

# NET-ZERO IN FOCUS:

Corporate Australia's Approach to  
Tackling Building Energy Efficiency

## INDUSTRY REPORT

Researched and developed by:



CastSolutions

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 **IQPC AUSTRALIA**

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## EXECUTIVE SUMMARY:

Climate change in Australia has been the subject of debate for some time now. But whilst the Australian Government has been at the receiving end of much skepticism around their climate policy and priorities, we are seeing corporate organisations race ahead to drive significant reductions in their carbon footprint.

🌐 **More than 130 of Australia's biggest companies** have told the Federal Government that a strategy to reach net zero by 2050, not only makes sense environmentally, but also has potential to grow jobs and the economy.

The Business Council of Australia and Deloitte Access Economics have unveiled a technology fueled roadmap that estimates that if every sector of the economy played a role, the economy could grow by \$890 billion in the 50 years to 2070. Predictive modelling also indicated that a modest 195,000 jobs would be created over the next 50 years, and the bulk of these economic dividends would be realised in the regions.

Under the 🌐 Morrison Government's new technology roadmap towards net-zero by 2050, total investment in this strategy will reach up to \$20 billion and will unlock an additional \$60 - \$100 billion in investment by private sector and the states. It is also expected to create up to 62,000 new regional mining and heavy industry jobs. As a result, gross national income is expected to increase by 1.6% higher, making the average Australian \$2000 better off in 2050.

Corporate Australia is taking a strong stance on carbon emission reduction initiatives. This report will showcase these leading initiatives and how transforming your building environment and operations can drive significant results. We will explore examples organisations who are transitioning towards more renewable sources as well as leveraging data insights and reporting to identify opportunities in performance improvements across large portfolios of energy inefficient assets.

“Australia has an over-reliance on coal, whereas other countries have a reliance on other fossil fuels. We need to deal with our over-reliance on coal in a way that will work for us, there isn't a one-size fits all approach to emissions reduction.”

– Thomas Wright, Lead Ecologist, Arup



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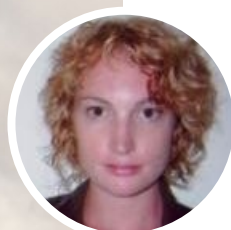
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# THE AUSTRALIAN OUTLOOK FOR NET ZERO:

Exploring economic, social & legislative drivers towards achieving net zero

According to the Sustainable Development Report in 2021, Australia scored just 10 out of 100 on tackling fossil fuel emissions, ranking last out of 193 UN member countries for action taken to reduce global greenhouse gas (GHG) emissions. This placement is staggering considering 81% of Australians believe further climate change impacts will increase Australia's vulnerability to droughts, flooding and bushfires, which will cause further damage to communities and the economy.

## THE TRAJECTORY FOR LOW ENERGY BUILDINGS, NEW & OLD:

In 2019, Energy Ministers agreed upon the Trajectory for Low Energy Buildings that aims to achieve zero energy and carbon ready commercial and residential buildings in Australia. This is a key initiative to address Australia's 40% energy productivity improvement target by 2030 under the National Energy Productivity Plan (NEPP).

The policy is set to deliver cost-effective energy efficiency improvement to businesses and corporate Australia. These policy objectives include:



Lower energy bills



Reduce waste for the wider economy



Reduce carbon emissions



Contribute to energy security and affordability

Aligned to the NEPP, these steps towards achieving net zero, take a whole of system approach to energy policies and covers electricity, gas, and transport fuels. It includes Energy market reforms to promote consumer choice and increase competition and innovations in the energy market. These energy efficiency measures will support better energy use in buildings, equipment and vehicles.

According to Australia's long-term emission reduction plan, commercial and residential buildings account for around a quarter of Australia's emissions, and just under half of Australia's electricity consumption. Electricity makes up almost two-thirds of the energy buildings use, so a near-zero emissions electricity grid will allow buildings to significantly reduce emissions. Building owners, occupants and builders can accelerate these emission reductions by deploying high efficiency appliances, lighting, equipment and building envelopes on-site renewable energy (like solar PV) and battery storage. Eliminating emissions from space heating, water heating and cooking is already technically possible through efficiency and electrification. Alternative fuels like hydrogen, biomethane and synthetic gas may provide additional options.

## IMPLICATIONS OF CORPORATE SOCIAL RESPONSIBILITY

Here lies an opportunity for Corporate Australia to move beyond policy and build proactive frameworks that drive investments into low-emission technologies and strategies. While there is no mandate forcing corporations to commit to net-zero under the Trajectory and NEPP, there is strong encouragement for companies to demonstrate social and corporate responsibility.

Furthermore, a lack in commitment towards net-zero now has implications on the relationship between employers and employees, corporate brand and overall business revenue.

“Without an international approach and commitments from nations to integrate and build on international baseline standards in domestic legal frameworks, we risk market fragmentation that could impede the flow of global capital.”

– Erwin Jackson, Director of Policy, Investor Group on Climate Change.

## THE ECONOMIC IMPACT OF NET-ZERO

The Investor Group on Climate Change (IGCC) found in 2020 that transition to a net-zero emissions economy could reach hundreds of billions of dollars by 2050. Their predictions signal that a Net Zero environment could unlock \$63bn in investment by 2025, which would include \$15bn in manufacturing, \$6bn in transport infrastructure and \$3bn in green hydrogen production. What's more, carbon sequestration, also known as carbon farming, would emerge as a major investment asset class. It is estimated that investment here could be worth \$33bn, including nature-based solutions such as tree planting and assisted regeneration of deforested land.

### \$63 BILLION IN INVESTMENT UNLOCKED BY 2025



## THE AUSTRALIAN POLITICAL “CLIMATE”

There are a number of policy actions the Australian government at both state and federal level have introduced that will drive emission reductions nationwide. Current energy department projections predict Australia could reduce carbon emissions 30-35% by 2030, which exceeds current commitments to 26-28% compared to 2005 levels.

The current Morrison Government, recently, committed to net zero by 2050 through a technology driven roadmap which prioritises investment and innovation in projects such as:



Geographical placement, along with its natural resources means Australia has the potential to become a clean energy superpower that could lead the net-zero charge from the front. There is even bigger potential for Corporate Australia to drive this change by reducing emissions across building portfolios and persisting with governmental pressure to develop and implement further, nationwide environmental policy that will incentivise further investment in the transition.



## AUSTRALIAN NATIONAL UNIVERSITY CASE STUDY

# A BIGGER AMBITION FOR CARBON REDUCTION: ACHIEVING BELOW ZERO BY 2030

The Australian National University (ANU) is one of the first universities in Australia and the world to commit to reducing greenhouse gas emissions to below zero by 2030. ANU is walking the walk to tackle climate change by not only reaching net zero by reducing emissions and offsetting any emissions the University cannot avoid but going further by removing more greenhouse gases from the atmosphere than they emit.

In August 2020, over 500 members of the ANU community shared their attitudes to climate change and emission reduction action via an online survey. Approximately 91.4% of respondents were alarmed or concerned about climate change compared to about 50% of Australians felt the same urgency for action in a national survey delivered in a similar year.

### THE ANU BELOW ZERO INITIATIVE:

ANU is working across different areas of the University's overall business operations to ensure they can meet one of the most ambitious emissions targets set by any organisation in Australia. Priority and focus areas include monitoring and measuring, energy consumption, University-related travel, carbon removal and sequestration, behavioural change and engagement and integration of operations with ANU core business of research and teaching.



#### Monitoring and evaluation:

Accountability and transparency are important to the success of the Below Zero Initiative. It is vital to any emissions reduction program to implement regular monitoring and reporting on emissions in a way that is accessible, engaging and as targeted as possible. Recurrent evaluation allows ANU to map its progress towards its goal and interim milestones, future-proofing the program and ensuring a successful outcome. Additionally, by acting out loud ANU achieves necessary due diligence to its community of internal and external stakeholders which helps sustain their engagement and support of the program.



#### Reducing emissions from work-travel:

In a business-as-usual year, University-related travel accounts for approximately 28,300 tonnes of greenhouse gas (GHGs) emissions and estimated to be the largest contributor to the University's emissions profile. The Below Zero Initiative has developed travel guidelines with the goal of reducing GHGs from staff and student travel for research, fieldwork, teaching and learning, conferences, and other university business. ANU is investigating support through travel management platforms and carbon footprint calculators which allow travellers to engage with their travel emissions while booking, and providing guidelines on how to reduce those emissions. These guidelines include prompting staff and students to consider whether travel is essential, encouraging and facilitating virtual alternatives and offering advice for choosing lower carbon transport options.





#### Encouraging and supporting behavioural change:

ANU is committed to a supported grassroots approach through ongoing community engagement to empower students and staff around climate-conscious behaviours. By providing opportunities and incentives for every department and halls of residence to be involved, the program aims to facilitate autonomy and locally driven initiatives that amplify and support low carbon action from the lived experience of the ANU community.



#### Integrating Below Zero into research and teaching:

As a research and teaching institution, ANU is working towards integrating world class research and teaching with its operational environment and creating a living laboratory on its campuses. Research staff and students work alongside professional staff to deliver a science-based program that ensures ANU is on the forefront of innovation, incorporating transformative, societal change through deep understanding of behavioural change mechanisms and supporting engagement strategies through new ways of communication and outreach. Given the global requirement for innovation around atmospheric greenhouse gas removal and the University's own requirement for carbon offsets for a net-negative goal, it will be particularly important to focus on research and teaching in the field of carbon removal or negative emissions.



#### Reducing energy emissions:

The ANU is best known for its Acton campus, which is also its largest source of greenhouse gas emissions and highest priority for reducing energy-related emissions. Mapping, understanding and optimising the sources and flows of energy that power up an environment in which over 20,000 people work, study and live is a complex challenge that the University's professional and academic staff are tackling collaboratively. Building on the principles developed in its Acton Campus Energy Management Strategy, ANU is embarking on a program to decarbonise its infrastructure, not only on the Acton campus but also in other campuses and facilities operated by ANU in the ACT, NSW and the NT.

## WHAT IS THE GOAL FOR ANU?

By 2025, ANU has committed to be at net-zero for direct and energy related emissions, University-related travel and waste by using high quality offsets as a back-up to on-campus emission reduction. By 2030, the University has committed to having Below Zero emissions by drawing down more greenhouse gases than they emit and sequestering it on ANU land or only using carbon offsets that have the option of including an ANU research or teaching connection in order to help drive further innovation in the sector. The goal is to, eventually, establish ANU as a sustainability leader around the world, providing insight and experience to other universities, globally, to support a successful pathway for similar programs for the sector and more broadly.



**For more information on the ANU journey to below zero emissions, visit their website or contact them at [belowzero@anu.edu.au](mailto:belowzero@anu.edu.au)**



**No one is expecting perfection, but we are working towards a future where we can identify our successes and have a transparent strategy moving forward to help the community."**

– Thomas Biedermann, Program Manager (ANU Below Zero Initiative), ANU



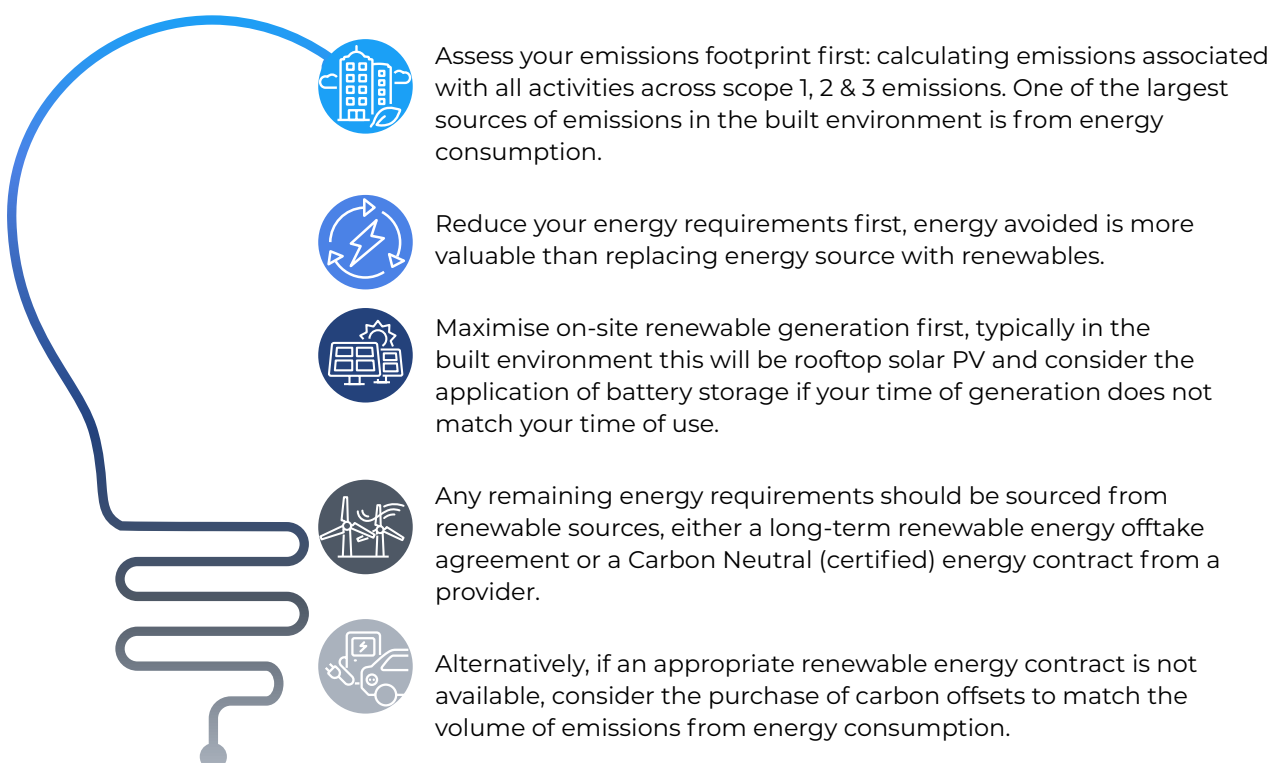


# THE JOURNEY TO NET-ZERO: MEASURING YOUR BUILDING PERFORMANCE & DRIVING ENERGY EFFICIENCY

## WHERE SHOULD YOU START?

For many corporates, starting the net-zero journey is the hardest part of the process, as there is so much to consider and understand in order to develop and implement a tangible and achievable roadmap. Here you'll find a checklist that can help you and your business when considering taking the first steps towards committing to net-zero and assessing your energy footprint.

## ASSESSING YOUR ENERGY FOOTPRINT – KEY CONSIDERATIONS



## DATA MODELLING AND COMPLIANCE REPORTING

To reduce energy consumption in buildings, one needs to understand patterns of energy usage and heat transfer as well as characteristics of building structures, operations and occupant behaviors that influence energy consumption. This is where data modelling, visualisation and compliance reporting can support organisations with making those first steps in their net-zero journey. By understanding where and how your energy is being used, companies can make informed decisions around how and where they should be making renewable investments to reduce their consumption and carbon footprint.



**You can't manage what you don't measure and if you don't have the data set, how do you know where to begin?"**

– Michael Anderson, Manager Carbon & Sustainability, RMIT

### DATA MODELLING:

Data Modelling your building(s) energy efficiency can be an appropriate way to begin your journey to reaching net-zero. However, it is no good to just model the overall energy output of your building(s). Data modelling and reporting is only effective when you are using it at a granular level to assess individual equipment types and tools that are consuming energy. Assessing the data coming from your equipment such as heating and cooling pumps, can provide you with an accurate reading of whether this piece of equipment consumes more energy than necessary, and supports decisions around usage.

For example, understanding when, how and why your buildings heating and cooling pumps are running can provide a real-time snapshot of their energy consumption and how to reduce it. This snapshot of energy usage can provide further decision making around replacements, asset lifecycles, and whether it is cost-effective to switch to renewable source.

### COMPLIANCE AND REPORTING:

Compliance reporting of your building portfolio's energy consumption is a great early on-set to engage organisations that may not already be engaged on their pathway to net-zero. Compliance reporting encourages organisations to start their journey by asking them to pay attention to their consumption and start capturing where they might fall short.

In 2007, the federal government introduced the National Greenhouse and Energy Report Act 2007 which is a voluntary single national framework for reporting and dissemination company information about greenhouse gas emissions, energy production, energy consumption and other information specified under NGER legislation.

Since the introduction of NGER, organisations have become accountable to releasing, now publicly available, information around their energy consumption and carbon footprint, which will enforce actionable change to their investment in creating more energy efficient buildings.



## TOP 3 NET-ZERO ENERGY MUST-HAVES:

Once you've assessed your energy footprint, your organisations can now plan its strategy and roadmap towards becoming net-zero. Here are some must-haves that should be considered when developing your net-zero roadmap.



### A Target:

An energy target is an annual, whole-building energy-use limit that guides design and operation. It should be specific, measurable on-site with minimal data manipulation, inclusive of all loads and aggressive. Research the energy consumption of a comparative average building. Then, establish an ambitious but feasible budget. Try to break down the energy target by system. This will help when there are discrepancies in design versus actual energy consumption, as systems that are not behaving as predicted can be identified and adjusted.



### Energy Data Modelling System:

An energy information system allows operators to analyse current and historical energy performance, and to view normalized energy demand and consumption (from utility meter to sub-system). Through normalising data by external variables like weather and occupancy, an energy information system has an advantage over a building automation system by more accurately detecting anomalies and measuring the impact of energy conservation measures. However, it is not a substitute for a building automation system.



### Occupancy Engagement:

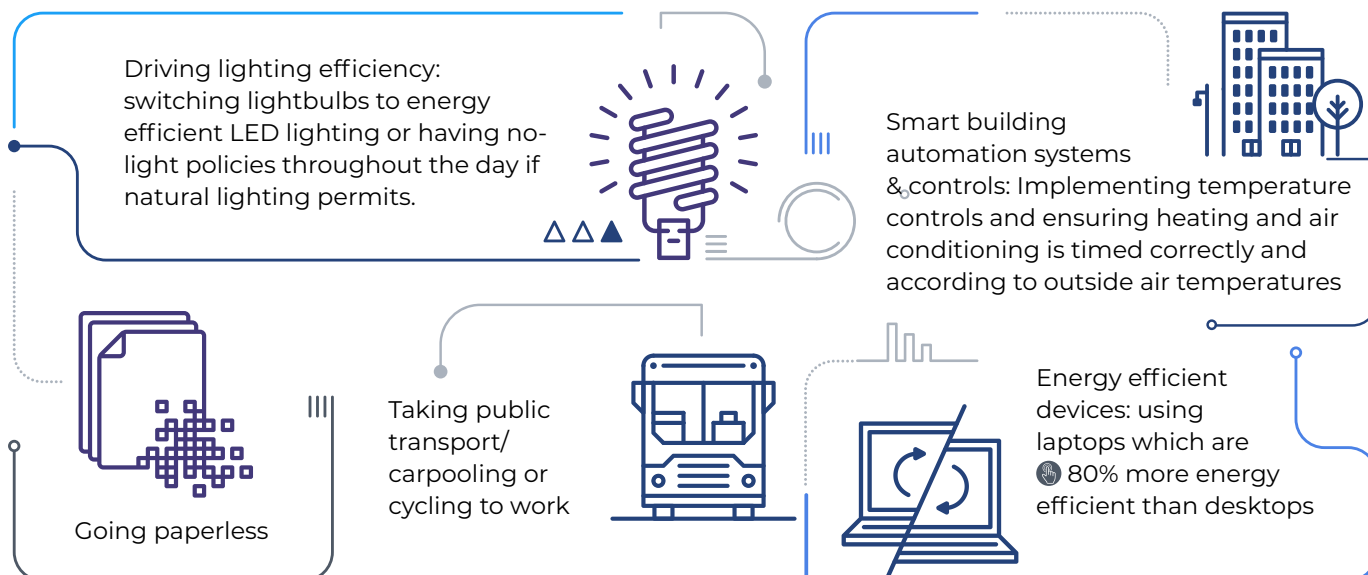
building must have a focus on occupant engagement to prevent unexpected behaviour. Occupants need to have an awareness of how much energy they use and its impact on building operations. They should also be well-informed of what controls are available to them that improve comfort in addition to energy performance. Some integral steps of occupant engagement are:

- ▶ Evaluate occupant patterns.
- ▶ Prompt occupants with reminders of what are ideal behaviors.
- ▶ Create a communication system between facility operators and occupants.
- ▶ Develop move-in and ongoing training.



## QUICK-WINS LIST TO REDUCING YOUR CARBON FOOTPRINT

There are several quick measures that corporates have and can put in place to reduce their carbon footprint, particularly across entire building portfolios and aging assets. These include:



Whilst some of these initiatives can be easy to implement the bigger gains in carbon reduction lie in switching to green energy sources for electricity. This will reduce building emission output, particularly as most of Australia's electricity is reliant on fossil fuels and gas which are amongst the largest emitters of greenhouse gases. This requires significant planning and investment, however we are seeing organisations with large building portfolios making strides in this direction as outlined in the following case study.



## **SWITCHING TO RENEWABLES: A ROADMAP TO CARBON NEUTRALITY BY 2030 BELOW ZERO BY 2030**

The Royal Melbourne Institute of Technology has introduced many exciting new initiatives to reduce their carbon footprint and achieve net zero across their many campuses. In 2008, RMIT signed the ATN Agreement, pledging to make sustainability a focus for the university, and committing to reducing carbon emissions by 25% by 2020. The university has committed to becoming carbon neutral by 2030 through a range of sustainability measures, including establishing a set of design principles that align with and achieves sustainable outcomes. The RMIT sustainable design principles provide specific guidance for designers and consultants in capital projects to ensure industry best practice sustainable outcomes are achieved throughout the lifecycle of RMIT's new and existing spaces.

### **RMIT'S COMMITMENTS TO CARBON NEUTRALITY:**

RMIT committed to and joined several initiatives that would support their goals to reach carbon neutrality by 2030. These initiatives include:



#### **Melbourne Renewable Energy Project (MREP):**

RMIT is one of a number of leading Melbourne businesses, universities, council groups and cultural institutions who have joined forces to deliver a 39-turbine, 80MW wind farm in Ararat, Victoria. The Melbourne Renewable Energy Project uses the collective electricity purchasing power of large-scale energy users to invest in new renewable energy in Victoria. Opened in March 2019 the Crowlands Wind farm provides carbon neutral electricity for 25% of the University's requirements.



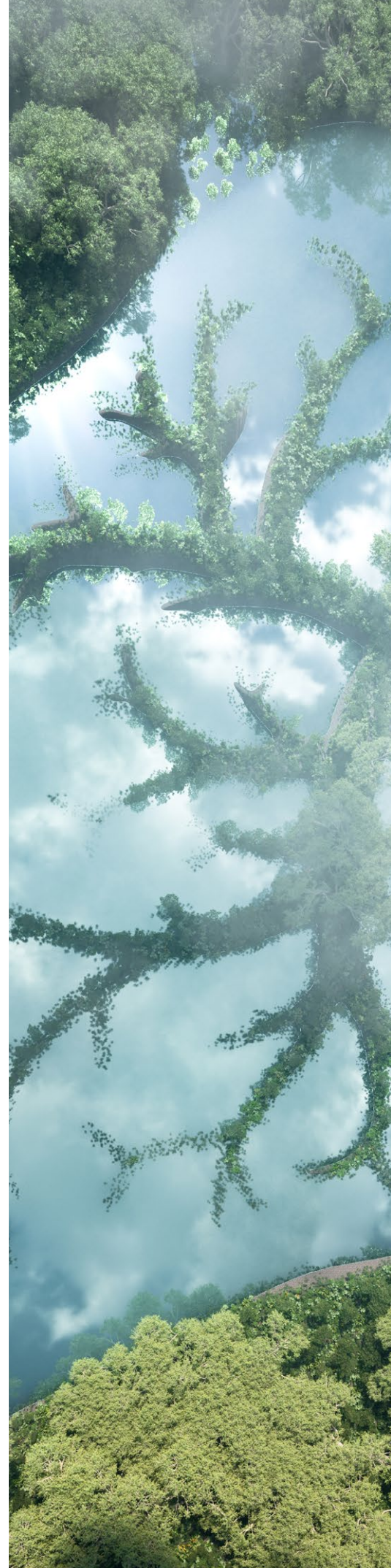
#### **Solar Photovoltaic Expansion:**

RMIT has continued to expand its installation of on-site solar PV. To date, RMIT has installed around 2,500 panels across our campuses, including large rooftop arrays and leading examples of building integrated solar PV. The total on-site generation capacity sits at 600kW (2019), generating around 2-3% of the University's electricity requirements.



#### **Built Form:**

A significant opportunity exists to address older RMIT building stock through interventions such as insulation, sealing buildings, replacing windows and applying window films. RMIT will continue its commitment to Green Star Design and As Built for new buildings.





#### **Building Smarts:**

Optimising existing building management system control strategies, ensuring timers and operations align with timetabled classes. Embedding contractor requirements to drive change across our portfolio through facilities management contracts.



#### **Reporting:**

The University will detail progress towards our commitments through external reporting. This will ensure transparency with relevant stakeholders and ensure that RMIT remains accountable to its commitments.

## **THE OUTCOME:**

Since the introduction of their roadmap to carbon neutrality in 2016, RMIT has reduced its carbon emissions by approximately 1000 tonnes, representing a decrease of 30% from a 2007 baseline, and in fact, met the 25% emissions reduction target 4 years ahead of schedule in 2016.

In 2020, RMIT has reduced their emissions by 62% compared to 2007 levels and are on track to deliver 100% emission reductions and reach carbon neutral status before their 2030 deadline.

Michael Anderson from RMIT states that the university aims to achieve sustainable outcomes in capital projects by encouraging design and operational practices that promotes passive design to reduce building energy consumption and material selection that prioritises low toxicity, supply chain transparency and low environment impacts.



The next steps are to look to long-term strategies in reducing the reliance on natural gas, further improving the efficiency of our campuses and setting a pathway for offsetting our remaining emissions on our journey to carbon neutral by 2030.”

– Michael Anderson, Manager Carbon & Sustainability, RMIT





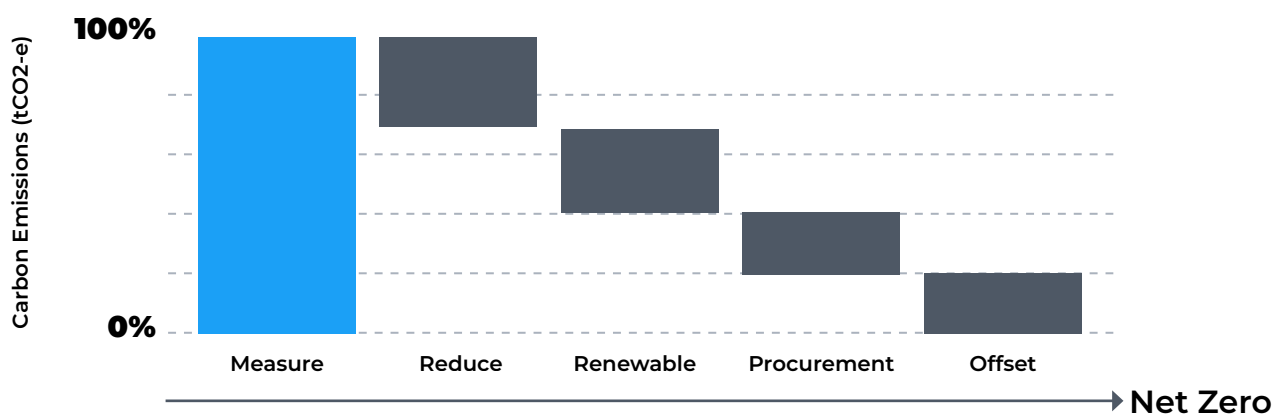
# CRITICAL CONSIDERATIONS FOR A NET ZERO ROLLOUT:

## MEASUREMENT AND VERIFICATION

When it comes to measurement and verification in this space, integration is the major challenge and everyone has different reporting obligations. While an enterprise may have mature process control systems for example, they then have to look at how they bring together a financial system and environmental reporting systems also.

With recent targets for reaching Net Zero released by many institutions, including one of the leading Australian retailers this year, programmes such as The Neighbours Programme provide a valuable benchmarking opportunity to get a formalised and normalised programme to work with.

For BP, fixed price contracts are more commonplace and to help drive outcomes going forward Trevor Schmidt (Asia Pacific Category Manager for Utilities at BP) explains that he depends upon both benchmarking and the ability to synthesise data from within operations to identify progress against it. Working closely with the shipping and trading team, he is able to gain insight into forward forecasting and market diagnostics, to then drive outcomes going forward.



## ENERGY EFFICIENCY AND OPTIMAL STATE

One of the challenges of energy efficiency is that it is often driven by intuition, due to lack of a data system in place. However, for those that do have this in the form of a building control system for example, they can become very noisy. It is the interpretation of the data rather than the collection of it that is key. To mitigate the disruption of noisy data, robotics and analytics capabilities will be key to providing data-driven insights.

## LANDLORD-TENANT RELATIONSHIP:

Competing priorities can disrupt progress with a developer wanting low-cost build and tenant looking for low running costs - these two do not always align.

From a landlord-tenant perspective, James Pringle, Group Head of Value Initiatives and ABNZ at Asahi, explains how he is seeing an increase in landlords consciously aware that when people want to move in they want a reduced utility rate. For this reason, Asahi are looking to leverage their buying power and run tenders on behalf of their landlords as well as their own facilities. Pringle notes that renewable energy is becoming a 'new norm' for companies and the complexity is decreasing significantly as category owners also look to educate themselves in the evolving utilities space.



Complexity is beginning to fall out of the renewable energy space and people are educating themselves – it's becoming the new norm."

– James Pringle, Group Head of Value Initiatives & ABNZ, Asahi

## PROCUREMENT

Green power has traditionally been very expensive. Positive for the procurement space, are the strides being made in the market, whereby the market cost of renewable energy resources is dropping to comparable levels to that of coal fire power stations. However, until now the alternative to save costs has been to embark directly on a corporate power purchase agreement (PPA). It is becoming evident however, that cost and risk associated with PPAs is considerably less this year compared with previous years and expected to continue on this trajectory.

While corporate PPAs are still an immature market and contain many complexities, in comparison to traditional fixed price energy supply agreements they will likely be more economic to consider going forwards, particularly considering the increased levelled costs. For some companies there are barriers to getting long-term PPAs and fixed contracts signed off due to market constraints, such as in energy for BP with the complexity around fuel pricing. While there are risks involved with PPAs, they are more significant for smaller companies.

Australia Post entered into the Melbourne Renewable Energy Project which is backed up by a retailer, which has both a fixed component and a floating component through which they are tendering against the retailer. As the retail price has gone down each year, this has helped support the business case for them, giving them a lower price than if they were on the market every year.

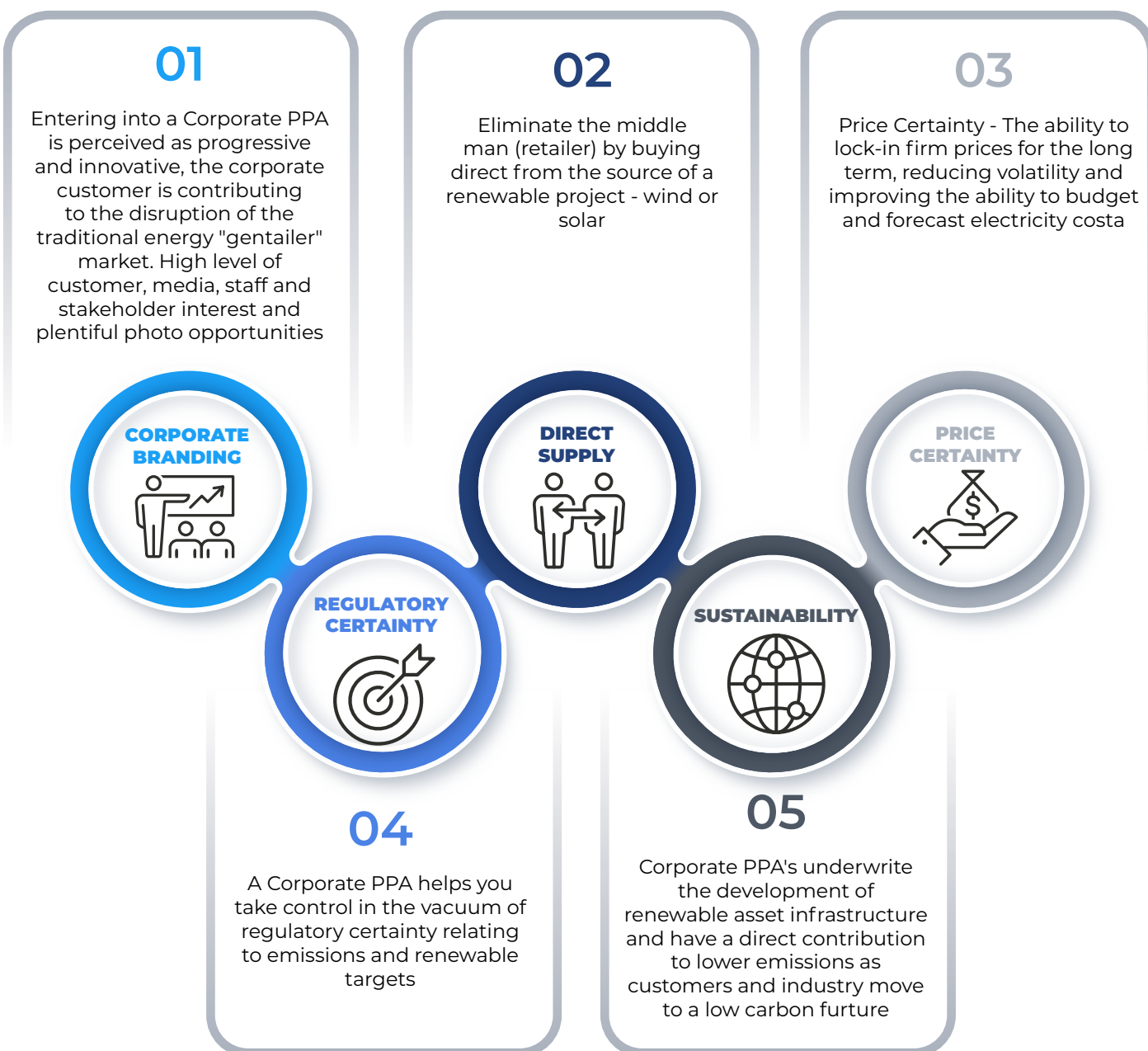


## CORPORATE PPAS

Corporate PPAs are a recent addition to the toolbox of options for business users to procure their electricity. There is currently no standard form for these contracts, each Corporate PPA is negotiated from the ground up by the generation project and the business consumer. Whilst there are a variety of different features that vary between deals, the underlying principle is for the business consumer to purchase electricity via a long term (10+ years) agreement directly from the generation project at the generator's factory gate.

Typically, this long-term contract means the agreed prices are significantly below market rates for typical retail electricity contracts. Despite the immediate cost advantage, their long-term arrangement spanning 10 years or more can introduce substantial price risk for later years.

## ATTRACTION TO CREATING NET ZERO BUILDINGS:



## PERILS OF CORPORATE PPAS:

### Price Risk

While potentially offering a discount on the current retail price, there may be circumstances where in 3, 7 or 10 years, the PPA price will be 'out of the money'.

### Operational Risk

Will the project achieve nominal output or will uncertain, and often substantial Marginal Loss Factors (MLF), impact on the economic output. And what happens if there is plant failure or loss of connection.

### Contracting Risk

This is a young, complex and emerging market place, with limited customer and market experience for sophisticated agreements, Legal costs may be high as there are no industry standard ESA or standards to guide agreements and each project has unique aspects.

### Derivative Exposure

Many organisations are unable to accept the uncertainty of certain financial instruments. There are many forms of Corporate PPAs discussed in the public domain and some of these include unhedged price exposure.

### Term

Most reported PPAs run from 10 to 15 years, in contrast to the traditional corporate customer buying behaviour of 1 to 3 year fixed price agreements. A PPA eliminates the opportunity to periodically reset prices back to market.

### Strategic Risk

Boards, management teams and strategies change over time. A long-term contract may not be attractive to these future teams. There may not be the ability to renegotiate an arrangement.

### Firming Cost

The direct supply cost may be low, however the premiums required to "firm" and manage the mismatch between project supply and your demand may be considerable, especially as retailers are increasingly bound by regulation to underwrite firm retail contracts.

### Counterparty Risk

Will your counterparty be there through the life of the agreement; your balance sheet will be subject to their viability. Some agreements also demand bank guarantees as security.

### Projects Risk

There is a financial impact from project delays due to regulatory approvals, construction and grid connection. Renewable projects are more susceptible to project delays.

### Basis Risk

In a national market, different prices are set in each state. The physical supply of a PPA may not match a consumer's demand and jurisdiction. This creates additional costs as the reference price for a PPA is not consistent with where electricity is consumed.

### Regulatory Uncertainty

Generators, Transmission and Distribution networks are heavily regulated and changes in regulations have a substantive impact on the economics of PPA agreements. Changes in the form and type of regulations, impact the payback periods, and overall feasibility of market PPAs.



## CONCLUSION:

When taking the first steps to outlining your corporate strategy for attaining net-zero, it is evident that governments and companies alike will meet a plethora of complexity and associated risk along the way. However, having a strategic roadmap that identifies the areas of concern and investment opportunity, matched with quick and easy wins to get started will put you in a position to hit the ground running and achieve net-zero in your respective time frames.

When it comes to measurement and verification on the path to Net Zero, central to success are integration strategies for reporting and data visualisation tools. Data analytics capabilities will be a key support to this and will signal better insight and visibility across the program of work to enable a more agile approach. Having a complete visibility across your building portfolio(s) energy usage, through data visualisation and reporting tools will be an invaluable asset to kick starting your net-zero journey.

The human aspect of transformation to reach Net Zero can be considered among the most challenging on the road to carbon neutrality. Not only are leadership often reluctant to create long-term contracts, your people and teams will need to be on-board and engaged with the transformation journey. Further education and awareness around the necessary steps and challenges of meeting carbon neutrality as well as realistic expectations will help to ease these uncertainties and work to minimize investment aversion in turn.

Therefore, to achieve the optimal balance between energy security, reliability, lowest cost and least carbon emissions, and to avoid business disruptions along the way, your Net Zero roadmap must be aligned to your asset, data and people strategies.

“ We need everyone involved in the solutions;  
everyone needs to play a role.”  
– Julie Kae, VP Sustainability and DE&I, Executive Director, Qlik



**Cast Solutions** is an Australian-based business advisory and data analytics solutions provider. We provide strategic advice and data-driven insights, solutions and the confidence to make meaningful business decisions.

Our team has extensive experience across diverse sectors including engineering, utilities, infrastructure, and asset management.

**OUR FOCUS IS ON ENERGY EFFICIENCY OF BUILDING PORTFOLIOS WITH THE 3 KEY THEMES:**

- 1 Real-time building energy efficiency data modelling
- 2 Improve building facilities management performance
- 3 Energy and emissions compliance reporting

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