ELECTRICITY PRICES

Submission to the Senate Select Committee

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KEY POINTS

Engineers Australia is the largest and most diverse peak body for engineering practitioners in Australia and is the national forum for the advancement of engineering and the professional development of its members. Engineers Australia is constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community. This includes representing the interests of members in public policy development.

Engineers Australia urges the Committee to clarify the facts about electricity prices as a matter of urgency to avoid further community confusion. Real increases in electricity prices have occurred since 2007 and there is widespread agreement among analysts that the key reasons for these changes are regulations holding down retail electricity prices below competitive market rates and the unchecked growth in peak demand for electricity.

Lower electricity prices have contributed to growth in average and peak demand, and together with under-investment in some electricity infrastructure, means that further real increases in electricity prices are likely over coming years.

Engineers Australia believes that the impact of electricity price rises can be mitigated by:

- Completing electricity market reforms as a matter of urgency, and
- Replacing the present passive approach to energy efficiency with a more rigorous and active approach, including a formal energy efficiency framework to target and measure improvements.
- Separating electricity price policy and hardship policy.

Engineers Australia acknowledges that concerns about consumer hardship in present regulated electricity pricing policy in several jurisdictions is well intentioned. However, this form of regulation does not fit with the competitive market model at the core of agreed electricity policy reforms. Regulation cannot prevent increasing costs and inevitably these must be met one way or another. Engineers Australia believes that completing market reforms and more assiduous progress on ways to assist consumers to mitigate electricity bills hold more promise than the narrower focus on prices alone. Hardship must be dealt with but in tandem with reform and not at the expense of reform.

INTRODUCTION

Engineers Australia is the largest and most diverse peak body for engineering practitioners in Australia and is the national forum for the advancement of engineering and the professional development of its members. Engineers Australia is constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community. This includes representing the interests of members in public policy development. Engineers Australia represents all disciplines, branches and occupational groups in engineering and membership is now approximately 101,000 Australia wide.

Engineers Australia accredits university courses in engineering using internationally audited competencies, facilitates the transition of its graduate members into fully competent practicing engineers, equipped and capable of independent engineering decision making, facilitates an environment of continuous professional development for its members and provides the frameworks and facilities for the development and exchange of engineering knowledge in learned society environments. All Engineers Australia members are bound by a common commitment to promote engineering and to facilitate its practice for the common good and annually affirm their commitment to Engineers Australia's code of ethics.

Engineers Australia has a long standing interest in energy policy matters and has expressed its position in a policy statement on energy and climate change unanimously adopted by its National Council. The following section sets out the context for the Committee's inquiry as Engineers Australia sees it. Subsequent sections set out Engineers Australia's views on key issues raised. These views are briefly summarised at the beginning of the submission.

THE CONTEXT FOR INCREASING PRICES

There has been persistent and widespread debate about the level of Australian electricity prices and the rate at which they have changed in recent years. Engineers Australia believes it is important that the Committee settle the facts of this debate in its deliberations and commends the analysis by Simshauser and Laochumnanvanit[1] in this regard. These analysts point out that:

- Throughout the first decade of the National Electricity Market (NEM), nominal retail electricity prices increased approximately in line with inflation but real prices were comparatively stable until about 2007.
- This period of real price stability saw the gradual exhaustion of electricity generation over-supply under conditions of strong competition in the wholesale market.
- Since 2007, real retail electricity prices have been increasing, reflecting primarily the costs of meeting rapidly increasing peak demand, compounded by rising capital investment costs in generation and transmission.
- The impact on electricity consumers is largely the result of failure to move forward with retail price competition. Although retail contestability was widely introduced, most governments persisted with price regulation for a variety of reasons including, insufficient competition and consumer hardship in three of the four NEM regions. Retail price competition is in place in only in Victoria.
- The circumstances leading to the Committee's inquiry are aptly illustrated in the Authors' Figure 4 which traces the steps from price suppression through to the media storm that has accompanied the debate about electricity prices.

[1] Simshauser and Laochumnanvanit, The price suppression domino effect and the political economy of regulating retail electricity prices in a rising cost environment, AGL Applied Economic and Policy Research Working Paper No 20, 2011, www.aglblog.com.au

- The analysis argues that regulation to hold down retail electricity prices is self-defeating because the true costs of electricity need to be met somewhere, either through electricity prices of through the taxation system. Since regulated prices rarely keep pace with market developments, built up pressures can lead to sudden changes, larger than those the market would produce.

Against this background the Bureau of Resources and Energy Economics (BREE) has recently described Australian retail electricity prices as low by international standards[2]. The Energy Users Association of Australia (EUAA) has taken a different view and has released a report arguing that four Australian jurisdictions had household electricity prices that were in the top six of 91 countries, provinces and states included in their study and the remaining Australian jurisdictions were not far behind[3].

International comparisons, especially of prices, are always difficult and the Energy Supply Association of Australia (ESAA) outlined these difficulties in a report critical of EUAA views and sought to clarify where Australian electricity ranked[4]. ESAA showed that Australian electricity prices were neither the most expensive or cheapest in the world but were mid-range. The study also showed that based on industrial electricity prices, considered to be a good guide to retail electricity prices, Australian prices ranked 14th in a group of 16 countries in 2010 and increased by 15.7% over the following year, changing rank to 12th. Furthermore, double digit price rises were shown to be common and that the increase in Australian was towards the lower end of the scale.

Although inflation has been within the comfort zone established by the Reserve Bank of Australia for some time, price rises for everyday goods and services are common, even for essential goods and services. As demonstrated by Simshauser and Laochumnanvanit, in market systems prices and price movements are critical to economic efficiency. The impact of prices changes on consumers can be evaluated by considering what has happened to the share of consumer expenditure devoted to energy consumption and the prospects for consumer incomes.

Since the formation of the NEM in 1998-99, household expenditure on fuel and power (of which electricity is about two-thirds) increased from $17.87 to $23.59 in 2003-04 and to$32.52 in 2009-10. These expenditures were 2.56%, 2.67% and 2.63% of average weekly expenditures. For the lowest quintile households these shares were higher at 3.75%, 4.02% and 4.00% respectively[5]. Over the same period average adult weekly earnings increased by an average 5.2% per annum[6]. The costs covered all fuel and power costs with electricity costs accounting for about three-quarters for all consumers and the lowest quintile alike. These figures demonstrate that for average households and those in the lowest quintile incomes have increased sufficiently to maintain expenditure shares on power and fuel at more-or-less constant levels. But for households in the lowest quintile, power and fuel costs are a much larger share of expenditure and this is where the basis for “hardship” assistance lies.

Related to the completion of electricity market reform is the nature of the business model for electricity retailers and the consequences that flow from it. Electricity retailers derive their revenue primarily by selling electricity. The more they sell, the higher their revenue, and this

[2] BREE, Energy in Australia, 2012, www.bree.gov.au
[3] CME, Electricity Prices in Australia: An International Comparison, March 2012, www.carbonmarkets.com.au
[4] ESAA, Comparing Australian and International Electricity Prices, March 2012, www.esaa.com.au
[5] ABS, Household Expenditure Survey, Australia, Summary of Results, 2009-10, Cat No6530.0, 6 September 2011, www.abs.gov.au
[6] ABS, Average Weekly Earnings, Australia, May 2012, Cat No 6302.0, www.abs.gov.au

results in a conflict between activities that help customers to economize on their electricity use and core business, selling electricity. This issue is made worse by regulated prices below competitive market levels because lower prices encourage higher consumption of electricity.

Recently, the Australian Energy Market Operator (AEMO)[7]released new forecasts for future electricity demand using a revised and augmented methodology. These forecasts are used by the regulator to inform prospective energy investors about current and likely future demand conditions. AEMO noted that:

- Actual electricity usage in 2011-12 is expected to be 2.4% lower than usage in 2010-11 and 5.7% lower than forecast in 2011.
- Forecast electricity usage for 2012-13 is expected to show no increase over usage in 2011-12 and to be 8.8% lower than forecast in 2011.
- Growth in electricity demand over the next ten years is now expected to be 1.7% per annum compared to 2.3% per annum forecast in 2011.

These substantial changes over the course of one year explained as resulting from:

- Changes in economic conditions (lower manufacturing activity due to the high dollar, slower consumption growth from large customers and changes in the economic outlook to 2020).
- Significant installation of rooftop photovoltaic systems which now generate 0.9% of annual electricity usage and this is expected to expand to 3.4% of electricity usage by 2020.
- Increases in real electricity prices in recent years and in the outlook period.
- Consumer energy efficiency responses to higher electricity prices.

The last three points are directly relevant to the Committee's terms of reference.

COMPLETING ELECTRICITY MARKET REFORMS

The Draft Energy White Paper released by the Commonwealth Government acknowledges that electricity market reform achievements have delivered immense benefits to electricity consumers. However, it is clear from the Simshauser and Laochumnanvanit analysis that the failure to complete the reform agenda set out in the Parer Review[8] and the Energy Reform Implementation Group Review[9] are in part responsible for the conditions consumers are experiencing in the electricity market and are a barrier to the realization of the greater benefits that will flow from agenda completion.

Engineers Australia believes that electricity market reforms should be completed as quickly as possible. This includes reforms dealing with:

- Retail electricity price deregulation and full retail contestability in all jurisdictions.
- Promotion of greater competition in retail markets and addressing incumbency advantages, including advice to consumers about options open to them.
- Issues arising from government ownership of electricity utilities.
- Issues arising from cross ownership of generation and transmission infrastructure.
- Encouraging efficient demand responses to market changes.
- Uniform regulations for non-economic matters across jurisdictions.

[7] AEMO, National Electricity Forecasting, for the National Electricity Market, 2012, www.aemo.gov.au
[8] Towards a Truly National and Efficient Energy Market, 2002, www.ret.gov.au/Documents/mce/_documents/FinalReport20
[9] Energy Reform: The Way Forward for Australia, 2007 (Energy Reform Implementation Group), www.ret.gov.au/**energy**/**energy**_markets/erig/Pages/erig

- Completing arrangements for the deployment and use of smart technology (interval meters, smart meters and smart grids).
- Changing the nexus between revenue and electricity sales in the business model for electricity retailers to include provision for retailers deriving revenue by assisting customers to adopt more energy efficient options.

Given the circumstances outlined in articles and reports cited above, further increases in electricity prices appear to be unavoidable. However, completion of all electricity market reforms will ensure that price increases that do occur are defensible and part of an efficient economic framework that will minimize a repeat of these circumstances in the future.

MITIGATING ELECTRICITY BILLS

Engineers Australia believes that the cheapest electricity is electricity that consumers do not need to pay for. Australians use far more electricity than is necessary to achieve their consumption and production objectives and have been encouraged in this direction by regulated electricity prices. The cost of the unnecessary electricity produced and consumed, and the infrastructure that produces it, is a serious misallocation of resources with national economic implications. This is why the McKinsey organization coined the phrase “energy productivity” to describe energy savings from energy efficiency[10].

At national economy level, energy efficiency reduces the demand for energy infrastructure investment, maximizes the returns on existing and proposed new energy infrastructure and increases national income through the redeployment of saved capital. Energy efficiency is to the energy sector what productivity growth is to the national economy. From this perspective alone active energy efficiency policy should be an indispensible component of national policy. But, as the International Energy Agency (IEA) has observed, over 40% of the emissions reductions required by global climate change mitigation policies can be achieved from energy efficiency[11], there is strong complementarity with climate change policy.

For individual consumers, energy efficiency is a means of reducing their exposure to rising electricity bills. Australians are justly proud of their life-styles and standard of living and expect to be able to maintain them, and if possible, improve on them. The increase in average household electricity consumption over past decades serves as an indicator of the connection between access to, and use of, electricity and life-styles. Energy efficiency has been downplayed in Australia in the past and the increase in average electricity usage can be reduced without sacrificing activities Australians enjoy.

Some energy efficiency options will be taken up by electricity consumers in response to increases in electricity prices. Other energy efficiency options require regulatory intervention, for example, the replacement of incandescent lighting with fluorescent lighting. The reduced growth in electricity demand observed by AEMO comprises both sources. As promising as these changes are, the Prime Minister’s Task Group on Energy Efficiency[12] observed that Australia’s record on energy efficiency lags considerably behind other OECD countries and there are strong arguments supporting a catch up effort that will benefit consumers.

With few exceptions, Engineers Australia believes that Australia has pursued a comparatively passive approach to energy efficiency. The framework for a more active and aggressive

[10] McKinsey and Company, The Case for Investing in Energy Productivity, February 2008, www.mckinsey.com
[11] See for example, IEA, Energy Technology Perspectives 2008, Scenarios and Strategies to 2050, www.iea.org
[12] Report of the Prime Ministers Task Group on Energy Efficiency, July 2010, www.climatechange.gov.au

approach to energy efficiency has been in place for almost a decade, but there appears to be a reluctance at official and government level to proceed more expeditiously. The inclusion of energy efficiency in the AEMO reasons for downgrading forecasts of future electricity demand growth demonstrates that electricity consumers are not simply receptive to an increased level of activity, but are moving ahead of official policy.

A key issue raised by Engineers Australia in its submission to the Prime Minister's Task Group on Energy Efficiency is the importance of a national energy efficiency target. This proposal was one of the Task Group's recommendations and is critical to the Committee's terms of reference. An energy efficiency target is the pinnacle of a framework in which the myriad of energy efficiency options can be defined and categorized into groups that will respond to electricity market price movements (including those brought about by the carbon tax), that require regulation because market failure impedes their adoption or that require regulation because although options are economic, the benefits to individual consumers are too small, but in aggregate are substantial for the nation as a whole. By combining all options into an integrated framework and adopting a national energy efficiency target, a mechanism is established to measure and compare collective gains and to assess options that are successful and reassess those that are not so that action plans can be adjusted to achieve maximum effect. There is also the additional benefit of simplifying the means of communicating the energy efficiency message to consumers.

Engineers Australia is aware that further consultations have occurred in respect to action on energy efficiency and broadly supports the proposals put forward. However, the pace of progress remains far too slow and Engineers Australia believes that this must be overcome as a matter of some priority.

ELECTRICITY AND SOCIAL EQUITY

Australians have a strong social ethos and have a strong history when it comes to ensuring equitable treatment of disadvantaged individuals. The evidence from the household expenditure statistics is that fuel and power bills are more important for the lowest income group. This point was examined in the context of projected electricity price increases in an analysis highlighting the notion of "energy poverty"[13] which stressed the importance of policy focusing on the correct variables.

The analysis by Simshauser and Laochumnanvanit, discussed above, demonstrated the consequences of focusing on inappropriate variables, that is, regulating electricity prices below competitive market level. Market consequences do not discriminate between the reasons for the regulated action and even well intentioned regulated price policy can lead to consequences with the opposite effect and inevitably disadvantage all consumers. This is a strong argument to separate electricity pricing policy and policy to address disadvantage and hardship and one that Engineers Australia agrees with.

In Victoria, where electricity markets are now deregulated but remain subject to State Government monitoring, all electricity retailers are obliged to have "hardship policies" that provide for flexibility in payment arrangements, energy audits, appliance replacement with more efficient ones and early identification of customers experiencing hardship. Disconnection of customers is not permitted on hardship grounds. In addition State Government agencies offer concessions and financial assistance to customers experiencing hardship. Engineers Australia commends these arrangements for the Committee's consideration.

[13] Tim Nelson, Power Point Presentation Outlining the Boomerang Paradox, AGL, December 2010, www.aglblog.com.au

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