



Navigating a dynamic energy landscape

A briefing for government agencies



energy efficiency
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Foreword

Concern over the reliability, affordability and sustainability of our energy systems has become a constant feature of Australia's public debate. Gas and electricity prices have risen substantially over the last decade, and the impacts on businesses and households are regular front-page news.

The impact on government agencies receives less attention. Yet government agencies are exposed to the same electricity and gas markets, and like businesses, they must deal with the risks and opportunities thrown up by a transforming energy system.

Government agencies are highly diverse, ranging from health services to TAFEs and water authorities, however, they face many of the same challenges. Constraints around capital expenditure, operating budgets and internal energy expertise are common. These factors must be managed while meeting broader government energy and environment policy objectives.

As a result, many government agencies are responding with a major recalibration of their energy management. Public sector leaders in energy management strategy are showing that a proactive approach to securing their energy position enables them to:

- Maintain and improve service delivery levels;
- Avoid blowouts in recurring energy expenditure;
- Support emissions reductions policies and targets; and
- Play an important role in supporting grid stability.

Fortunately, there are new resources that can support government agencies to understand and act on these issues. In August 2018 the Energy Efficiency Council released the first edition of *Navigating a dynamic energy landscape: a briefing for Australian businesses*. This document – *A briefing for government agencies* – has been launched alongside the second edition of *A briefing for Australian businesses*.

Most government agencies are run like businesses, so the information in the *briefing for Australian businesses* is highly relevant. The *briefing for Australian businesses* covers:

- The current status of, and outlook for, electricity and gas prices;
- The drivers for energy market transformation; and
- How businesses are taking control of their energy position.

Government agencies have additional factors to consider, such as the energy and emissions reductions policies that have been put in place by their governments. They also have options and constraints not faced by businesses, particularly around procurement of energy and energy services.

This document provides that additional context. It is designed to be read alongside the *briefing for Australian businesses*, and to ensure that directors and executives within government agencies are equipped with the information they need to put in place effective energy management strategies.

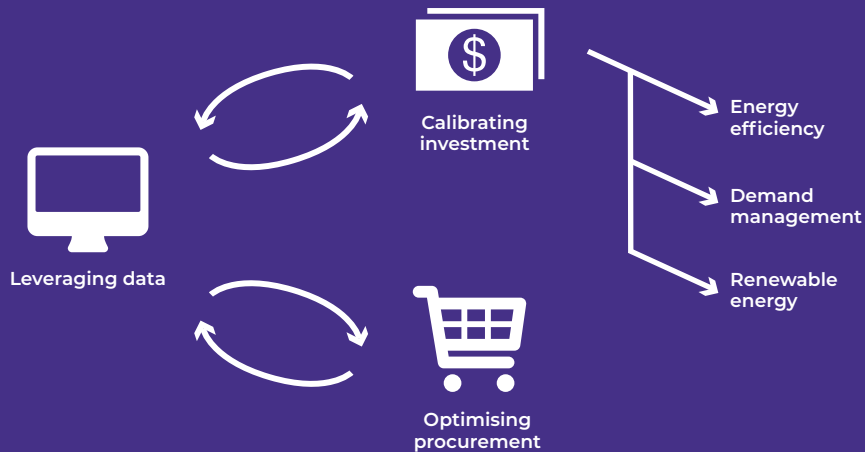


Figure 1: Government agencies that are leading the field in energy management strategy are leveraging their energy data to drive investments behind-the-meter, and to optimise their energy procurement. They are actively monitoring the performance of these initiatives, which yields fresh data and informs future actions.

Australia's energy transformation is underway and will continue for the foreseeable future. Now is the time for government agencies to get on top of their energy strategy and ensure they have the internal expertise to act. This internal capacity building is becoming essential to ensure agencies can proactively manage their energy position on an ongoing basis. This will enable them to save taxpayer money, lower carbon emissions, and keep delivering for their customers, their students, and their patients.

Sector spotlight: July 2019

This briefing accompanies *Navigating a dynamic energy landscape: a briefing for Australian businesses*. It considers the specific issues faced by Australian government federal, state and territory agencies, and guides them in improving their energy management strategy.

To download the latest edition and other resources, sign up for updates or provide feedback, visit energybriefing.org.au

Navigating this briefing

This *briefing for government agencies* is a companion to the *briefing for Australian businesses*. It is designed to provide additional information that is relevant for government agencies that are acting to secure their energy position.

Section 1 Particular considerations for government agencies



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Government agencies have a range of additional factors they need to consider when recalibrating their energy strategy. As well as monitoring and responding to a transforming energy landscape, they must also anticipate and respond to government expectations and policies.

Section 2 Energy upgrades for government agencies



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There are a number of energy upgrade options that are typically only utilised by government agencies. Some have been designed to meet the particular needs of government, including lowering the risk profile of investments, and catering to an appetite for longer term contractual arrangements.

Section 3 Energy funding and financing options for government agencies



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Government agencies can have limited access to capital finance for energy upgrades, and are dependent on government budget processes. However, there are alternative funding and financing options only available to government agencies that can sometimes be utilised.

Section 4 Energy procurement options for government agencies



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Like businesses, government agencies often have a range of energy procurement options. In addition, they may also have the opportunity to enter into collective procurement contracts through central government frameworks.

Section 5 Resources for government agencies



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Information and support are available.

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Energy pulse check

Government agencies that are leading the field in energy management strategy have asked themselves three key questions:



Do we have a granular understanding of how and when we are using energy across our agency, and how our usage drives our energy costs?

Advanced metering, submetering and analytics enable a granular understanding of energy use across operations. They are most beneficial when broken down not just by site, but by particular subsystems and equipment, which internal and external experts can monitor in real-time.

Proactive government agencies are leveraging their energy data. They are making sure the right data is captured, and that it drives decision making, rather than simply sitting in a spreadsheet (page 6).



Are we actively monitoring efficiency, demand management and generation opportunities, and investing where it is cost effective to do so?

Proactive government agencies have re-calibrated their approach to energy investment. They are ensuring that their energy data is actively monitored and analysed by experts in relation to:

- Government-mandated emissions abatement targets and obligations;
- Current energy cost profile;
- Energy market outlook and risk; and
- Opportunities to achieve a more cost-effective outcome through investments in energy efficiency, demand management and on- or off-site generation.

They are controlling everything possible behind-the-meter at their sites, and taking a proactive approach to investment in efficiency, demand management and generation.

Government agencies that are proactively managing their energy management strategy are taking advantage of the existing market incentives and the unique energy services and funding opportunities that are available to government agencies (pages 9-16).



Are we exploring the full range of energy procurement options?

While some government agencies have mandated energy procurement, others are exploring alternative procurement strategies alongside reducing their exposure to energy market volatility through energy efficiency, demand management and renewables. This optimises energy costs and balances market risks when sourcing the remainder of their energy.

Rather than defaulting to the traditional procurement option of a contract with a fixed price, they are assessing the solutions available in the marketplace against their individual needs (pages 17-18).

Particular considerations for government agencies

For an up-to-date analysis on the outlook of Australia's electricity and gas prices, please review **Section 1 of the latest edition of the briefing for Australian businesses.**

1.1 Current drivers of electricity prices

Both gas and electricity prices spiked in 2017. While prices have moderated, few experts expect energy prices to return to their historic lows. This higher unit cost of gas and grid supplied electricity is resulting in budgetary pressures for many government agencies.

Government agencies that are leading the field in energy management strategy have minimised this impact with early investments in energy efficiency to reduce energy use – often by 25% or more.¹ They have recognised that proactive energy management enables them to reduce their exposure to energy markets and protect their budget for core service delivery.

Government agencies with long run-hours, such as health services that use energy around the clock, are particularly exposed to energy price rises. As a result, energy efficiency investments often have very significant benefits for these organisations.

¹ Energy Efficiency Council and Government Property Group 2011, *Integrated Energy Efficiency Retrofits and Energy Performance Contracting*, p. 3.

Hedging against energy price shocks

A capital investment in energy efficiency upgrades or renewable energy functions like a hedge. As well as paying for itself through energy savings, it reduces exposure to ongoing energy price increases, making government agencies more resilient to market fluctuations.

1.2 Maintaining uninterrupted services

For some government agencies – such as emergency services and health care – continuity of service delivery is a key driver of their energy management strategy.

There are both risks and opportunities for these types of agencies. The need to maintain uninterrupted operations increases the importance of keeping plant and equipment in good working order, and in many cases, building in redundancy and back-up power supplies.

Government agencies that require continuity of service delivery can achieve financial returns from behind-the-meter capital investments, which can be supported by government programs that finance upgrades using energy savings – explored further in **Section 3.1**. There may even be opportunities to replace ageing building services with new assets.

Getting behind-the-meter

Behind-the-meter means 'on your side of the energy meter'. Investing behind-the-meter can mean:

- Investing in energy efficiency, like replacing old and inefficient lighting;
- Investing in on-site renewables, like installing rooftop solar PV;
- Investing in on-site storage, like batteries; or
- Taking part in demand response by agreeing to load-shed at peak times in exchange for cash payments.

As a first step, government agencies need to understand their energy usage. Electricity meters take hourly digital readings, and can reveal when energy is being used. Some government agencies, particularly in Victoria, have smart meters installed that provide an even more detailed profile of energy use. Submeters – additional meters that monitor energy usage of particular pieces of equipment – can provide valuable granular data about where energy is being used in a facility. Government agencies can also ask their energy retailers to send them 12 months of interval energy data, which will help them to better understand when they're using energy.

Leveraging data and understanding energy use is discussed further in **Section 3.1 of the briefing for Australian businesses**.

1.3 Compliance with government policies and targets

In some jurisdictions, government agencies must comply with specific energy and environmental requirements established by government, such as minimum standards for building energy performance or emissions reductions targets. For example, Victoria has a pledge to reduce emissions from government operations by 30% below 2015 levels by 2020, which supports its legislated state-wide target of net zero emissions by 2050. The Australian Capital Territory (ACT) also has a legislated net zero by 2050 target, and New South Wales (NSW) has implemented the Government Resource Efficiency Policy (GREP), which includes the requirement for government agencies to ensure office buildings they own or lease achieve and maintain a minimum National Australian Built Environment Rating System (NABERS) Energy rating.²

Government agencies that are proactively managing their energy are translating these policies and targets into action, and expanding their strategic considerations beyond cost and service delivery.

² State of NSW and Office of Environment and Heritage 2014, *NSW Government Resource Efficiency Policy*.

Emissions reductions legislation

- Australian Capital Territory: **Climate Change and Greenhouse Gas Reduction Act 2010**
- Victoria: **The Climate Change Act 2017**

1.4 Alignment with government objectives to reduce risk

Most Australian states and territories have aspirational targets for net zero emissions by 2050. That means that even where ramping up energy efficiency, or securing more energy from renewable sources, is not explicitly required under government policy – such as the GREP requirements in NSW – pursuing these opportunities is aligned with broader government objectives.³

³ Centre for Policy Development 2019, *Public Authority Directors' Duties and Climate Change*.

Taking a proactive stance on these issues lowers the risk of stranded infrastructure, or the need for rapid, significant operational shifts in the event aspirational targets become firm commitments due to changes in government policy.

Driving up the sustainability of government vehicle fleets

Australia's electricity generation mix is transitioning away from fossil fuels towards renewable energy, bringing down the carbon intensity of electricity. However, the carbon intensity of Australia's transport sector is reducing at a much slower rate.

For governments to achieve their net zero emissions objectives, motor vehicle fleets owned by government agencies – particularly emergency services – will need to transition to low carbon alternatives. As a start, Ambulance services across Australia are prioritising the purchase of fuel-efficient vehicles.

The ACT Government is going further, by committing its directorates and agencies to ensure:

- At least 50% of all newly leased ACT Government fleet passenger vehicles are zero emissions vehicles in 2019-20; and
- All newly leased ACT Government passenger fleet vehicles are zero emissions vehicles from 2020-21.

This type of government procurement policy can also help shift the private sector, demonstrating the viability of new technology and driving broader sectoral change.



The ACT Government's electric vehicle fleet (pictured) is set to grow in the coming years.

Photo credit: ACT Government.

NABERS's performance ratings extended to hospitals

National Australian Built Environment Rating System (NABERS) is a national rating system that measures the environmental performance of Australian buildings, tenancies and homes. NABERS can measure a building's energy efficiency, carbon emissions, as well as the water consumed and the waste produced, and compare it to similar buildings. Several of Australia's state and territory governments require that their government owned or occupied office buildings achieve a minimum NABERS Energy rating as a way of maintaining an acceptable level of energy performance across many sites.

While NABERS has historically operated in commercial buildings, a new NABERS rating – NABERS for Hospitals – has recently been developed for public hospitals. The tool was developed in collaboration with all state public health portfolios, and 274 hospitals have already been certified in Queensland, South Australia and Victoria, with plans for further ratings to be rolled out across the country.

NABERS for Hospitals provides a robust, performance-based benchmark in a highly energy intensive area of government operations. It gives health services the opportunity to set a minimum level of acceptable performance, publicly promote the hospitals that are leading in energy strategy, and support all hospitals to measure the success of energy efficiency measures.

1.5 Role of government assets in supporting energy system stability and reliability

Government agencies increasingly have another compelling motivator: the strong interest of their governments in enhancing the stability and reliability of the energy system.

As the energy market and infrastructure change, government agencies, like all energy users, have a role to play in maintaining system stability and reliability through approaches such as demand response. The decision to offer demand response and other demand side services is entirely voluntary, and is often driven by the financial benefits on offer, and whether a particular organisation is able to participate given operational needs.

Government agencies – such as water authorities – are already participating in emergency demand response programs. Water authorities are well placed to take part in demand response as they have both large energy profiles, and some flexibility around the timing of their operations. Also, many have behind-the-meter resources, including generation and storage.

Demand response is discussed further in **Section 3.2.2 of the briefing for Australian businesses.**

Energy upgrades for government agencies



There are several contracting options for energy upgrades available to government agencies. Some are used by both the public and private sectors; others have been designed to meet the particular needs of government agencies.

Those designed for government reflect its higher willingness to enter into long term contractual arrangements around energy services. Services that can be contracted include lighting upgrades, heating, ventilation and cooling (HVAC), building management optimisation and rooftop solar.

Government agencies are utilising these energy upgrades contracting options to upgrade their existing building stock, and are exploring how to integrate innovative contracting options when tendering for a new building.

Calibrating investment in energy efficiency, demand management technologies and renewable energy is discussed further in [Section 3.2 of the briefing for Australian businesses](#).

2.1 Energy upgrades to existing government buildings and assets

2.1.1 Targeted energy upgrades

Simple or small-scale energy efficiency and renewable energy upgrades typically involve an energy assessment from either an in-house expert or a consulting engineer. This assessment identifies the best opportunities for energy savings and provides a basis for specifying upgrades. The project then moves through a standard procurement process to engage an energy services company to install the solutions.

Targeted energy upgrades often include **measurement and verification** (M&V) to enable reporting on energy savings – as is the case for all projects funded by Victoria's Greener Government Buildings program. However, they generally don't include contractual guarantees that energy savings will be achieved.

As well as reporting on energy savings, M&V enables government agencies to report emissions reductions, which, in the case of Victoria, will support Victoria's Climate Change Act (2017) obligations on emissions data reporting, and actions to reduce emissions, from 2020. Importantly, undertaking projects that measure and verify energy savings can enable government agencies to make the case for further upgrades.

Energy Efficiency Certification Scheme

Government building retrofits to improve energy performance should be led by a professional certified under the **Energy Efficiency Certification Scheme (EECS)**.

The EECS recognises individuals with the knowledge and capability to lead and manage the end-to-end delivery of a comprehensive energy retrofit of a commercial building.

On-site renewable energy generation and storage in the public sector

Government agencies can install behind-the-meter renewable energy generation and storage capacity to lower the amount of electricity they purchase from a retailer.

The Regional Health Solar Program is a \$13.5 million Victorian Health and Human Services Building Authority initiative providing zero-interest loans to support regional health services to install solar photovoltaic (PV) arrays. The program will ultimately install 9.4 megawatt-peak (MWp) of solar at 77 hospitals and generate more than 14 gigawatt hours (GWh) of renewable energy annually. This is forecast to generate 2% of Victoria's state-wide hospital electricity consumption and up to 30% of the electricity required by some regional hospitals.

North East Water, in Victoria, has installed a solar array and a lithium ion battery bank at the Yackandandah water treatment plant, which is enabling it to operate off-grid most of the year. Government agencies, like businesses, are demonstrating that behind-the-meter generation is becoming business as usual, with solar and storage becoming increasingly cost effective.

2.1.2 Energy performance contracts (EPCs)

Energy performance contracts (EPCs) are an integrated energy services model delivered by an energy service company (ESCO). The EPC process is similar to a design and construct process, in that the ESCO undertakes both the design and installation stages of the project, and effectively operates as a head contractor, sourcing and managing the suppliers of technologies and services.

Under an EPC, the ESCO is contractually obliged to achieve a minimum level of energy savings, or to pay a financial penalty to the customer. This reduces the financial risk to the government agency. EPCs incorporate a M&V plan, which is agreed prior to contract signing, and forms the basis for the savings guarantee.

EPCs are often the preferred delivery model in the following situations:

- For large, complex sites consisting of multiple systems and potential solutions – e.g. hospitals, TAFEs, sporting facilities and art galleries;
- Where it is expected the upgrades will cost in excess of \$1 million;
- Where the risk associated with the performance of a proposed technology is high; or
- Where it is important to achieve a specific energy performance – for example, where funding needs to be repaid using energy cost savings, or a target emissions abatement is sought.

For further information about pre-qualified ESCOs and panels of preferred providers in **NSW** and **Victoria** please follow the links in **Section 5.2**.

In some states and territories, governments have pre-qualified ESCOs and panels of preferred providers, giving organisations confidence in their capacity to deliver outcomes. EPCs are popular in the United States and have gained traction in Australia's public sector over the last decade. A diverse range of government agencies are using EPCs. In Victoria this includes Chisholm TAFE, the Melbourne Cricket Ground (MCG) Trust, the Metropolitan Fire and Emergency Service Board and Museums Victoria. In NSW, this includes Illawarra Shoalhaven Local Health District and Mid North Coast Local Health District.

In some states and territories, EPCs are supported by Treasury finance. Under these programs, cost savings generated by efficiency and renewable energy projects repay the project finance provided by Treasury, meaning the government agency may not need to defer other projects to fund these upgrades. This is discussed in further detail in **Section 3.1**.

Peninsula Health EPC to save millions

In Victoria, Peninsula Health is investing \$7 million to increase its energy efficiency and improve frontline services. The investment will fund new lighting, heating and cooling upgrades across Peninsula Health's two hospitals, two major rehabilitation facilities and one other local health facility, which is also having a solar array and battery installed. The use of an EPC means that the savings are guaranteed, reducing the risk for Peninsula Health, and ensuring that the promised financial benefits are delivered.

Peninsula Health is delivering this project with the support of the Victorian Government's Greener Government Buildings program and a no-interest loan from the Victorian Government.

The overall project will reduce annual utility costs by \$1.2 million, or 14%, reduce annual energy consumption by 23%, and emissions by over 4,000 tonnes, or 21%.

In 2017, the Greener Government Buildings program committed a further \$26 million to health services to finance energy projects. These upgrades to Victorian hospitals are estimated to save more than \$70 million over the life of the investments, and cut greenhouse gas emissions by more than 20,000 tonnes each year.



Peninsula Health's Rosebud Hospital (pictured) has installed solar PV with a grant from the Victorian Government.

2.2 Considerations for new construction projects

The most cost-effective way of incorporating energy efficiency and other energy management opportunities into a facility is to make this investment up front when the building is being built. Government agencies that are leading in energy management strategy are future proofing their investments by incorporating innovative contracting options into the design and construction of new facilities.

Government financing may be available to support the energy saving aspects of new construction projects. For example, Victoria's Greener Government Buildings program provides finance for both new builds and upgrades to existing facilities. Importantly, when engaging with an ESCO, energy services provider, or general construction contractor, government agencies can link targets – such as NABERS ratings or M&V – to the contract.

2.2.1 Public private partnerships (PPPs)

A public private partnership (PPP) is a partnership between a public sector entity and a private company. The private company is contracted by the public sector entity to provide services, or to design, construct, finance and/or maintain assets. At the conclusion of the contract period, the public sector entity takes ownership of the asset from the private company.

Because PPPs involve an element of private financing, risk allocation is clear, and payment is dependent on the services delivered and performance standards being met. However, split incentives need to be carefully managed when the public sector entity is responsible for paying energy bills and the private company is responsible for facility management.

While PPPs are primarily a construction procurement option, they can incorporate energy management outcomes as contract deliverables. This has been done successfully by both the Sunshine Coast University Hospital in Queensland and Bendigo Hospital in Victoria.

Split incentives

Split incentives occur when those paying the energy bills – tenants – are not the same as those making the capital investment decisions – landlords or building owners. Split incentives can be a barrier to the deployment of energy upgrades because the landlord may not be incentivised to invest where energy savings will be realised by the tenant. However, split incentives can be avoided by building explicit energy management outcomes into a contract, such as a PPP, or into the building's lease.

2.2.2 Alliance contracting / project alliance agreement (PAA)

Alliance contracting is a form of infrastructure procurement where the public sector works collaboratively with an alliance of private sector parties to procure major capital assets, including energy assets. The alliance agrees to share opportunities and jointly overcome risks as the project progresses.

The model has a strong focus on building innovation into projects, and the joint management structure shares risks and opportunities. Like PPPs, PAAs are primarily a construction procurement option, but have the option to include energy management outcomes.

In NSW, Sydney Water took part in a PAA with two private partners that has delivered energy efficiency improvements and renewable generation through the use of a Carbon Abatement Tool that identified and prioritised the best emissions abatement opportunities. Sydney Water now saves 13 GWh of electricity and sources 21% of its energy from its own renewable energy sources each year.

Energy funding and financing options for government agencies



Government agencies often have limited access to capital finance for investment in energy upgrades. Further, many can only source funding through their government's budget processes. These constraints can be substantial barriers to strategic investments in energy efficiency and renewable energy.

Some jurisdictions have acted to address this barrier with dedicated Treasury loan programs – as explored in **Section 3.1**. Several other options exist for funding and financing energy services – as explored in **Section 3.2** and **Section 3.3**.

3.1 Treasury loan programs

Loans from Treasury are typically used by government agencies to finance energy performance contracts (EPCs) and targeted energy upgrades. The **ACT's Carbon Neutral Government Fund**, **NSW's Tcorp loans**, and **Victoria's Greener Government Buildings program** are leading in this regard, with hundreds of millions of dollars of investment being rolled out across the public sector.

The ACT's Carbon Neutral Government Fund has invested in solar hot water at the Canberra Institute of Technology's Bruce Campus, reducing electricity consumption by 10%, with a payback of only three years. The ACT Government offered interest free loans for the Canberra Hospital's \$3.3 million light-emitting diode (LED) lighting and solar photovoltaics (PV) upgrade, with an eight-year payback.

Treasury finance options vary significantly across jurisdictions and agency type. The Greener Government Buildings program, for example, is available to all Victorian agencies, but the source of finance and interest rate depends on the agency type. For example, general government entities such as hospitals and schools are eligible for interest-free loans, while non-public financial corporations that are government agencies, such as water authorities, are eligible for loans at the bond-rate. Government agencies should contact their portfolio departments or Treasury departments for further information.

3.2 Environmental upgrade finance (EUF)

Environmental upgrade finance (EUF) legislation in NSW, South Australia and Victoria allows banks to offer loans to building owners for energy upgrades, with repayments made via local government rates charges.

EUF is structured to allow building owners to pass charges on to tenants, helping to overcome split incentives and sharing the costs and benefits of energy upgrades between the tenants and owners. If the tenant eventually leaves the building, the ongoing finance charges for the upgrade are taken on by the incoming tenants via rate charges until the loan is repaid. EUF is not available for government agencies to access directly. However, those leasing private buildings can benefit through reduced energy costs if their landlord is willing to enter into an EUF.

To do this, government agencies will typically need to enter into a separate agreement with their landlord to repay the cost savings achieved from the tenancy areas, such as from a tenancy lighting upgrade. Government Property NSW has successfully used EUF to undertake lighting upgrades, saving the agency \$130,000 each year in electricity costs. Due to the many stakeholders involved in environmental upgrade agreements (EUA), Government Property NSW sought advice from an energy expert to assist with the process of arranging the EUA, and benefitted from \$156,000 worth of 'Energy Savings Certificates' enabled by the **NSW Energy Savings Scheme (ESS)** – which is discussed further in **Section 3.3**.

For more information on Environmental Upgrade Finance (EUF), you can review the Clean Energy Finance Corporation's **Fact Sheet on Finance for Environmental Upgrade Agreements** and visit **Better Building Finance**, to get advice from an independent facilitator of EUF.

An accountant's perspective on behind-the-meter investments

If government agencies set the right objectives and investment criteria, the financial outcomes of behind-the-meter investments are compelling.

A \$2 million investment in new LED lighting and rooftop solar, which yields annual savings of \$350,000 in energy and maintenance costs, is accounted for like this:

Operating statement impact:

The \$2 million capital investment is depreciated over 15 years, resulting in an annual expense of \$133,000. Additionally, there is an annual reduction in other expenses (energy and maintenance) of \$350,000. The net result of this is a \$216,000 annual improvement to the operating statement.

Balance sheet impact:

The net impact on the balance sheet at the time of investment is zero. The \$2 million capital investment increases non-financial assets by \$2 million. However, it either creates a liability (if you borrow to fund the project) or reduces financial assets (if you use cash to pay for the project) by \$2 million.

Net debt impact:

This impact varies over time, following the net cashflow for the project. At the time of investment, there will be an increase in net debt of \$2 million. Over six years, the net debt impact will reduce to zero. Over the remaining years, the annual savings will achieve a net reduction in debt.

Net present value (NPV):

Over a 15-year period, assuming a discount rate of 4% (real), the NPV is \$2 million. A positive NPV indicates it is worth investing in the project.

3.3 Grants and other funding sources

Government agencies from all jurisdictions have access to grants from the federally-funded **Australian Renewable Energy Agency (ARENA)**. Government agencies can also access the Emissions Reduction Fund (ERF) to implement emissions reduction projects, which enable them to earn and later sell Australian Carbon Credit Units (ACCUs).

Government agencies in the ACT, NSW, South Australia and Victoria can access their energy efficiency scheme – the **ACT Energy Efficiency Improvement Scheme (EEIS)**, **NSW Energy Savings Scheme (ESS)**, **SA Retailer Energy Efficiency Scheme (REES)** and **Victorian Energy Upgrades (VEU) program** – to subsidise energy efficiency upgrades. These schemes operate by requiring energy retailers to meet targets in relation to emissions reductions via energy efficiency upgrades. These reductions are generally met by providing subsidised energy efficiency products and upgrades to energy users – including government agencies.

Governments also offer grants and subsidies that support energy investments; the options available vary by jurisdiction, and some grants are only available for a limited time. Government agencies should contact their portfolio departments or Treasury departments for further information.

Demand response is discussed further in Section 3.2.2 of the *briefing for Australian businesses*.

Sydney Water embraces demand response to drive better environmental outcomes

During peak energy demand events, when demand on the grid threatens to outstrip supply, electricity grid reliability and integrity can be compromised. To better manage these events, the Australian Energy Market Operator (AEMO) and the Australian Renewable Energy Agency (ARENA) have developed a trial program allowing large energy users to reduce their short-term energy demand.

As one of NSW's larger electricity users, Sydney Water is in a strong position to be able to contribute to this program. With operational flexibility in some of its assets, Sydney Water can reduce its energy demand for short periods, without compromising the important provision of water and wastewater services. The program also aligns with Sydney Water's energy strategy, including reducing the impact on customer bills, and decoupling bills from the volatile energy market.

Sydney Water has been successfully working with an energy expert to decrease energy demand during critical events. By managing power supply to some high-demand assets for brief periods of time, Sydney Water has been able to temporarily reduce electricity demand by up to five megawatts, without any service quality issues or impact on customers. Sydney Water's energy management partner also installed monitoring equipment to provide real time visibility of electricity demand.

Sydney Water receives payments for making its flexible electricity load available to the grid. In addition to the positive financial outcome for Sydney Water and its customers, there is a positive social outcome for the broader community, by increasing the reliability of the energy system for everyone. This enables Sydney Water to support positive outcomes across each aspect of its strategic objectives.

Sydney Harbour Bridge lights the way

Governments are investing in energy efficiency projects of all sizes. Notably, the NSW Office of Environment & Heritage (OEH) offers a range of programs for supporting the uptake of energy efficiency through the Government Resources Efficiency Policy (GREP). One such program for smaller upgrades is the Small Sites and Heritage Energy Efficiency Scheme (SSHEES), which is a grants scheme that was used by the Roads and Maritime Services (RMS) to upgrade the Sydney Harbour Bridge's 65 lights to LED.

The new LED lights use 31% less energy and have improved illumination of the road, making it safer to cross the bridge. The project generates annual cost savings of \$2,000 and emissions reductions of 2.7 tonnes. The cost savings generated by the lighting upgrade will be reinvested back into maintaining the bridge so that it may preserve its reputation as a world-famous, Australian landmark.



NSW Roads and Maritime Services (RMS) used a grant to fund the replacement of the Sydney Harbour Bridge's lighting with LEDs (pictured).

Energy procurement options for government agencies

Like businesses, government agencies can generally choose to directly engage with a retailer to procure electricity through:

- Fixed price contracts;
- Progressive purchasing contracts; and
- Block purchasing with managed spot exposure.

Government agencies may also have the option to procure their energy from power purchase agreements (PPAs).

4.1 Group contracts

Government agencies may choose, or may be mandated, to enter into collective procurement contracts – known as group contracts – through a central government framework. These whole-of-government or collective electricity contracts are usually available to government agencies.

Group contracts leverage the buying power of the government or the group to secure a better unit cost for energy. They are typically fixed price contracts, meaning that joining a group contract can enable government agencies to lower their costs without taking on the management overhead of approaches like progressive or block purchasing.

Access to a group contract will depend on:

- The jurisdiction in which they operate;
- Their sub-sector, such as emergency or health services, TAFEs or water management;
- Their size; and
- How much they spend on energy.

Examples of group contracting approaches include **Procurement Australia**, the **NSW Government's Retail Electricity Services and Risk Management contract**, the **Victorian Government State Purchase Contracts (SPCs)**, and **Health Purchasing Victoria**. Importantly, some organisations opt to forego whole-of-government contracts, and independently band together to negotiate group contracts.

Intelligent Water Networks' smart energy procurement

In 2016, the Victorian Government required government organisations to set renewable energy and carbon neutrality targets. In response, Intelligent Water Networks (IWN) – a partnership between VicWater, 18 Victorian water authorities and the Victorian Department of Environment, Land, Water and Planning (DELWP) – began investigating alternatives to fixed-price contracts for electricity supply. This enables water authorities to manage their escalating energy costs, while also curbing greenhouse gas emissions.

Throughout 2016, 2017 and 2018 Goulburn Valley Water, North East Water, Western Water and Yarra Valley Water – with the support of IWN – trialled new energy procurement options, like purchasing competitively priced electricity and renewable energy directly from the wholesale market.

The results of this trial are being used to develop a wholesale procurement guide for all Victorian water authorities, detailing the risks and benefits of various direct purchase and insurance options.

Optimising procurement is discussed further in Section 3.3 of the *briefing for Australian businesses*.


Renewable energy in the public sector: off-site renewable energy generation

Government agencies can contract with an off-site renewable energy generation project through a power purchase agreement (PPA). In NSW, Sydney Metro North West has negotiated a 15-year agreement with a large-scale solar farm to offset the project's greenhouse gas emissions, and reduce energy costs and exposure to electricity market volatility.

If a government agency is too small to contract directly, it can take part in a PPA buying group, which allow a number of organisations – private and/or public sector – to collectively contract the supply of renewable electricity from an off-site generator. Led by the City of Melbourne, a group of local governments, businesses and government agencies have already contracted part of their electricity supply requirements from an off-site wind farm through participation in the Melbourne Renewable Energy Project (MREP) buying group. This includes Fed Square Pty Ltd, Melbourne Convention and Exhibition Trust and Zoological Parks and Gardens Board (Zoos Victoria) – Victorian government agencies – and Australia Post, RMIT and the University of Melbourne – Australian government agencies. MREP demonstrates how government agencies – and others – can come together to take an active role in securing their energy procurement and mitigating climate change by procuring renewable electricity supply.

Government agencies can consider these opportunities, but should be aware that these PPA arrangements could be considered a 'finance lease' under Australian Accounting Standards. In that case, they may need to seek approval from a relevant Minister to grant them power to enter into contracts.

PPAs are discussed further in **Section 3.2.3** of the *briefing for Australian businesses*.



Melbourne Renewable Energy Project (MREP)'s Crowlands Windfarm (pictured) near Ararat.

Photo credit: Pacific Hydro Australia.



Resources for government agencies

The resources listed below complement those in Section 4 of the *briefing for Australian businesses*.

5.1 General resources for government agencies

Australian Government – Resources for Commonwealth agencies:

- [energy.gov.au/government-priorities/energy-productivity-and-energy-efficiency/government-buildings](https://www.energy.gov.au/government-priorities/energy-productivity-and-energy-efficiency/government-buildings)

Australian Government – National Australian Built Environment Rating System (NABERS):

- [nabers.gov.au](https://www.nabers.gov.au)

ACT Government – A new climate strategy:

- [environment.act.gov.au/cc/what-government-is-doing](https://www.environment.act.gov.au/cc/what-government-is-doing)

ACT Government – Climate Change and Greenhouse Gas Reduction Act 2010:

- [legislation.act.gov.au/a/2010-41/default.asp](https://www.legislation.act.gov.au/a/2010-41/default.asp)

NSW Government – Energy savings and resource efficiency:

- [environment.nsw.gov.au/government](https://www.environment.nsw.gov.au/government)

NSW Government – NSW Government Resource Efficiency Policy (GREP):

- [environment.nsw.gov.au/resources/government/NSW-GREP-140567.pdf](https://www.environment.nsw.gov.au/resources/government/NSW-GREP-140567.pdf)

SA Government – Energy management in government buildings:

- [energymining.sa.gov.au/energy_and_technical_regulation/energy_efficiency/energy_management_in_govt_buildings](https://www.energymining.sa.gov.au/energy_and_technical_regulation/energy_efficiency/energy_management_in_govt_buildings)

VIC Government – Greener Government Buildings:

- [dtf.vic.gov.au/funds-programs-and-policies/greener-government-buildings](https://www.dtf.vic.gov.au/funds-programs-and-policies/greener-government-buildings)

VIC Government – Environmental data management tools:

- [health.vic.gov.au/hospitals-and-health-services/planning-infrastructure/sustainability/data-management-tools](https://www.health.vic.gov.au/hospitals-and-health-services/planning-infrastructure/sustainability/data-management-tools)

VIC Government – The Climate Change Act 2017:

- [climatechange.vic.gov.au/legislation/climate-change-act-2017](https://www.climatechange.vic.gov.au/legislation/climate-change-act-2017)

5.2 Energy efficiency and energy services contracting resources

Energy Efficiency Certification Scheme:

- [energycertification.org.au](https://www.energycertification.org.au)

Energy Efficiency Certification Scheme - Find a certified professional:

- [energycertification.org.au/find-a-certified-professional](https://www.energycertification.org.au/find-a-certified-professional)

Energy Efficiency Council - Measurement and verification (M&V):

- [eec.org.au/for-energy-users/tools-methodologies-menu/tools-methodologies#/measurement-verification](https://www.eec.org.au/for-energy-users/tools-methodologies-menu/tools-methodologies#/measurement-verification)

NSW Government – Pre-qualified energy service providers:

- [environment.nsw.gov.au/government/energy-efficient-program.htm](https://www.environment.nsw.gov.au/government/energy-efficient-program.htm)

VIC Government – Panel of prequalified EPC providers:

- [buyingfor.vic.gov.au/energy-performance-contract#Panel](https://www.buyingfor.vic.gov.au/energy-performance-contract#Panel)

5.3 Energy efficiency funding and financing options resources

Australian Government – Better Building Finance:

↗ betterbuildingfinance.com.au

Australian Government – Emissions Reductions Fund (ERF):

↗ environment.gov.au/climate-change/government/emissions-reduction-fund

Australian Government – Grants and assistance programs:

↗ business.gov.au/assistance#searchgrant

Australian Renewable Energy Agency (ARENA): ↗ arena.gov.au

ACT Government – Carbon Neutral Government Fund:

↗ environment.act.gov.au/cc/what-government-is-doing/act-government-operations/loan-funds

Clean Energy Finance Corporation (CEFC) – Fact sheet on environmental upgrade agreements:

↗ cefc.com.au/media/76243/cefc-factsheet-nab-cefc-ef_eua_lr.pdf

NSW Government – Energy Efficiency and Renewables Finance Guide:

↗ environment.nsw.gov.au/publications/business/140746eefingde.htm

NSW Government – Tcorp loans:

↗ tcorp.nsw.gov.au/html/government_agencies.cfm

SA Government – Building upgrade finance:

↗ environment.sa.gov.au/topics/climate-change/programs-and-initiatives/building-upgrade-finance

VIC Government – Greener Government Buildings:

↗ dtf.vic.gov.au/funds-programs-and-policies/greener-government-buildings

State-based energy efficiency schemes

ACT Government:

↗ environment.act.gov.au/energy/smarter-use-of-energy/energy_efficiency_improvement_scheme_eeis

NSW Government: ↗ ess.nsw.gov.au

SA Government: ↗ escosa.sa.gov.au/industry/rees/overview

VIC Government: ↗ energy.vic.gov.au/energy-efficiency/victorian-energy-upgrades

5.4 Energy procurement resources

Australian Government – Review your energy contract:

↗ business.gov.au/risk-management/environmental-impact/energy-management/review-your-energy-contract

NSW Government – Retail Electricity Services and Risk Management:

↗ procurepoint.nsw.gov.au/contracts/c777

Procurement Australia: ↗ procurementaustralia.com.au

VIC Government – Health Purchasing Victoria: ↗ hvp.org.au

VIC Government – State purchase contracts (SPC):

↗ buyingfor.vic.gov.au/browse-government-contracts

Glossary

ACCU	Australian carbon credit units
AEMO	Australian Energy Market Operator
ARENA	Australian Renewable Energy Agency
CEFC	Clean Energy Finance Corporation
DELWP	Department of Environment, Land, Water and Planning (Victoria)
DHHS	Department of Health and Human Services (Victoria)
DTF	Department of Treasury and Finance (Victoria)
EEC	Energy Efficiency Council
EECS	Energy Efficiency Certification Scheme
EEIS	Energy Efficiency Improvement Scheme (Australian Capital Territory)
ERF	Emissions Reduction Fund
ESS	Energy Savings Scheme (New South Wales)
EUA	Environmental upgrade agreement
EUf	Environmental upgrade finance
EPC	Energy performance contract
ESCO	Energy service company
GGB	Greener Government Buildings (Victoria)
GREP	Government Resource Efficiency Policy (New South Wales)
GWh	Gigawatt hour
HVAC	Heating, ventilation and cooling
IWN	Intelligent Water Networks
LED	Light-emitting diode
M&V	Measurement and verification
MREP	Melbourne Renewable Energy Project
MWp	Megawatt-peak
NABERS	National Australian Built Environment Rating System
NPV	Net present value
OEH	Office of Environment and Heritage (New South Wales)
PAA	Project alliance agreement
PPA	Power purchase agreement
PPP	Public private partnership
PV	Photovoltaic
REES	Retailer Energy Efficiency Scheme (South Australia)
RMS	Roads and Maritime Services (New South Wales)
SPC	State purchase contracts
SSHEES	Small Sites and Heritage Energy Efficiency Scheme (New South Wales)
VEU	Victorian Energy Upgrades

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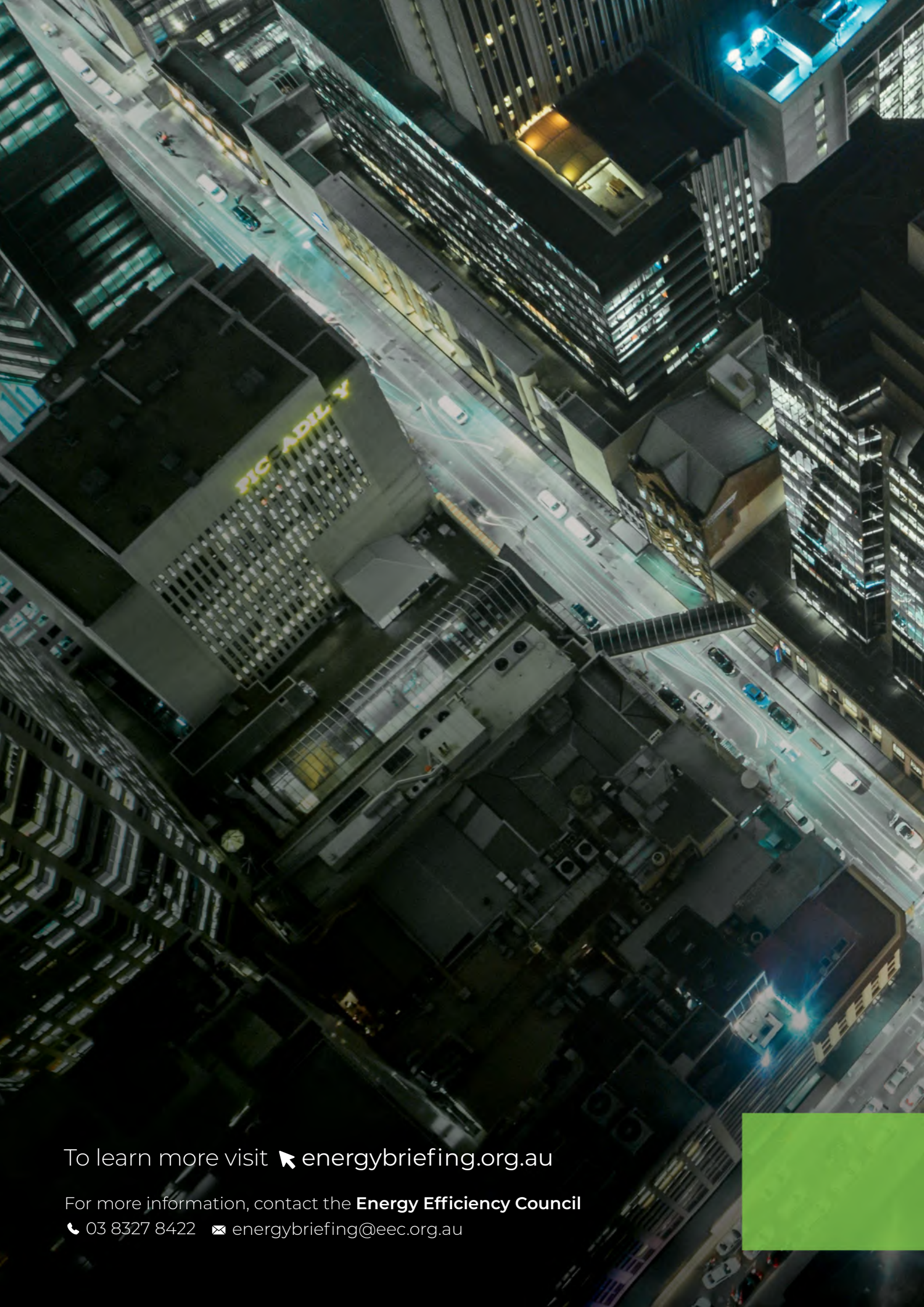
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