AUSTRALIAN
PARLIAMENT HOUSE

Australian Parliament House

A sustainable building for the 21st century and beyond

Foreword

Australian Parliament House is one of the nation's most iconic, and most visited public buildings.

As well as being the home of the Australian Parliament, it is also an exemplar for meaningful environmentally friendly technologies and sustainable practices.

We are so proud to have one of the most sustainable parliamentary buildings in the world.

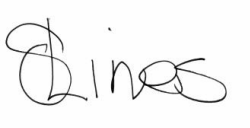
Sustainability has always been – and continues to be – a priority at Parliament House.

We are committed to continuing to explore and implement improvements to enhance the sustainability of the building's operations, so that we can create a greener and more sustainable future for our next generations.

We want to ensure Australian Parliament House continues to lead sustainable and environmentally friendly practices – across Australia, and across the world.

This publication highlights some of our recent initiatives and achievements in Parliament House.

We look forward to continuing our long-term commitment to ensuring the vision of sustainability at Australian Parliament House.



Senator the Hon Sue Lines
President of the Senate

The Hon Milton Dick MP
Speaker of the House of Representatives

A sustainable building for the 21st century and beyond

Since the opening of Australian Parliament House by Her Majesty Queen Elizabeth II on 9 May 1988, Parliament House has become one of Australia's most iconic and visited public buildings.

What is less well-known are the energy conservation elements that were integral to its original design and construction. A major design requirement in the competition in 1979 was for a building which was:

> … of low energy consumption, making maximum use of natural light, heat and ventilation systems … [and emphasis] should be placed on resource conservation and not simply on the most economical solution in the short term …[1]

Mitchell/Giurgola & Thorp Architects, the firm which designed Parliament House, ensured that these needs were met by using state-of-the-art technologies and building construction methods available at that time.

The vision of sustainability continues to drive our operations across the parliamentary precincts to ensure that precious resources are being conserved.

Over three decades, significant advances in technology, particularly in energy generation and efficiency, sustainability practices, and information and communications technology have allowed Parliament House to adopt new ways of working and improve its environmental impact.

In Parliament House, we are proud to be:

1.
Supplied by 100 per cent renewable energy

2.
Introducing newer and more efficient infrastructure to replace original infrastructure when necessary

3.
Embedding sustainable practices in everyday tasks across the building

We continue to strive to be one of the most sustainable parliaments in the world.

[1] Parliament House Construction Authority, 'Volume Three (Stage Two): Competition Conditions: Instructions to Competitors: Appendices: AD1 Energy Conservation', *Brief for Parliament House Canberra – Conditions for a Two-stage Competition*, Canberra, November 1979, p. AD/1.

Renewable energy

Australian Parliament House is supplied by 100 per cent renewable energy.

Since 2010, Parliament House has generated a portion of its energy needs directly from its own solar panels.

Following a successful trial in 2010-11,[2] 234 solar panels were installed and integrated into the building systems. There are 192 on the roof of the Senate wing and 42 on the roof of the gardener's compound.

With solar technology and distribution advancing considerably since the installation in 2010, we are investigating options for future expansion of the use of solar power at Parliament House.

Notwithstanding our future endeavours to increase power generation, it is important to note that the building's main source of electricity comes from 100 per cent renewable electricity.

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[2] Department of Parliamentary Services, *Annual Report 2011-12*, Canprint Communications Pty Ltd, Canberra, 2012, p. 17.

Energy efficiency and conservation

Energy conservation and energy efficiency continues to be a high priority in the building.

In the last decade, Parliament House has seen a major program of infrastructure renewal as building systems, plant and equipment have reached their end of life, presenting opportunities to install new and more energy efficient solutions.

Emergency generators, boilers, chillers and ventilation systems

In 2022, the original emergency generator systems at Parliament House were replaced with new generators that produce more power and are more fuel efficient.

In 2019, the six original boilers that provide hot water throughout the building and heat the building were replaced with new boilers that are 20 per cent more energy efficient.

In 2018, the five original chillers, which used refrigerants containing ozone depleting substances, were replaced with energy efficient machines that use refrigerants less harmful to the environment.

Ongoing upgrades to the ventilation systems in carparks, toilets, loading dock, lift motor rooms, uninterruptable power supply rooms, battery rooms, and transformer rooms, have reduced energy consumption through installation of high efficiency fans and motors, variable speed drives, and improved temperature monitoring for safe and efficient equipment operation.

Kitchens

Parliament House has five commercial kitchens to cater for up to 5,000 building occupants in one Parliamentary sitting day.

In 2022, significant refurbishments of Parliament House's five commercial kitchens were completed.[4] As part of the refurbishments, equipment and appliances were upgraded, resulting in major savings in energy and water usage. For example, new large commercial dishwashers use 40 per cent less water and 55 per cent less energy than the previous dishwashers.

Lifts

Parliament House has 42 lifts across the building. From 2017-21[3] all lift motors and ancillary equipment were replaced, which has resulted in the lifts using 30 per cent less energy.

Lighting

Parliament House has over 40,000 lights. The majority of these were incandescent (filament-based) or fluorescent lights when the building was completed in May 1988.

Over recent years, these have progressively been replaced with modern, energy efficient light emitting diodes (LED) lights. LED lights use 60 per cent less energy than fluorescent fittings and do not contain harmful mercury. Light sensors have also been installed across the building. Work is continuing and once the program has been completed LED lighting will be installed throughout the building.

[3] Department of Parliament Services, *Annual Report 2017-18,* Canberra, p. 220 and Department of Parliamentary Services, *Annual Report 2020-21,* Canberra, 2021, p. 206.
[4] Department of Parliamentary Services, *Annual Report 2021-22,* Canberra, 2021, p. 46.

Sustainability practices

Initiatives across the building have been introduced to encourage sustainable practices in waste reduction, recycling, food waste and resource management.

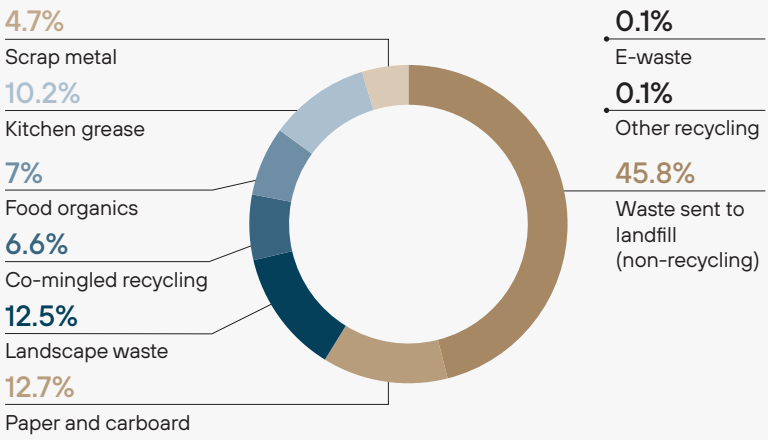
Co-mingling bins have been introduced to all office suites and a trial of compostable bin liners at Parliament House has commenced in the basement.

Organic recycling

Since 2021, Parliament House no longer offers single-use plastics such as cutlery, food containers, drink stirrers and straws. These were replaced with environmentally sustainable alternatives for customers.

Food scraps are collected from the kitchens and directed to an organic waste management facility. Here they are converted into nutrient-rich compost and commercially compostable packaging.

FIGURE: Breakdown of main waste types (recycling and non-recycling) in 2023-24



Note: Co-mingled recycling rates are based on estimates. The increase in kitchen grease for 2023–24 is attributed to four grease trap cleans instead of the two cleans in 2022–23.

Food collection

To reduce food waste, we work closely with OzHarvest, a food rescue organisation, which collects surplus food ingredients that can be legally and safely used from Parliament House and distributes it to those in need or to charities.

Natural pest control

We use an integrated pest management program to manage garden pests with minimal impact on the environment.

This includes biological controls, including the use of insects such as lady beetles, lacewing, tiny wasps and predatory mites, to control pest insects such as scale, aphids and thrips. Soap sprays, oils and organic fungicides are also used to manage pests such as whitefly and diseases such as powdery mildew.

Water conservation

Infrastructure to seven of the water features located in the courtyards of Parliament House have recently been upgraded to include salt cell chlorination and a water additive called “sunscreen” which helps to reduce water evaporation.

These changes have proven to be environmentally and cost effective.

Planning is currently being undertaken to install the system across the remaining water features.

Additional sustainability initiatives

To demonstrate our commitment to sustainability and the environment, we have established additional initiatives around Parliament House.

Hosting bees

Parliament House has been home to European honeybee hives since 2017, and Australian native stingless bee hives since 2018.

The beehive initiative is part of a global effort to tackle the decline of bee populations, crucial to Australia's food security, agriculture and environmental sustainability.

The grounds at Parliament House are an ideal area to host the hives as it protects the building's surrounding habitats and ecosystems.

While always ensuring that the bees have enough honey to maintain a healthy hive, the harvested surplus honey is used by our catering team to prepare food and also sold in other products such as soaps and honey-flavoured spirits stocked in the Parliament Shop.

Upcycling of building material

One of the striking features in the Prime Minister's courtyard at Parliament House is its two massive wooden pergolas.

In 2021-22 the pergola beams were removed and replaced due to fungal deterioration in many of the beams.

Some of the beams that were saved have been upcycled, made into specialty furniture and other products for use and sale in Parliament House, such as pens and Christmas ornaments.

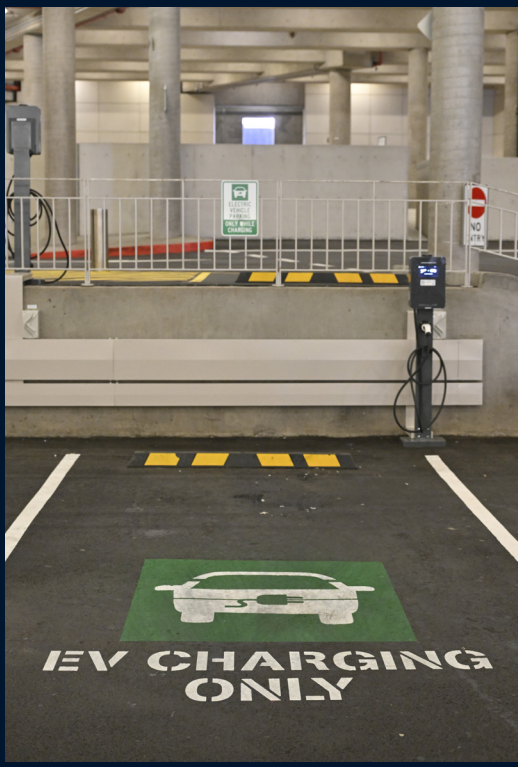
Electric vehicle charging stations

In 2023, with the increasing demand and uptake of electric vehicles, we began installing electric vehicle charging stations at Parliament House. This project is now complete. This initiative installed 58 charging points across our network of public and private carparks. Making Parliament House one of the largest public charging facilities in the Australian Capital Territory.

The first 10 charging stations were switched on in November 2023 in the public car park, including the first public accessible charging station in the ACT.

Health and Wellness Centre

Parliament House participates in the Sustainable Salons Program. Recycling hair clippings, hard plastics, handheld tools, packaging, razors, liquid chemicals, and paper, reduces salon waste by 95 per cent. An annual certificate estimates the impact of our efforts based average client consumption and average weekly client visits. Donations to charities to make wigs, or to fund life-changing programs, are significant.



The future

Since Australian Parliament House opened in May 1988 we have ensured that our sustainability programs make the most of new and efficient innovations and technology.

We continue to aim to be the most sustainable Parliament in the world.

Contributing photographers: Auspic, Department of Parliamentary Services and Pew Pew Studio.

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