



THE MCKELL INSTITUTE

Encouraging Efficiency

HARNESSING GOVERNMENT INITIATIVES TO
SUPPORT THE **NOT-FOR-PROFIT SECTOR IN NSW**

NOVEMBER 2018

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For more information phone (02) 9113 0944 or visit www.mckellinstitute.org.au

AUTHORS



ESTHER RAJADURAI

Esther Rajadurai is a policy officer at the McKell Institute, focusing on economic and quantitative analysis. She holds a Higher Diploma in Business from NCC Education UK with Honours and a Bachelor of Economics from Macquarie University with Distinction.



NADIA SUPERINA

Nadia Superina is a former policy officer at the McKell Institute. She joined the Institute in 2017 with experience in research and business. She holds a Bachelor of Arts and Sciences with specialties in Government and International Relations, History and Environmental Science and a post graduate degree in Development. Nadia also recently completed a Masters in International Relations.

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FOREWORD

The Australian energy market has seen significant changes over the last couple of years. The major conclusion that has come out of the various debates is that there is a serious electricity and power affordability problem across the National Electricity Market (NEM) and the price increases over the last decade are significantly affecting Australian businesses and consumers.¹



THE HON JOHN WATKINS
CHAIR,
MCKELL INSTITUTE



SAM CROSBY
CEO,
MCKELL INSTITUTE

Over 2016 and 2017, the AER reports that Australia's energy sector has experienced challenges like never before, since the inception of the NEM in 1998.² Retail energy prices have increased by 80 to 90 percent over the past decade with even higher increases occurring over the past 12 months due to the renegotiation of long term electricity contracts.³ Peak grid demand is rising significantly reaching new regional demand records in Queensland and New South Wales.⁴

The rising uncertainty in the supply of electricity and its prices with gas powered generation often dictating prices during high demand periods, has led to many community organisations taking rising costs and sustainability into their own hands.

This report argues that not only is an overarching energy policy critical to providing greater policy certainty for innovators and investors in new energy technologies, but additional support is also needed to better help mid-sized organisations who are unable to afford the increasing power bills or the large upfront capital requirements to reduce their usage through energy saving mechanisms. This report focuses predominantly on mid-sized and small not-for-profit organisations and the growing Clubs sector with special regard to small and mid-sized clubs who have large energy costs but are unable to invest in energy saving schemes due to the lack of funds.

The not-for-profit and charity sector across NSW demonstrate the benefits of taking energy initiatives, both in cost and sustainability. This has resulted in benefits both for the organisations concerned and the wider community. However, without additional support from the government through grants and other financial incentives, only larger, more financially stable organisations, will be able to invest in energy saving technologies.

EXECUTIVE SUMMARY

Australia is currently facing a transformation of its energy markets from electricity generated by fossil fuels to more renewable energy sources like solar and wind. However, the increasing cost of energy is adversely impacting households and enterprises, especially small and medium sized businesses, who do not have the required capital to invest in energy saving mechanisms.

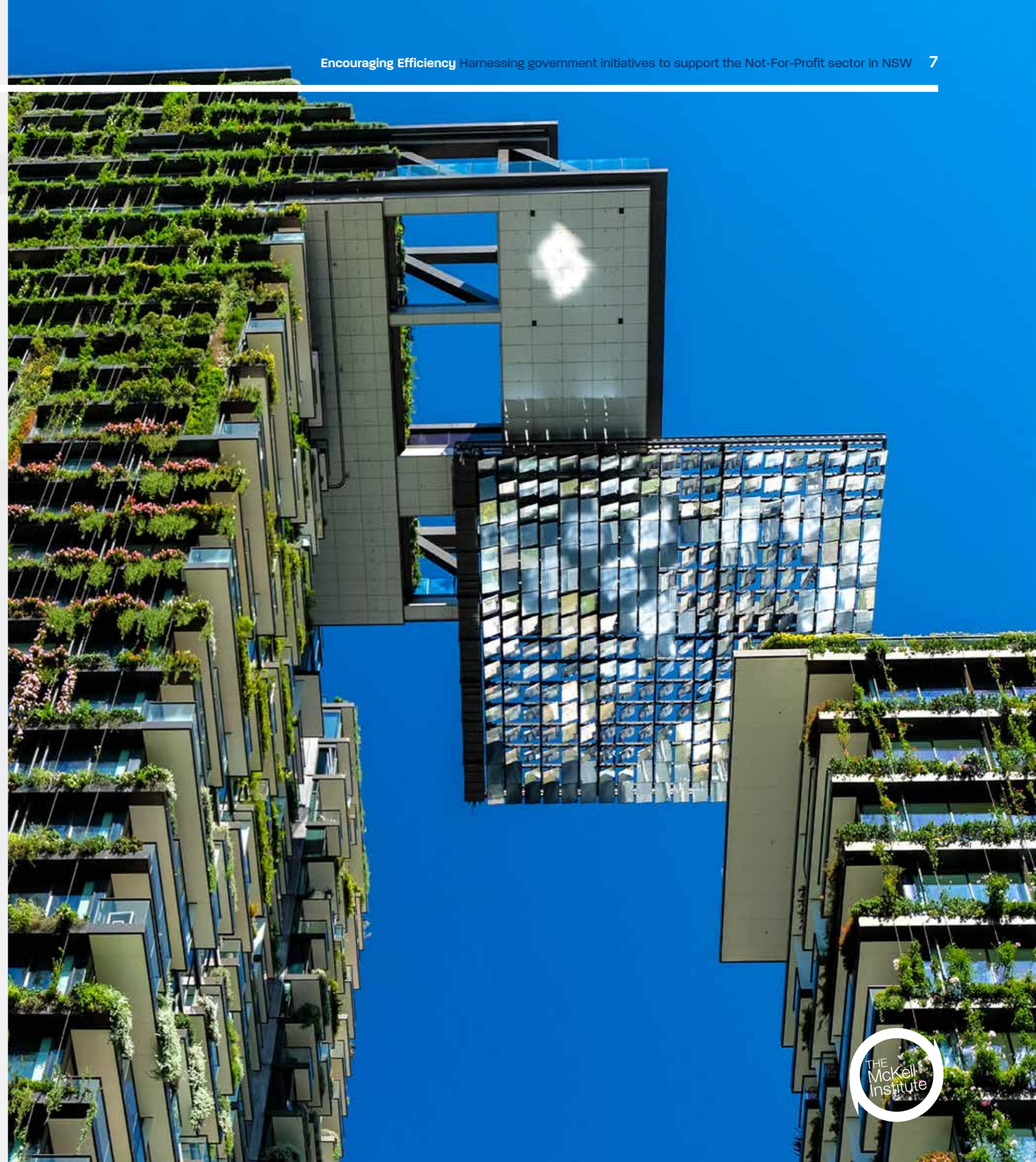
This report focuses on non-profit organisations in NSW and the impact of rising power costs on their operations. The rising cost of energy has become an enormous liability for small and medium sized organisations, negatively affecting their bottom line.

Bipartisan solutions, with incentives and grants to clubs and charities, are needed to address these issues and this report recommends that more be done to help this sector invest in energy saving technologies.

Clubs in NSW and mid-sized not for profits are large consumers of power who lack adequate government support in undertaking energy efficiency schemes in a period where rising energy prices have contributed to changes in the energy market.

This report illustrates examples of clubs and non-profits that have responded to the challenges in the energy market and have used energy saving technologies to cut costs and improve efficiency.

Further, this report looks at the existing policy framework and recommends that existing policies are amended to incorporate more initiatives that help mid-sized organisations in embracing sustainable energy programs. It looks at the Renewable Energy Target (RET) and identifies that as the RET expires in 2030, a new policy will need to be expanded to include large energy users like clubs to increase support for their initiatives. This section also discusses the importance of continued support of the Clean Energy Finance Corporation (CEFC) and the Australian Renewable Energy Agency (ARENA), two organizations that help drive clean energy projects. Through this examination, this report argues that any proposed government energy framework needs to improve energy efficiency, reduce cost, support communities and the charities and clubs sector, as well as promote investment and innovation in renewables and low emissions technologies.



1

PART ONE: RISING ENERGY PRICES & THE CHANGING ENERGY MARKET

Rising electricity prices are causing a severe affordability problem for Australians

Electricity prices have seen a dramatic increase in the last few years with energy unaffordability being a huge problem for many households in Australia. Research by ScienceDirect shows that household electricity prices rose by close to 50 percent from 2010 to 2013 with retail prices of gas rising by 8 percent per year over the last ten years.⁵ In the Australian Competition and Consumer Commission (ACCC)'s inquiry into the NEM, it found that between 2007-08 and 2015-16, increases in residential bills were driven predominantly by increased network costs and to a lesser extent, increasing retailer operating costs and environmental scheme costs.⁶ The average residential bill has increased by around 30 percent during this period (on dollars per consumer basis) and 47 percent in residential prices (as measured by cents per kilowatt hour).⁷ Households and business consumers have suffered from the lack of a comprehensive energy policy. Retail prices have increased in real terms over the past decade, and renegotiation of long term contracts has sparked even higher increases over the past 12 months.⁸

The closure of large coal fired power stations like Hazelwood in Victoria and Northern in South Australia, have led to consolidation in the wholesale power market leading to gas powered generation becoming the predominantly used marginal source of electricity generation often setting dispatch prices.



The Australian Energy Market Operator (AEMO) warned that the retirement of the Hazelwood Power Station may lead to breaches in the reliability standards of energy but, the closure in fact led to escalating electricity prices as the market factored in the reduced supply in future electricity contracts.⁹ This has coincided with a significant shortage in the domestic gas supply and that has driven the price of electricity upwards due to the uncertainty in the gas market and the nature of electricity contracts.

More than half of Australia's existing coal-fired power plants are close to, or already beyond, the end of their planned operating life. The future of Australia's electricity market has to be planned and provisions made for sustainable and affordable power generation.¹⁰ As shown in the figure below, the AEMO projects that retail prices for electricity will continue to rise in the foreseeable future.

FIGURE 1.1: THE RISING PRICE OF ELECTRICITY IN NSW¹¹

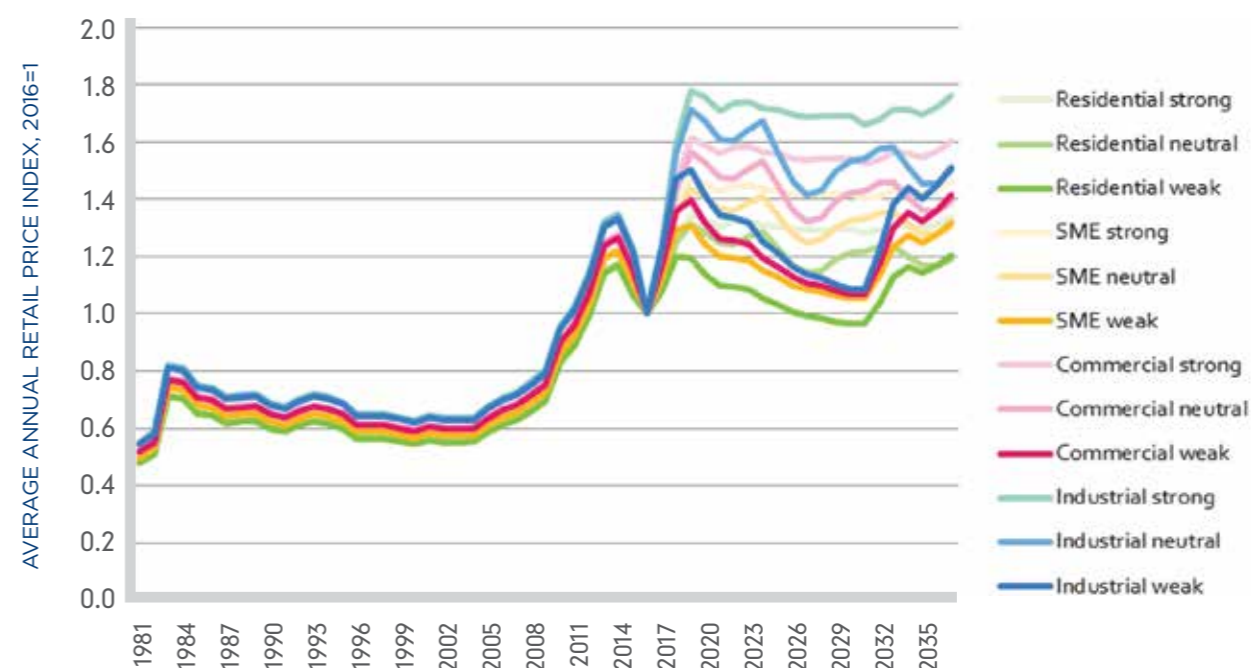
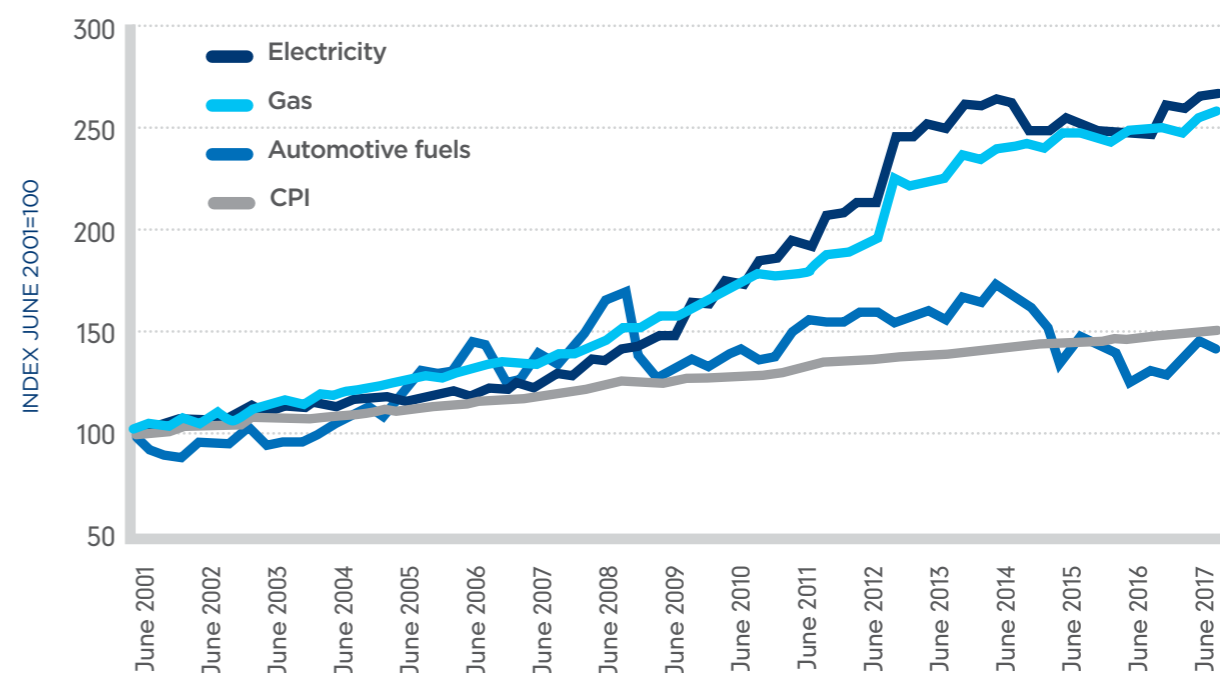


FIGURE 1.2: HOUSEHOLD ENERGY PRICE INDEX¹² (ENERGY CONSUMPTION 2001-2017)



This increase in the price of power has occurred simultaneously with increased overall demand for electricity in Australia. Consistent demand growth occurred until 2009, decreasing by approximately 8 percent between 2009-10 and 2013-14.¹³ While demand for grid-supplied electricity rose marginally again until 2016-17, it is expected to remain stable for the next 20 years despite projected population growth.¹⁴

Data from the Australian Energy Regulator (AER) shows that electricity retail prices increased by the highest percentage for NSW (13 percent) with the market still dominated by large players like AGL Energy, Origin and EnergyAustralia despite new entrants.¹⁵

Australia has the capacity to transition to more renewable energy sources. Hydro power, bioenergy, wind and solar power are contributing an increasing amount to Australia's electricity supply.

In the past decade, customers in Australia have begun to self-generate some, or all of their electricity needs by installing rooftop photovoltaic (PV) systems and selling any surplus to their electricity retailers.

Not-for-profits are a vital sector of the national economy

Australian charities and other not-for-profits (NFP) broadly, have a strong history of helping vulnerable and disadvantaged people in our society. They have worked towards alleviating poverty and being a major provider of social services to the low socioeconomic groups of society. Charities in Australia continue to address a wide range of needs including health, education and protection of the natural environment.¹⁶

As of 2010, the ABS has identified 600,000 NFP organisations with 59,000 economically significant NFPs (play an active tax role employing staff or access tax concessions) contributing \$43 billion to Australia's GDP and 8 percent of employment in 2006-07.¹⁷ From

1999-2000, the NFP sector has shown a strong growth of 7.7 percent per year until 2007 with around 5 million Australians volunteering with NFPs with a wage equivalent value of around \$15 billion.¹⁸

These NFPs operate in diverse sectors of the economy predominantly focussed on services such as sports and education and community 'non-market' areas such as civil rights and religion.¹⁹ NFPs are at the heart of Australian communities aiding in building connections and enhancing the productivity of Australians.²⁰

Likewise, the Clubs sector contributes significantly to the Australian economy. There are approximately 1400 registered clubs in NSW, and a total of 5.7 million members.²¹ The nature of clubs is diverse and ranges from bowling clubs to social and sporting clubs providing multiple facilities. They contribute to communities through increased social cohesion, a sense of belonging and improved community health and fitness levels.²² As a result of its operations, the Clubs industry makes a significant contribution to the Australian economy.

In 2015, the total economic contribution was estimated at \$8.5 billion, i.e. 0.5 percent of the Gross Domestic Product of Australia with 45 percent of this impact contributing to the NSW economy. The total economic contribution to the NSW economy by clubs was estimated to be \$3.7 billion in 2015 which represents 0.7 percent of the Gross State Product.

Direct economic impacts through clubs are generated through the industry's role as an employer, the industry's investments in capital expenditure to create and improve existing club facilities and the contribution by clubs to government taxation revenue.²³

The indirect economic impacts of clubs are generated through increased demand for the goods and services that support club operations, increased demand for consumer-oriented industries that cater to clubs and an impact on the cost of business outputs generated by changes in the price of some goods and services as a result of club operations.



Clubs in NSW contribute significantly to the State's economy

NSW registered clubs have traditionally played an important role in supporting local communities through their core activities such as RSL clubs supporting veterans' services and through broader community support providing donations. These social contributions have increased by 5 percent since 2011 and include community donations, subsidised access to facilities and volunteering.²⁴ In 2015, the social impact of the industry was estimated to be worth \$1.3 billion with cash and in-kind donations towards community initiatives made by clubs, to total close to \$147 million.

Registered clubs in NSW employ over 41,000 staff and contribute \$1.44 billion directly to the state economy in tax revenue with 23,000 jobs provided in Regional NSW.²⁵

There are around 900 small clubs in NSW with 1.6 million club memberships in these small clubs. 13,500 direct jobs are supported by small clubs with 33 percent of direct employment coming from small clubs in NSW.

Further, there are 468 medium and large clubs in NSW with over 5.1 million club memberships in these clubs and 27,200 direct jobs supported by these medium and large clubs which account towards 67 percent of direct employment in NSW.²⁶

As these figures display, clubs in New South Wales play a key role in employment and their contribution to GDP in the economy with over \$11 million made in cash donations to support local schools and other community initiatives by small clubs and \$107 million donated by medium and large clubs as of 2016.

A review of clubs undertaken in 2015 by KPMG found that larger clubs with annual Electronic Gaming Monthly (EGM) revenue over \$1 million, tend to have higher levels of financial viability than smaller clubs. In NSW, 57 percent of clubs with less than \$1 million in annual EGM revenue (small clubs) reported being in financial distress,

relative to only 18 percent of larger clubs.

Bowling clubs and golf clubs have facilities that require significant ongoing investment and this impacts the financial sustainability of these clubs.²⁷ In 2015, the highest proportion of clubs with financial insecurity were found to be golf clubs and leagues clubs with lesser occurrences among RSL and Community clubs. It is easier for larger clubs to survive and grow while also supporting their communities and providing facilities, however despite increases in membership numbers, since 2011, 60 Clubs (almost 5 percent of all clubs) have ceased operations.²⁸

The NFP sector comprises large energy consumers

The increased price of electricity has forced clubs and not for profits of all sizes to look for ways to invest in energy saving schemes and renewable energy devices in order to reduce the cost of power.

Due to their high consumption of energy, electricity prices play a crucial role in the cost structure of individual clubs, with larger clubs paying more than \$1 million a year for electricity.²⁹ Major drivers of energy consumption are HVAC (heating, ventilation and air conditioning), lighting, electronic gaming machines and catering. Understanding and managing energy costs will become increasingly important with any future energy price increases.³⁰

An energy saving audit conducted over 21 registered clubs in NSW found that the annual electricity consumption for these clubs varied between 564-13,127 Megawatt hours (MWh) and gas consumption was between 731-22,589 Gigajoules (GJ) per annum.³¹ This compares to the average small and medium enterprise in NSW which consumes only 40 MWh.³² The percentage of gas usage out of total energy usage varies across the 21 clubs surveyed from 11-38 percent per year. This high dependency on gas can significantly raise the price of energy for clubs

especially in the light of unprecedented rises in gas prices over the past few years and future expectations.

In the current environment of rising gas prices and a lack of a comprehensive domestic gas reservation policy, it is most likely that power bills for clubs will continue to rise and be a large financial liability, especially for smaller clubs. High energy bills, increasing prices and prevention against blackouts have motivated many clubs to look for alternatives in renewables and energy efficiency.

The cost of renewable energy has fallen dramatically in the recent years making many renewable sources the lowest cost of new electricity generation in Australia.³³ However, the continued deployment of clean energy projects and government support is essential to ensure energy security for small and medium sized clubs who do not have the sufficient initial investment capital to switch to renewable energy power generators on their own.

Future demands on the electricity supply must be accounted and planned for and energy policy makers must realise that energy policy is not simply about supply-side solutions but is increasingly about energy efficiency and demand management.³⁴

It is important that the state government supports programs to help large consumers of power like clubs and other NFPs, who have insufficient up-front capital, to fund the costs of efficient and sustainable energy systems.

Rising prices lead to investment in energy efficiency and renewables

The reliability of Australia's future electricity generation will be underpinned by a secure and comprehensive transition plan that integrates energy and emissions reduction policy.³⁵ The state government should incentivise NFPs and clubs by helping to invest in generators that will ensure adequate dispatchable capacity at all times especially during periods of high demand.

Additionally, large consumers of power in the NFP sector, could be rewarded for reducing their demand when necessary and for undertaking efficient energy saving schemes.

Investment in renewable energy generation has the potential to deliver the lowest cost of power in the future but requires government assistance. Governments must encourage investment in renewable energy systems so that they can benefit from the cost savings and reduced demand on the grid in the future.

For instance, as explained in detail in the case studies later in the report, Mittagong RSL — a relatively large club, was able to reduce its electricity consumption by 25 percent and saved close to \$130,000 in annual energy costs because it implemented the recommendations made by its most recent Energy Saver audit. However, many smaller and medium sized clubs are unable to conduct these audits due to the capital required and would hence benefit from government assistance.



PART TWO: THE MISSING MIDDLE

Current energy policy excludes mid-large size organisations

The National Energy Productivity Plan (NEPP) is Australia's central energy efficiency, energy market reform and climate policy.³⁶ The NEPP consists of 34 measures that aim to improve Australia's energy productivity by 40 percent between 2015 and 2030.³⁷ These measures are divided to address different areas and include: efficiency incentives, empowering consumers, helping businesses compete, innovation support, the creation of competitive modern markets and consumer protections.³⁸

The RET focuses on small-scale and large-scale projects, resulting in a missing middle

The Renewable Energy Target (RET) consists of two parts (the Large-scale Renewable Energy Target or LRET and the Small-scale Renewable energy scheme or SRES) and is overseen by the Clean Energy Regulator.³⁹ The aim of the RET is to generate 23.5 percent of Australia's electricity from renewables by 2020. The LRET creates a financial incentive for the creation or expansion of renewable energy power stations like wind and solar farms.⁴⁰ The Small-scale Renewable Energy Scheme (SRES) replicates this for households, small business and community groups. The number of installations through SRES between 2001 and 2017 included the installation of more than:

- 1.9 million solar PV panel systems
- 400 wind systems
- 1.1 million solar water heaters.⁴¹

However, both these schemes exclude supporting clubs to undertake renewable energy initiatives as their energy consumption and output is too large to benefit from the SRES but lack the funds to generate all their power from an eligible renewable source that qualifies them for the LRET. Some mid-sized NFPs and clubs are therefore left out of these initiatives and are forced to find the funds for energy saving processes on their own.

Current energy policy targets small scale energy users (e.g. households or small businesses) or extremely large energy users (e.g. manufacturers, transport, mining). However, there is a missing middle of businesses that have extremely high electricity costs as well as large amounts of energy waste that would greatly benefit from energy efficiency and the use of renewables, but a lot of which is extremely expensive.

Large clubs across Australia can have energy bills exceeding over a million dollars a year, for example Blacktown Workers Club annual energy costs reached approximately \$1.2 million, compounded by a huge amount of energy waste due to lights, heating, ventilation, air conditioning (HVAC) and electronic gaming machines.⁴² In NSW alone, clubs consume approximately 2.5 million gigajoules of energy each year, costing approximately \$70 million per annum.⁴³

The RET is an important component of Australia's energy future however, it expires in 2030 with no alternate plan yet in position to replace it. In 2017 the current Federal Government stated that it will not implement the Clean Energy Target and is instead looking to adopt an alternative investment framework.⁴⁴ The now abandoned National Energy Guarantee (NEG) was to include two components, a reliability guarantee and an emissions guarantee. The reliability guarantee was aimed at ensuring energy supply and required retailers to source a proportion of energy from ready-to-use sources like coal, gas, pumped hydro and batteries.⁴⁵ The second component was an emissions guarantee which forced energy retailers to buy energy efficient power to ensure Australia remained below certain emissions targets.⁴⁶ With the abolishment of the NEG and no comprehensive scheme yet designed to take its place, there is a critical gap in the energy market and the future of Australia's energy efficiency is at stake.

An effective energy framework would not only secure Australia's future energy needs but also utilize our geographic and resource advantages in a growing global market. Any successful policy framework will also incentivise and encourage

Australian businesses and households to become more energy efficient.

There is no single solution to cater to the needs of the future Australian energy market. A combination of approaches is required incorporating a wide range of technologies and solutions.

The government must introduce new energy saving technologies to the NFP sector

Australia's future energy mix will likely see the further integration of renewables such as solar, wind, hydro and bio-energy into the electricity grid. As the sun and wind are not available 24 hours a day, storage is important to improve the dispatchability of renewable energy.

Lithium-ion batteries are one way of storing this energy, and Australia has a global advantage as a leading source of lithium, providing 36 percent of global supply.⁴⁷ Utilising environmental advantages such as this could result in new market opportunities, for example in technological innovation in the development of new types of batteries as well as creating markets for their production. Another means of energy storage is through pumped hydro energy storage (PHES). There are currently 22,000 potential PHES sites across Australia. Some of these sites could be developed to improve the dispatchability of renewable energy sources as older sources of power, such as coal-fired power stations reach retirement.⁴⁸

The NSW government should consider introducing programs and offer opportunities for smaller and medium sized NFPs to incorporate new technologies into their operations so that they can save money in reduced power consumption costs, by storing energy.

PV cells and wind generation technologies are the two leading technologies in terms of new capacity installed worldwide each year.⁴⁹

To ensure grid reliability, energy storage solutions like batteries and PHES need to be coupled with demand management and the interconnection of electricity grids between states.⁵⁰ This could include using high-voltage power lines spanning long distances that would, according to the ARENA 'allow wind and PV generation to access a wide range of weather, climate and demand patterns, greatly reducing the amount of storage required'.⁵¹

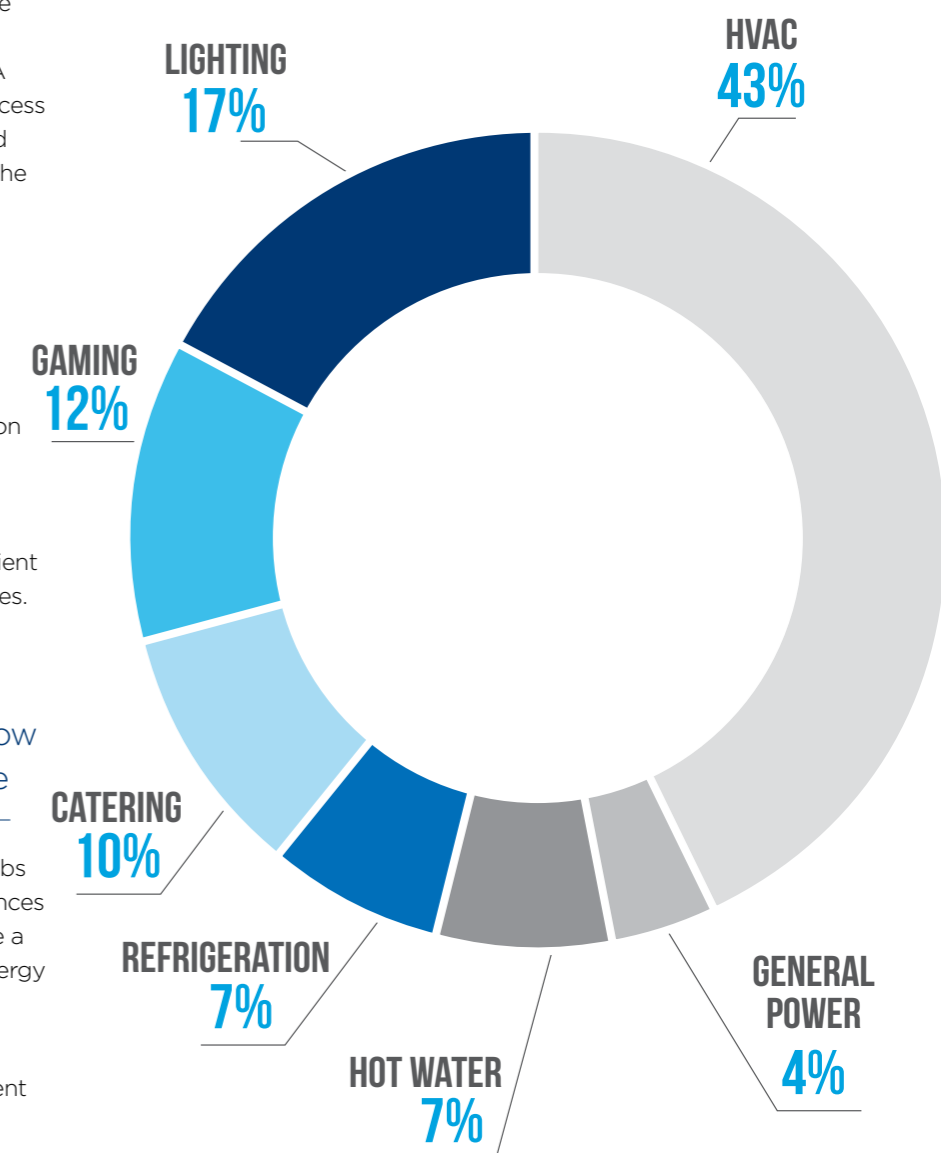
Engineers Australia identifies the importance of pricing models and how this will affect the use of electricity and consumption by large users.⁵² Smart pricing and smart meters for energy consumption require smart appliances and this report urges that local governments provide strong incentives for manufacturing and using more efficient appliances in clubs and other charities.

The government must help organisations invest now to gain savings in the future

An energy audit conducted of 21 clubs in NSW showed that despite differences among the sizes of clubs, there were a number of common areas where energy saving opportunities were identified among the clubs surveyed:

- upgrading to more energy efficient lighting types
- improving performance of existing HVAC systems
- using sensors and timers for infrequently used areas
- switching off gaming machines when not in use.⁵³

FIGURE 2.1:
THE BREAKDOWN OF A CLUB'S TYPICAL ENERGY CONSUMPTION



The audit discerned that successful energy management required an integrated approach across a variety of areas. This includes getting senior management buy-in, understanding a location's energy usage, cost and legal obligations, getting buy-in from staff as some energy efficiency solutions require staff participation to change behaviours, and incorporating energy efficiency criteria into operations, maintenance, procurement, refurbishment and design practices.⁵⁴

If clubs implemented cost-saving opportunities, there was the potential to receive an annual energy saving of 17 percent.⁵⁵ It identified various payback periods for energy savings on site in the form that the project pays for itself. For instance, as the following table shows, as the payback period increases, the site's energy savings increases given current energy prices.

FIGURE 2.2: ENERGY SAVINGS⁵⁶

PAYBACK PERIOD	< 2 YEARS	< 3 YEARS	< 5 YEARS	< 10 YEARS
Site energy savings	8%	11%	15%	17%

Analysis found that measuring a club's energy use compared with their floor area was the most useful Key Performance Indicator to track energy performance in a club. The results from the audit showed that the correlation between energy use and floor area was reasonably good for smaller clubs but larger clubs had a wide degree of variation among them.⁵⁷ This was mainly due to the large variety of services offered by these larger clubs.

However, conducting energy saving audits and taking part in the Energy Saver Program greatly reduced these inconsistent energy consumption levels. The program found that for larger clubs, demonstrating a commitment to endorsing energy policy with targets greatly helped in achieving energy savings.

The case studies consulted in this report all implemented variations of these processes in order to lower their costs and move to more efficient and sustainable energy methods.

Unfortunately, these processes are out of reach for small and medium sized clubs and other NFP organisations that lack the necessary funding and seed capital to initiate these energy savings programs. It is to these small and mid-sized clubs and NFPs that this report recommends government assistance be directed towards. A well conducted

energy savings program can greatly assist these smaller organisations with identifying inefficient high wastage activities and transitioning to more efficient ones.

As mentioned, larger clubs are able to finance renewable energy initiatives much more successfully than smaller and medium sized organisations. For instance, Ryde-Eastwood Leagues Club, a large club with 38,000 members (the average small club has close to 2000 members) has an annual power bill of more than half a million dollars and because of its relatively healthy financial position and size, was able to invest in a new lighting system that resulted in cost savings of approximately \$63,000 a year and a reduction of 30 percent in lighting energy use and a payback period of two and half years.⁵⁸ This is the result of investment in energy efficient initiatives and is an example of how small and medium sized clubs can save money, particularly if they had assistance in doing so. For large scale energy users like clubs, investments in new energy infrastructure is highly capital intensive, with many assets that have long payback periods. Smaller and medium sized clubs require government assistance in securing these assets in order to build a long-term strategy for energy sustainability.





PART THREE: THE CASE FOR INCREASED GOVERNMENT ASSISTANCE TO THE NFP SECTOR

RECOMMENDATION 1

Assist clubs to undertake recommendations by the NSW office of Environment and Heritage Energy Saver Program and increase grants to smaller and medium sized clubs to initiate the recommended energy saving procedures.⁵⁹

CASE STUDY 1

OAK FLATS BOWLING & RECREATION CLUB

In August 2012, Oak Flats became the first club in Australia to be Certified Carbon Neutral and joins more than 30 other Australian organisations that are certified as carbon neutral.⁶⁰ A few key instances were described as being crucial in its energy sustainability initiative. They enlisted in a NSW State Government program titled Sustainability Advantage, which gave the steps and direction that the club needed; the club did small projects to increase efficiency and become more sustainable, and is now installing solar panels, following almost 10 years of efficiency efforts. Other efforts that Oak Flats Bowling Club has implemented include the installation of a new heating, ventilation and air (HVAC) system. This is estimated to reduced electricity consumption by 14 percent and reduce GHG emissions by 115 tonnes each year.⁶¹

Oak Flats was only able to embark on this efficiency drive because they followed a state government program that gave them the necessary information to make small changes with minimal upfront cost. Access to necessary programs and information was critical to allow Oak Flats to have the necessary guidance to take steps to improve its energy efficiency and lower costs. Oak Flats was able to afford all the changes due to its size and membership and the level of profit it enjoys.

Unfortunately, some other clubs cannot afford the changes that the Sustainability Advantage program advocates and would benefit from some government assistance in implementing the changes. The Sustainability Advantage program benefits NFPs but combined with some financial assistance, it could benefit a larger variety of NFPs as well. This program is an example of what state governments could do to support more NFPs engage in similar initiatives.

RECOMMENDATION 2

Expand ClubGRANTS to include energy efficiency and renewable initiatives in its community development component.

Each year through ClubGRANTS, clubs across NSW provide support to a multitude of local community organisations and charities. Since its inception the program has accumulated over \$1 billion in funding from its members. Under Category 2 of the ClubGRANTS scheme, expenditure can be allocated towards community development and support services. They include projects that contribute to a club's core activities.

It is recommended that the ClubGRANTS scheme and guidelines be enhanced to allow clubs to allocate Category 1 and 2 expenditure to fund the establishment or improvement of community energy efficiency and renewable initiatives, and to also permit clubs to allocate Category 2 expenditure to fund their own capital upgrades where the primary purpose of the upgrade is to establish or improve energy efficiency and renewable initiatives.

CASE STUDY 2

BLACKTOWN WORKERS CLUB

Blacktown Workers Club was prompted to make changes to their energy usage after population projects for the region outlined the increased demand on the power grid in the future and the need for grid stability. In order to prevent blackouts, ensure supply for patrons and avoid large growth in power bills the club had to look at new solutions. In the six years since, Blacktown Club has implemented a number of initiatives that have saved the club approximately \$3.3 million, which includes a yearly saving of approximately \$500,000 in electricity, \$60,000 in gas and \$20,000 in water. These changes also involved installing more efficient lighting and placing sensors and timers on less used areas, as well as the installation of energy monitoring devices that assess gas, water and electricity usage. This monitoring gave the club oversight of its energy usage and enabled it to identify and address wastage areas. The return on investment for the EP&T system occurred within 11 months. The installation of solar panels has also saved close to \$200,000 since August 2013, reducing the club's energy usage by 4.34 percent.

Since the commencement of the sustainability agenda there has been a 65,654 GJ cumulative reduction in energy consumption.⁶² Further, the club installed variable speed drives in all of their HVAC units and this has resulted in a 30 per cent reduction in HVAC energy consumption which is significant because 50% of the club's power bill is driven by HVAC usage. Blacktown Workers Club continues to look for future opportunities to further increase energy efficiency and cost savings. It is currently building water tanks under their new sports fields, and in 3-5 years it will be totally water self-sufficient. The focus on sustainability has saved money for the club and its members and has contributed to the overall community.

Energy saving initiatives like these create cycles of community benefits and can usually only be undertaken by large, heavily liquid clubs such as Blacktown, not smaller clubs which is why enabling smaller clubs to access to the ClubGRANTS program to undertake small energy efficient and renewable energy projects, particularly when developing new or redeveloping sporting grounds and other facilities, may be useful to incentivise action. Blacktown Workers is an example of a club motivated to take responsibility for its own energy security because of New South Wales' energy costs and the need to give back to the local community and help ensure their future electricity needs.

However, it was able to undertake these initiatives because it had the necessary capital and revenue to fund it, seeing as it is a large club which earned over \$3.5 million dollars in net profit at the end of 2016.⁶⁴ They were able to commission environmental management savings systems that resulted in considerable energy savings as the figure below shows. This resulted in them reducing their energy consumption and reducing pressure on the electricity grid in Blacktown which would have positive knock-on effects on the rest of the local community.

The potential for energy savings is very high if similar to the ClubGRANTS program, local governments could expand their initiatives and support smaller clubs undertake similar projects.

RECOMMENDATION 3

The state government must emphasise energy sustainability and efficiency in its current grant programs to encourage more Not-For-Profits to take measures to implement Environmental, Social and Governance (ESG) standards in all their activities.

CASE STUDY 3

THE JOHN JAMES MEMORIAL FOUNDATION

The John James Foundation is a NFP organisation that is an independent broad based healthcare charity providing a range of assistance programs.⁶⁵ The foundation focuses on providing specialist medical facilities, support, programs and services to those in need. It is not one of the larger NFPs and thus requires government grants and financial aid in adopting energy sustainability plans as a large energy consumer. In 2013, the foundation received a grant for 6 months under the 'Improving Australia's Energy Efficiency' program and it aided in upgrading the lighting and HVAC, installation of energy sub-metering at a clinical services building and other areas of the John James hospital. The foundation was only able to undertake these changes because of the government support it received to do so.

This program was funded by the Community Energy Efficiency Program (CEEP). CEEP is a competitive merit-based grant programme that provides co-funding to local governing bodies and non-profit community organisations to implement projects that deliver a range of energy efficiency measures in council and community owned buildings, facilities and sites; particularly where this would benefit low socio-economic and other disadvantaged communities or support energy efficiency in regional and rural councils.⁶⁶ However, this program was funded by revenue from the carbon price and when the carbon price was repealed, the program ceased. The CEEP program showed that there were hundreds of organisations across the country that were willing to undertake significant energy efficiency and renewable energy improvements, with the right financial incentives. Now, unless state governments step in to fill this gap, other community service providers and NFPs will be unable to benefit from the assistance that the John James Memorial Foundation gained from.

CASE STUDY 4

ALFALFA HOUSE

Alfalfa house is a not-for-profit co-operative that aims to provide minimally packaged and minimally processed affordable, wholesome, organic food to its members. Their objectives are to provide an ethical source of whole foods and minimise resource wastage and encourage reuse and recycling.⁶⁷ As a small local co-op, they consume a relatively significant amount of energy to maintain their storage and freezing options, amounting to approximately 118kWh a day. At the beginning of the year, the organisation received a grant of \$30,000 under the NSW government's Community Building Partnership Program. With this funding, they were able to invest in a new energy efficient refrigeration system which had lower maintenance costs, more efficient refrigeration and aided the store in promoting its ethos of ethical practices and sustainability. With an annual turnover of around \$1.2 million, Alfalfa house is a small NFP that needed government aid to upgrade its energy systems without which it would have had to choose between a new stock control and IT system or energy efficient refrigeration.

The Community Building Partnerships Program is a state government initiative that helps the NFP sector with 'infrastructure programs that deliver positive social, environmental and recreational outcomes while promoting community participation, inclusion and cohesion'.⁶⁸ This program could further be expanded to support small and mid-sized charities that are focused on reducing their energy consumption and help with switching to sustainable energy production methods. For instance the project specifies that grants have to predominantly be given towards community infrastructure projects and capital equipment. However, if the eligibility is focused more on energy efficiency and renewable energy infrastructure, more NFPs and clubs could apply. Additionally, currently clubs are not listed as part of the eligible candidates; this could be changed to be more inclusive.

CASE STUDY 5

NEAMI NATIONAL

Neami National is a community mental health service working to better the lives of individuals suffering from mental illness so that they can live independently and pursue their goals. This charity delivers support, outreach, residential youth rehabilitation and other services to over 4000 people in urban and regional areas across Australia.⁶⁹ The organisation was intent on improving the energy efficiency at all its buildings, and undertook a series of measures in 2015 to do so. They undertook lighting audits and replaced their halogen downlights with LEDs, installed skylights, ceiling insulation and made sure that across their equipment, power-saving options were implemented. The Sustainability Officers at Neami, estimate that this will reduce their lighting costs by up to 64% and the project will pay itself off in two and a half years. Neami was able to afford this due to it being a relatively large organisation and hence has access to an annual capital expenditure budget, and also through the Capital Works grant they received from the NSW government, which targets education services in high-need areas. Since these measures were undertaken, 'Energy use per full-time equivalent staff has fallen by 11 percent and gas use has declined by 6 percent. These sustainability initiatives provide immeasurable benefits but cannot be undertaken by smaller and mid-sized NFPs that lack the required funding to do so.

This highlights the vital role state grants play in the NFP sector. The case studies listed above show the immense social and environmental benefits that exist when clubs and NFPs are supported adequately to pursue energy efficiency technologies. More programs like this should be initiated and eligibility criteria expanded. This report argues that grants must be targeted more specifically at energy efficiency initiatives as the benefits of energy sustainability go beyond simply the recipients of the grants. They generate positive externalities that benefit the broader community and the future energy needs of this country.

CASE STUDY 6

MITTAGONG RSL CLUB

Mittagong RSL implemented a series of energy saving changes after they conducted an Energy Saver audit in 2010. Following recommendations of the audit, the Club implemented small changes such as changing halogen lights to LED, removing excess lights and identifying faulty motion detectors for outdoor heaters and installing timer switches on function room equipment.⁷⁰ The HVAC system was also upgraded which came at a cost of approximately \$400,000 with a payback period of six years, with all changes coming at a cost of roughly \$450,000.

Mittagong RSL is a relatively large club with substantial facilities including an auditorium, function rooms and restaurants so was in a position to make the investment. However, this kind of initial cost becomes an obstacle for smaller clubs that don't have the capital for such a substantial upfront cost.

For Mittagong RSL these changes reduced energy consumption by 25 percent and saved an estimated \$130,000 in energy costs annually while also reducing the clubs carbon pollution by more than 750 tonnes per year.⁷¹ Engaging the club's 125 employees has been critical to achieve many of its efficiency objectives, with simple behavioural changes such as switching off lights necessitating staff involvement.

As can be seen in many of the case studies that included large clubs, the clubs which gained significant savings in energy were able to afford the upfront installation costs of changing over to a system alongside the grants and advice they were provided by the government initiatives, and this led to a reduction in energy consumption with the community around it benefitting greatly from these changes. The same opportunity for sustainability is harder for smaller clubs that lack the upfront capital to invest in energy saving schemes; these are the clubs that require government assistance in order to benefit not only the club, but to reduce pressure on the local power grids and minimise wastage in the community.

This is true with not-for-profits and charities in general who provide a range of beneficial services to the community and could reduce their energy consumption and save on costs with the help of government programs.



Cost saving benefits are possible through increasing energy efficiency

There are a number of common features that can be identified through these examples such as; lighting changes, energy monitoring, and simply turning off lights in areas that aren't in use - small changes that are accessible to small and larger NFPs alike.

However larger changes that necessitate sizeable initial costs such as upgrading HVAC, refrigeration and installing solar are challenging for smaller NFPs.

Making grant size proportional to club size can be one of the ways to help smaller organisations get their energy saving initiatives off the ground, particularly with the larger installations like HVAC, rather than simply having to make small changes over time.

In high population growth areas like Blacktown and other regions of Western Sydney, this also helps in protecting the supply during peak usage times as well as assisting in the reduction of emissions within communities.

The heatwave events over the last summer have emphasised the need to address the issue of peak load in New South Wales. This is especially relevant as customers at clubs utilise their HVAC system and other electrical appliances during extreme weather events (air conditioning on a hot day) and thereby place a heavy load on the grid.

During peak periods when demand is at its highest, pricing that uses automated signalling to control consumer load, mechanisms such as air conditioning demand manipulation, mandating the sale of smart-compatible appliances and other integration-enabled appliances can all provide the clubs with affordability benefits. It is recommended that sufficient aid is provided by the government to clubs and other organisations in the NFP sector in adopting these new technologies so that they could save money on energy consumption during peak periods. Additionally, it would also reduce the demand on the grid during peak periods.

Current government subsidies provide an advantage to consumers who can afford to take up these new technologies, but at a cost to the whole community, as only those users who can afford it, benefit from it.⁷² The subsidies need to be extended to smaller and mid-sized organisations who remain large consumers of power. Research indicates that energy efficiency improvements not only save the cost of energy used, but could achieve large emissions reductions over the next 20 years.⁷³ This is an additional incentive for large scale energy users like clubs to be assisted by governments to undertake energy efficient schemes as it benefits the community as a whole and has wide ranging positive externalities.

Each of the organisations presented in the previous case studies were motivated by both cost saving benefits and a desire to minimize their carbon footprint. This resulted in them dedicating resources to find programs and guidance in order to assist them in making changes. Mittagong RSL had an average payback period of 3.3 years, Neami National had a payback period of 2.5 years, while Blacktown's return of investment on its energy monitoring system occurred within 11 months.

Throughout these case studies, it can be seen that the payback period for these energy saving programs are manageable and are able to provide the necessary returns to justify the investment by state governments.

The provision of government loans and grants to small and mid-sized organisations in the NFP sector is financially viable and provides positive returns through a relatively short payback period.

This would also eliminate the need for clubs to either save up enough initial capital to buy equipment outright, or take out loans from financiers with extremely high interest rates. Oakflats CEO Matt O'Hara stated that his reluctance in taking out finance was the main stalling factor to certain renewables and that they have waited to install solar panels until they were able to buy them outright. Extending existing policy to include large-scale energy users and such items as HVAC and solar for clubs, is another avenue of support.



4.

PART FOUR: MOVING FORWARD

Electricity currently accounts for 35 percent of Australia's greenhouse gas (GHG) emissions and as such, investment in energy efficiency is critical to putting Australians on the best path to the future.⁷⁴ In order to accomplish this, there needs to be an increase in investment in renewable and efficient energy solutions. There are two organisations in Australia that drive investment in innovation and clean energy solutions, the CEFC and ARENA.⁷⁵

Innovation is needed in the energy market in Australia

The CEFC is a statutory authority established by the Australian government in 2012 and operates as a specialist clean energy financier.⁷⁶ It focuses on investing in projects with the strongest potential for decarbonisation such as solar, wind, battery storage and bioenergy; ambitious energy efficiency, such as property, infrastructure, manufacturing and agribusiness; and electrification and fuel switching, such as vehicles and biofuels.⁷⁷

The ARENA's purpose is to 'accelerate Australia's shift to an affordable and reliable renewable energy future'. Whilst the CEFC provides loans mainly to projects at the commercial end of the innovation spectrum, ARENA tends to target project more at the pre-commercial and demonstration stage through the provision of grants. ARENA provides funding to researchers, developers and businesses that have proven the viability of their initiative, as well as providing a network and place to share knowledge, insights and data from other projects.

Some successful examples of ARENA funded projects include a national large scale solar scheme which is putting solar almost at cost parity with wind power, five years ahead of schedule.⁷⁸

ARENA supported projects have attracted over \$1 billion in funding, and there are \$3.5 billion worth of projects in the pipeline. Funding initiatives like ARENA are crucial as they help propel technologies forward.

Investing in renewable agencies like the CEFC and ARENA that now have proven results, as well as developing a clear policy framework will help manage the transition to lower-emissions power sources. Businesses, from large industrial users to small businesses, are looking for a national plan to support the transition to a lower emissions economy as well as to assist them in their efforts to become more energy efficient and sustainable in their energy use.⁷⁹ Ensuring these organisations have continued funding into the future and expanding their mandates to include larger energy initiatives, like those undertaken in the case studies, will help bridge the gap for this missing middle.

CONCLUSION

The Australian energy market is undergoing a transformation that is affecting households and businesses significantly. Electricity and gas prices have risen exponentially in the past decade causing severe adverse impacts on the cost of running a business. The Not-For-Profit sector in NSW plays a vital role in the economy supporting employment, the provision of vital services and promoting social cohesion in local communities across the state. However, in light of rising power prices, large energy consumers like mid-sized NFPs and clubs in NSW are finding it increasingly hard to run their operations and lack the funding to undertake energy saving initiatives.

This report recommends consistent government funding and incentives to these NFPs in order for them to invest in energy saving mechanisms and implement their own energy efficiency and renewable initiatives. During a time where the energy market is experiencing a great deal of change, adequate government support is critical. Energy savings from energy efficiency measures also have the potential to reduce demand on the grid during peak periods.

The report outlines the initiatives undertaken by some mid-sized and larger organisations in the NFP sector in NSW and how they have been able to save a considerable amount of money and energy by investing in clean technology and energy efficiency initiatives.

Whilst much debate is focused on the future energy policy of Australia and its impact on emissions and different energy sources, policy makers should not lose sight of the need to support not only households and business but also clubs and not-for-profits in this transition. By helping such organisations address energy prices and reliability, there may be a range of co-benefits for the environment and communities.



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CONTACT THE MCKELL INSTITUTE

T. (02) 9113 0944 **F.** (02) 9113 0949 **E.** mckell@mckellinstitute.org.au

PO Box 21552, World Square NSW 2002

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