector specific quantity	15,781 ^b	MJ / FTE
Electricity	EL1	Total electricity consumption	1,567,286	MWh
	EL2	On-site electricity generated	54,015	MWh
	EL3	On-site installed generation capacity	4,114	MW
	EL4	Total electricity offsets	299,376	MWh

^a The offsets have been incorporated in the values for indicators G1, G2 and G3.

^b Of the nine departments reporting E4 values, seven reported an E4 value normalised by FTE and the other two departments (DH and DJCS) normalised energy usage by floor area. To calculate an E4 value for all departments combined, the results have been normalised by the most frequent normalisation method (i.e. total energy use normalised by FTE). This means that the 'total' departmental E4 value only incorporates results for DE, DEECA, DFFH, DJSIR, DPC, DTF and DTP. The energy use per FTE results for these seven departments have been weighted by total energy use. For example, after removing DH and DJCS from total energy usage, DTP accounts for 42% of energy usage. Therefore, DTP energy use per FTE value is weighted to contribute 42% towards the average energy use by FTE for all departments.

Theme	Indicator notation	Indicator name	Value	Unit
Stationary fuel use	F1	Total fuels used in buildings and machinery, segmented by fuel type	4,690,162,224	MJ
		Total fuels used in buildings and machinery (natural gas)	4,531,017,688	MJ
		Total fuels used in buildings and machinery (other than natural gas)	159,144,539	MJ
	F2	GHG emissions from stationary fuel consumption segmented by fuel type	243,999	t CO ₂ -e
Transportation	T1	Total energy used in transportation within the entity segmented by fuel type and vehicle category	1,540,236,433	MJ
		Total energy used in transportation (diesel)	1,141,833,303	MJ
		Total energy used in transportation (aviation fuel)	206,089,070	MJ
		Total energy used in transportation (petrol)	169,764,694	MJ
		Total energy used in transportation (hybrid)	17,714,299	MJ
		Total energy used in transportation (other/unknown)	4,835,066	MJ
	T2	Number and proportion of vehicles in the organisational boundary segmented by engine/fuel type and vehicle category	5,360	N/A
		Number and proportion of vehicles in the organisational boundary (diesel)	2,412	N/A
		Number and proportion of vehicles in the organisational boundary (hybrid)	1,781	N/A
		Number and proportion of vehicles in the organisational boundary (petrol)	1,085	N/A
		Number and proportion of vehicles in the organisational boundary (ZEV)	81	N/A
		Number and proportion of vehicles in the organisational boundary (LPG)	1	N/A
	T3	GHG emissions from vehicle fleet segmented by fuel type and vehicle category	102,759	t CO ₂ -e
		GHG emissions from vehicle fleet (diesel)	80,402	t CO ₂ -e
		GHG emissions from vehicle fleet (aviation fuel)	12,257	t CO ₂ -e
		GHG emissions from vehicle fleet (petrol)	11,471	t CO ₂ -e
		GHG emissions from vehicle fleet (other)	3,818	t CO ₂ -e
		GHG emissions from vehicle fleet (offsets)	-5,190	t CO ₂ -e
	T4	Total distance travelled by commercial air travel	21,870,553	km (passenger)

Theme	Indicator notation	Indicator name	Value	Unit	
Waste and recycling	WR1	Total units of waste disposed of	32,395,108	kg	
		Disposal (e.g. landfill)	8,571,695	kg	
		Recycling/recovery	23,823,413	kg	
	WR2 ^c	Dedicated collection services provided in offices (as percentage of total office locations) for:			
		• e-waste		89%	%
		• printer cartridges		13%	%
		• batteries		36%	%
	• soft plastics		36%	%	
WR3	Total units of waste disposed normalised by FTE, headcount, floor area, or other entity or sector specific quantity	10.51	kg / FTE		
WR4	Recycling rate	74	%		
WR5	GHG emissions associated with waste disposal	55,235	t CO ₂ -e		
Water	W1	Total units of metered water consumed by water source	6,981,423	kL	
	W2	Units of metered water consumed normalised by FTE, headcount, floor area, or other entity or sector specific quantity ^d	6.46	kL / FTE	

^c Note that results for Indicator WR2 have been averaged across the number of departments, rather than across the number of sites at each department, because the number of sites for each department was not available.

^d Because most Tier 1 entities normalised their units of metered water consumed by FTE, the results for these entities have been combined to represent a Tier 1 value. Two entities normalised the results by floor area and the results for these departments have not been included in the value.

Appendix B - Application of reporting tiers to public entities under FRD 24

Public entities have been classified into reporting 'tiers' for FRD 24. This recognises the substantial variation in the size, environmental impact and capability of public entities to report on environmental data. These tiers are defined in Appendix 1 of FRD 24, with each tier subject to different disclosure requirements that are listed in Appendix 2 of FRD 24.⁵⁰

The table below sets out which public entities are classified under each of the tiers 1-4.

Table 10: Public entity reporting tier classification for FRD 24.

Tier	Title	Entities
1	Departments and Administrative Offices	Department of Premier and Cabinet Department of Education and Training Department of Energy, Environment and Climate Action Department of Families, Fairness and Housing Department of Health Department of Jobs, Skills, Industry and Regions Department of Justice and Community Safety Department of Transport and Planning Department of Treasury and Finance
2	Individually material entities	Director of Housing (Homes Victoria) Environmental Protection Authority Head, Transport for Victoria Sustainability Victoria V/Line Corporation VicRoads (Roads Corporation) Victoria Police Metropolitan Health Services: Alfred Health Austin Health Eastern Health Melbourne Health Monash Health Northern Health Peninsula Health Peter MacCallum Cancer Centre Royal Children's Hospital Royal Victorian Eye and Ear Hospital Royal Women's Hospital Western Health Metropolitan Water Corporations: Greater Western Water Melbourne Water Corporation South East Water Corporation Yarra Valley Water Corporation

50. Because most Tier 1 entities normalised their units of metered water consumed by FTE, the results for these entities have been combined to represent a Tier 1 value. Two entities normalised the results by floor area and the results for these departments have not been included in the value.

3a	Collectively material entities (part A)	Other public health services and hospitals, including Ambulance Victoria and Regional, Sub-Regional, Local, Small Rural, Multi Purpose and Statewide health services Category A Cemetery Trusts TAFEs
3b	Collectively material entities (part B)	Country Fire Authority (and brigades) Court Services Victoria Development Victoria Emergency Services Telecommunications Authority Fire Rescue Victoria HealthShare Victoria (Health Purchasing Victoria) Kardinia Park Stadium Trust Melbourne Arts Precinct Corporation Melbourne and Olympic Parks Trust Melbourne Convention and Exhibition Trust Melbourne Cricket Ground Trust Melbourne Market Authority Museums Victoria (Museum Board of Victoria) National Gallery of Victoria (Council of trustees) Parks Victoria Regional water corporations State Library of Victoria (Library Board of Victoria) State Sport Centres Trust Suburban Rail Loop Authority VicForests Victoria Legal Aid Victoria State Emergency Service (and units) Victorian Arts Centre Trust Victorian Institute of Forensic Medicine Victorian Ports Corporation Victorian Rail Track Corporation (VicTrack) Victorian WorkCover Authority (WorkSafe) Zoological Parks and Gardens Board (Zoos Victoria)
3s	Consolidated schools reporting	All public schools (to be consolidated into the organisational boundary of the Department of Education and Training)
4	All other entities required to comply with the Standing Directions 2018 issued under Section 8 of the <i>Financial Management Act 1994</i>	All other entities

Abbreviations

CES	Commissioner for Environmental Sustainability
CES Act	<i>Commissioner for Environmental Sustainability Act 2003</i>
DE.....	Victorian Department of Education
DEECA	Victorian Department of Energy, Environment and Climate Action
DELWP.....	Department of Environment, Land, Water and Planning
DFFH.....	Victorian Department of Families, Fairness and Housing
DGS.....	Victorian Department of Government Services
DH	Victorian Department of Health
DJCS.....	Victorian Department of Justice and Community Safety
DJSIR.....	Victorian Department of Jobs, Skills, Industry and Regions
DPC.....	Victorian Department of Premier and Cabinet
DTF	Victorian Department of Treasury and Finance
DTP	Victorian Department of Transport and Planning
EPA	Environment Protection Authority Victoria
FTE.....	full-time equivalent
EMS.....	environmental management system
FRD	Financial Reporting Direction
GHG.....	greenhouse gas
kg	kilogram
kL	kilolitre
Km	kilometre
kW.....	kilowatt
kWh.....	kilowatt hour
LED.....	light-emitting diode
MJ	megajoule
MW.....	megawatt
MWh	megawatt hour
NABERS	National Australian Built Environment Rating System
PJ	petajoule
PV	photovoltaic
SPC.....	State Purchasing Contract
SSP	Shared Service Provider
SV.....	Sustainability Victoria
t CO ₂ -e	tonnes of carbon dioxide equivalent
ZEV	zero emissions vehicle

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