

QPC ISSUES PAPER

ELECTRICITY PRICING IN QUEENSLAND

Submission from Master Electricians Australia



Introduction

Master Electricians Australia is grateful for the opportunity to provide a submission to the Queensland Productivity Commission's *Electricity Pricing Inquiry*.

Master Electricians Australia (MEA) is a dynamic and modern trade association representing electrical contractors. A driving force in the electrical industry and a major factor in the continued success and security of electrical contractors, MEA is recognised by industry, government and the community as the electrical industry's leading business partner, knowledge source and advocate. The organisation's website is: www.masterelectricians.com.au.

For the purposes of this submission, MEA has limited our responses to the topics of most relevance to our members and those which we are most qualified to provide comment on.

GENERATION

2.3 What are the potential benefits and risks in the Queensland Government's renewable energy plans, including solar targets, for electricity sector productivity and electricity prices in the longer term?

MEA fully supports the Queensland Government's commitment to one million solar rooftops by 2020. Currently, solar power is being underutilised by the Queensland public for a number of reasons and a government policy to increase the uptake of solar PV is a welcome measure. In order to achieve the goal of one million installations, MEA wishes to raise the following potential risks with this target as well as some strategies to ensure these risks are addressed.

➤ **Licensed installers**

In order to establish public confidence in the safety and effectiveness of solar PV technology it is imperative that only qualified tradespeople are involved in the installation of solar PV. As well as being a licensed electrical contractor, we also propose that there be a formal licensing regime for solar PV installers that would be managed by a Queensland Government body.

An increase in demand for the technology could attract rogue operators into the market who do not possess the level of skill and training required to safely install solar PV. The Federal Government's Home Insulation Program (HIP) is a tragic example of what can happen when unqualified tradespeople perform high risk work in homes and businesses. Unfortunately, in the lead up to the introduction of the HIP, industry was not properly consulted about the structure of the program and when concerns were raised at the outset, no action was taken by the Federal Government to remedy them. We are optimistic that the Queensland government will draw on the expertise of industry before implementing any policy measures surrounding the broadscale installation of solar PV.

➤ **Auditing**

There must be a system of regular auditing of solar businesses to ensure they hold the relevant qualifications and are performing their work to the required standard. Implementing an official auditing program would of course involve further expenditure by the Queensland Government. However, if the Government's target of one million solar PV rooftops is to be achieved, with no compromise to health and safety, investment in an auditing program for solar PV installers is a necessity.

It would also be beneficial for an auditing program to be introduced that would ensure solar PV systems have not only been installed correctly but are also properly connected to the grid and are being maintained over a period of time.

➤ **Government grants/funding**

Given the upfront cost associated with solar PV technology, the Queensland government may wish to consider introducing grant and funding programs to assist consumers, small businesses and not for profits to make the initial investment. Loans specifically designed for businesses to invest in solar technology are another measure which could encourage more small businesses to take the first step and install solar PV.

However, any funding initiatives must be accompanied by mechanisms to ensure unqualified installers are not able to take advantage of the increased demand that would likely occur.

➤ **Battery storage technologies**

Intermittency can act as a deterrent to consumers installing solar PV and battery storage technologies are a means to overcome this obstacle. However, there are some issues associated with battery storage, including the cost involved and concerns about the environmental impacts of battery disposal. The Queensland Government may wish to consider alternative means of energy storage that have been developed, such as pumped hydroelectric storage. Hydroelectric storage takes advantage of times when there is low electrical demand, using excess generation capacity to pump water into the higher reservoir. When there is higher demand, water is released back into the lower reservoir through a turbine, generating electricity. According to the Energy Storage Association, this technique is currently the most cost-effective means of storing large amounts of electrical energy on an operating basis. As with battery storage, capital costs are an issue as is the presence of appropriate geography. In light of the technology being developed, we would recommend that the Queensland government continue to investigate options for energy storage that would maximise the effectiveness of solar PV.

➤ **Product quality standards**

Following the recent recall of a number of faulty electrical products, most prominently Infinity branded cable and Avanco DC Isolators, any government endorsed solar PV program must take measures to ensure faulty products do not enter the market. In the context of solar PV specifically, a number of Avanco branded DC isolators were found to have an internal fault which could cause the isolator to overheat and cause fire. While these products were subject to both a Queensland and national recall, the reality is that many consumers and tradespeople would not be aware of the faulty products. This becomes an issue for not only the installations of solar PV, but the ongoing maintenance of solar panels.

The target of one million solar PV installations by 2020 is a timely opportunity for the introduction of a strategy to minimise the impact of a product safety recall. MEA has long advocated for a register of electrical products whereby sellers of electrical products would be obliged to maintain a register of electrical products that require installation by an electrician. The register would be used to contact purchasers in the event of a product safety recall.

Introducing a register would assist the regulator to identify the location of any equipment of this type that was later subject to a recall. This would facilitate a ready means to contact those at risk to ensure they take the steps to remove the product from their homes.

We encourage the Queensland government to work with the Federal government on implementing such a register to ensure any product recalls do not have an adverse impact on the solar PV industry.

➤ **Commercial and industrial businesses**

While an increase in the uptake of solar PV in residential properties is an important factor in reducing greenhouse gas emissions, it may also be valuable to consider policy initiatives that would encourage the owners of large commercial buildings to install solar PV on their premises. Larger commercial businesses are in a much better position to make the initial financial outlay for solar PV and would generate a significantly greater amount of electricity to put back into the grid.

➤ **Energy auditing**

The major deterrents to the Queensland public installing solar PV are the upfront cost involved, coupled with a lack of understanding as to how solar power works and the financial benefits that could be realised. There is also uncertainty about the reliability of solar power and concerns regarding intermittency. A suggested policy initiative to overcome these obstacles would be the government endorsement of qualified energy auditors to perform an assessment on a household's or business' energy usage and provide suggestions on ways to minimise their greenhouse gas emissions and in so doing realise genuine savings on energy costs. Personalised advice from a qualified professional could provide consumers with assurance that they will see a return on their investment in solar PV.

Unfortunately, the failed 2009 Climate Smart Program did some damage to the reputation of the energy auditing industry by endorsing underqualified and inexperienced energy auditors to perform energy assessments in Australian homes. A government endorsed energy auditing qualification would restore consumer confidence in the energy auditing industry and in turn encourage more consumers and businesses to embrace solar PV technology.

2.9 What is the best way to recover the network costs associated with demand from electricity customers more efficiently and equitably?

MEA supports tariff reform and is of the firm view that controlled load off-peak tariffs should play a key role in any network tariff reform measures designed to reduce peak demand. These kind of tariffs can provide genuine cost savings but are underutilised due to a number of issues such as the current requirement to hard wire appliances and the absence of back-up for the few days per year when power may be needed at peak demand time. These weaknesses could be overcome through smarter technology, such as the installation of a “booster switch” which could allow the consumer to manually boost their supply under times of extreme need (and still under the discretion of the supplier) and the possible application of the tariffs to socket outlets. There is very clear potential for controlled load off-peak tariffs to be utilised beyond their current application, should the government/ distributors remove the requirement for off-peak appliances to be hard-wired into a home's electrics. Such tariffs are well placed to be used in a variety of settings throughout a household and could include dishwashers, air conditioning compressors, pool filtration systems, free standing lights, outdoor pool lighting, power for tools and other appliances.

Time-of-use tariffs have been mooted as the preferred option in previous reviews of tariff structures. MEA would caution against relying on such tariffs as, in practice, time-of-use based tariffs tend to provide an excessive peak period with virtually no discount on the shoulder. With limited opportunity for the average household to actually take advantage of lower prices, consumers end up paying more and those who do save money are those who already use power at odd times of day, such as shift workers.

CUSTOMER PARTICIPATION AND SUPPORT IN THE ELECTRICITY MARKET

5.1 What are the barriers to improving consumer participation in the electricity market?

We believe that the primary barrier to improving consumer participation in the electricity market is a lack of understanding of the energy saving options available and how they can be utilised for their specific household. Engaging the services of a qualified energy auditor is a strategy to overcome this obstacle. For further discussion on the benefits of energy auditing see our response to question 2.3.

5.5 What are the key information gaps in consumer knowledge and understanding of electricity markets?

The key information gaps for consumers concern the costs/benefits of the energy tariffs available and how each could benefit their specific household circumstances. For example, the energy usage of a family would differ to that of a shift worker. Consequently, a chosen tariff that benefits one household could be detrimental to another.

5.6 What have industry or consumer groups done to address existing information and behavioural barriers, and how effective have these strategies been?

As an industry body representing the electrotechnology industry, MEA has been active in informing consumers about the energy tariffs available. As well as releasing information directly to the public through media avenues, our accredited Master Electricians have been armed with the information to educate the public on energy saving strategies and how to best utilise the tariff options available.

Industry and MEA developed the Cert IV in Energy Efficiency to train electrical contractors on energy auditing, developing a program where electrical contractors can acquire the knowledge and skills to perform energy audits.

Participants undergo a range of training activities developed by world leading sustainability experts, delivered in an interactive forum by industry specialists. The Certificate IV in Electrotechnology (Energy Efficiency) stands out from other energy auditing qualifications in the market place as it is targeted at licensed electricians and electrical engineers with the appropriate safety systems in place. This ensures that only technicians with a high level of skill and experience will receive accreditation, resulting in more comprehensive and effective energy audits for consumers. Qualified energy auditors are also in the unique position of being able to offer practical and tailored advice, including connecting them with a master electrician who can initiate energy improvements. Given the significant impact that an energy audit can have on a household's energy consumption, and the environment as a whole, it is essential that the auditor has the best training available. An energy audit performed by an underqualified, inexperienced technician is not only a waste of time and money for the consumer but could also damage the reputation of the energy auditing industry, effectively deterring consumers from engaging an energy auditor in the future.

Research conducted by Integrated Energy Services indicates that, on average, homes that engage an accredited energy auditor and adopt the recommended capital and behavioural changes, can save 67% of their annual energy consumption or 11,931 kWh_e per annum. The implication of moving towards these energy efficiency practices is that on a per householder basis families can save an average of \$1,500 on their annual energy expenditure. In terms of an environmental impact, Australia can reduce greenhouse gas emissions in the residential sector from 59.5 tonnes million to 23.8 million tonnes per annum by taking advantage of energy saving practices and technological improvement.

It is clear that the benefits of an energy audit are far reaching, however, these benefits will only be realised if the audit is delivered by an experienced and highly trained energy efficiency specialist. The Certificate IV in Electrotechnology (Energy Efficiency) guarantees that an energy auditor has extensive experience in the electrical trade and has been fully trained in identifying realistic and affordable changes that consumers can make to reduce their energy emissions. Master Electricians Australia strongly recommends that all energy auditors be required to hold this qualification before performing any energy efficiency assessments for the Australian public.

MEA acknowledges that householders may be reluctant to make the initial financial outlay for an accredited auditor to perform a full audit on their home. The funds required to apply the changes, which could include the purchase of new appliances or engaging an electrical contractor, may also deter consumers from implementing an auditor's recommendations. These costs act as a significant barrier to the success of energy auditing.

In order to overcome these obstacles, we propose that the Government adopt a policy whereby a consumer who pays for an energy audit performed by an accredited energy auditor will be able to reclaim the full audit fee against the costs incurred in implementing the changes. An additional incentive for a consumer would be the offer of a low interest loan to ease the initial financial burden of making their home more energy efficient. These policies would not only encourage more households to engage an energy auditor, but would also provide the incentive for consumers to invest in actual changes.

5.7 What are the potential benefits and risks in the transition to cost-reflective pricing, in terms of electricity prices and supply chain productivity?

The benefits of cost reflective pricing can be significant provided the tariff used by a consumer is suitable to their household situation. As discussed above at 2.9, MEA would caution against relying on time of use based tariffs as, in practice, these tariffs tend to provide an excessive peak period with virtually no discount on the shoulder. With limited opportunity for the average household to actually take advantage of lower prices, consumers end up paying more and those who do save money are those who already use power at odd times of day, such as shift workers. Controlled load tariffs, however, have the potential to reduce electricity prices for all consumers, regardless of their household makeup.

➤ Education

Consumer education must be made a key component in any strategy to support consumers in the transition to a more cost-reflective tariff structure. MEA would see value in electricity distributors and government working together to educate the public on ways to alter their electricity consumption patterns. An example of the potential positive impact that such co-operation can have is evident in the water conservation efforts that occurred during the Queensland drought. The co-ordination undertaken between Urban Utilities and the

Queensland Government succeeded in educating the public on the role they could play in combating water shortages. A similar approach by electricity distributors and the Queensland Government could reap rewards in encouraging the public to change their consumption patterns, specifically in relation to peak demand.

Another educational strategy that could reap genuine rewards is the release of consumption data from other states and territories as a comparative tool for Queensland consumers. For example, if a consumer in Queensland could see the daily electricity usage of an equivalent household in Victoria, they may be better placed to understand the potential for savings in their own home and the benefits that may be realised through the use of alternative tariff options.

➤ **Energy auditing**

See above discussion of energy auditing at 2.3 as a means to further support customers in the transition to cost-reflective tariff structures.

5.10 What are the benefits and risks of cost-reflective pricing?

As discussed above in our response to question 2.9, MEA supports tariff reform and is of the firm view that controlled load off-peak tariffs should play a key role in any network tariff reform measures designed to reduce peak demand.

5.11 What strategies or safeguards could support low-income and vulnerable consumers in the transition to new tariff structures?

Pricing concessions for those on a lower income would be appropriate. Government may also wish to consider subsidies for items such as energy efficient light bulbs and appliances. A complimentary (or subsidised) energy audit would also assist vulnerable consumers to adjust to the new pricing structure.

5.12 What is the role of retailers in the transition to new tariff structures?

Again, education is the key to ensuring a smooth transition to cost-reflective tariff structures. If consumers understand how their billing works they are in a better position to adjust their usage to take advantage of the savings available. The value of consumer education is discussed in further detail at 5.8.

5.13 In what ways do the benefits of energy efficiency and demand management programs help consumers offset price risks?

Programs and tools that make consumers more aware of their energy usage and pricing implications are beneficial by arming consumers with the knowledge as to how their actions impact directly on their electricity bill. They can then adjust their behaviour to realise energy savings.

5.14 What types of incentives would be the most effective in balancing benefits and costs to achieve better outcomes in terms of electricity pricing and supply chain productivity?

As discussed above, government subsidised energy auditing could prove beneficial as well as an option for consumers to off-set the price of an energy audit with the purchase of energy efficient appliances.

5.15 What are the benefits and risks in the Queensland Government providing incentives for households, businesses and industries to become more energy efficient or manage their peak levels of demand, including implementing energy efficiency standards for sectors within its jurisdictional authority?

Incentives for households, businesses and industries can certainly be of benefit in improving energy efficiency. However, government must be mindful of mistakes made in the past when incentives have unanticipated consequences. The failed Home Insulation Program is an example of government incentives that do not achieve their desired goal.

In terms of providing incentives to embrace solar technology, it is also important to remember the lessons learned from the Government's solar incentive scheme. The scheme, which has now been phased out, provided a generous multiplier mechanism for consumers who installed solar PV systems in their homes. While achieving the objective of increasing the uptake of solar PV technology, the excessive rebate resulted in higher electricity bills for consumers not in the financial position to install solar PV systems. Those utilising the technology already enjoyed lower bills simply by virtue of being able to access solar power. While this incentive would have boosted energy efficiency and lowered electricity bills for some, it did so at the expense of others in the community. Any consideration of incentives in the context of solar PV must ensure the costs of grid backed-up distributed energy systems are equitably distributed.

5.16 What barriers and costs does a voluntary uptake of advanced metering present for energy efficiency and demand management tools?

We would urge government to perform a cost/benefit analysis regarding tariff and metering reform and in doing so consider alternative metering solutions apart from smart meters. Second generation electronic interval meters are one example of the options available. These new generation interval meters collect data at hourly intervals or even in some cases on 15-minute increments, providing a much more fine-grained picture of energy use than was available in the past. Some of the benefits of advanced meters include more detailed information on energy use (in some cases, provided in real time) and the opportunity for new pricing plans that provide incentives to reduce a consumer's demand for electricity during peak times. Regardless of which option is adopted it must be at the consumer's discretion to make the change.

The failure of the Victorian smart meter program, where metering charges actually increased for a large number of Victorians, demonstrated the need for more extensive community consultation and education about a smart meter system before they are introduced. If the public are fully informed about advanced metering they may be more willing to make the choice and embrace the new technology, fully aware of the costs and benefits of the change. If smart metering is to become a reality for Australian households, we strongly urge government to allow for comprehensive customer consultation prior to implementation.

Devices such as smart meters can play an important role in consumers being able to manage their energy usage. However, for the data to have a meaningful impact consumers need to understand the information and have the tools to reduce their energy consumption.

It is in the best interests of consumers, government and the industry for there to be a continued and strong focus on energy auditing performed by accredited technicians as a strategy for improving the efficiency of electricity use.

Conclusion

MEA is optimistic that the above will be of value to the QPC's inquiry into electricity pricing. We would be eager to participate in any further consultations on these issues as they occur.

Yours sincerely,



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