Electricity Network Regulation Inquiry

October 2012

On 18 October 2012 the Productivity Commission released its Electricity Network Regulatory Frameworks draft report. Earlier this year Deputy Prime Minister and Treasurer, the Hon. Wayne Swan MP, requested the Productivity Commission to undertake an inquiry into national electricity network regulation, particularly focusing on electricity network services that transmit and distribute power from generators to end-users in the National Electricity Market.

Media release available here.

Contents

Background

Up until the mid-2000s, Australian retail electricity prices grew at around the same rate as economy-wide inflation, but in recent years consumers have seen a significant increase in electricity costs. From June 2007 to December 2011, Australian retail electricity prices rose by around 69 per cent, while general inflation increased by around 14 per cent.

This significant increase in electricity prices has primarily been driven by rising network costs. Moreover, future retail electricity prices, partly locked in through regulatory agreements, are projected to increase by 29 per cent from 2011-12 to 2013-14, with network costs being the main contributor.

In 2006 and again in 2008 regulatory changes for electricity transmission and distribution were introduced in order to improve the environment for investment. However, the Commission has concluded that flaws in the regulatory arrangement have led to increased inefficiencies. According to the Australian Energy Regulator, the changes introduced in 2006 and 2008 encourage overinvestment in distribution networks, which causes price increases for the end-users.

While the generation and retailing segments of the electricity sector are subject to competition, the network services remain natural monopolies and are subject to detailed government price regulation. Furthermore, state and territory governments continue to play a large role in regulating electricity retail market.

In Queensland, New South Wales, Tasmania and the Australian Capital Territory, governments own the network services. Governments still own generators in New South Wales and Tasmania, and retailers in Tasmania and the Australian Capital Territory. Consequently, no national, uniform regulation of network services in the electricity market exists, which leads to significant variations in the treatment of local and state-wide distribution and transmission networks.

Productivity Commission Inquiry

The Productivity Commission inquiry, requested by Treasurer Wayne Swan, consists of two streams; one relating to the use of benchmarking of network businesses and how benchmarking can be used to deliver efficient outcomes; and a second stream examining if the current regulatory regime surrounding investment in interconnectors, delivers economically efficient outcomes.

The Terms of Reference are available here.

Benchmarking

In the Report the Commission considers the use of benchmarking under the current regulatory framework and provides advice on how different benchmarking methodologies could be used to enhance efficient outcomes.

In broad terms benchmarking measures a business's efficiency against a best-practice 'reference' performance to uncover the prices and costs that would hold in an efficient market. Most commonly, benchmarking involves comparisons between similar businesses, usually over time, to identify their relative efficiency. The regulatory purpose of benchmarking is to penalise inefficient businesses, while rewarding efficient ones.

Interconnectors

Interconnectors are high voltage transmission lines that allow power to be traded across state and territory borders. Interconnectors play a key role for the retail price of electricity as they contribute to increase competition between generators; and provide additional sources of power, which can also help improve reliability.

Findings

In order to examine benchmarking and interconnectors, the Commission found it necessary to consider how the National Energy Market functions as a whole. Consequently, the Commission's findings on benchmarking and interconnectors, although relevant, are overshadowed by findings in a number of areas including network ownership, demand management and incentive regulation.

Network Ownership

In NSW, Queensland and Tasmania transmission and distribution businesses are owned by the governments. The Commission finds that there is no evidence that productivity, reliability, quality or cost performance of private sector electricity network businesses are worse than their public sector equivalents. To the contrary, the Commission suggests that private sector enterprises are more efficient, underpinning the case for privatisation.

The Commission does not suggest de-regulation of the industry. Rather, the Commission emphasises that strong regulation is needed to achieve the private provision of secure, reliable and appropriately priced electricity network services.

To see the draft report's full chapter on Network Ownership, click here.

Demand Management

Being able to meet peak demand has been the main driver of investment in electricity networks in the last five years, which, in turn, has significantly contributed to increased prices for end-users. Despite peak times occur less than 40 hours a year, they account for around 25 per cent of consumer's electricity bill. The supply side investment to meet peak demand mainly benefits those using more electricity in peak times. This is both inefficient and in some cases inequitable as it means that low usage consumers are in fact subsidising high use consumers during the peak periods.

Households and smaller businesses are not currently exposed to time-based, cost-reflective network pricing, i.e. the price of electricity in peak times does not fully reflect the cost. Thus, users are not encouraged to reduce consumption in peak demand periods.

The Commission finds that removing the hidden subsidies combined with a reduction in peak-specific investments would result in a downward pressure on retail price of electricity. However, such a transition should not occur over night, but rather work as a long term goal, requiring several complementary policy changes.

In order to reach the long term goal a range of measures must be put in place. Firstly, introduction of time-based pricing of network charges reflecting the underlying network costs is needed. This would imply introducing smart meters allowing network businesses to receive real-time information about usage patterns. Secondly, it would be necessary to phase out of price regulation, which would otherwise frustrate time-based pricing.

The Commission emphasises that this is a long term strategy requiring a long transition period. Any sudden policy shift would be likely to fail a cost-benefit test as well as creating large transitional costs.

To see the draft report's full chapter on Demand Management, click here.

Incentive Regulation

In theory a incentive regulatory regime functions by having a regulator forecasting efficient aggregate costs over a set period, which is used to set a revenue allowance for a business in that period. The business makes higher profits if it reduces costs below the forecast and in doing so, the business reveals the efficient costs of delivering the service, which would then influence the regulator's forecast for the next period.

However, in reality the regulatory arrangements underpinning the existing incentive regulation regime are protracted, uncertain and costly, with the proposals and the regulator's determinations becoming increasingly detailed over time.

Further, some aspects of the regulatory environment may collectively have unintentionally frustrated the purpose of incentive regulation. The Commission found some businesses have spent much more than the regulator's revenue allowance. In the draft report the Commission raises the concern that the weighted average cost of capital used in determining revenue allowances may have been too high, reducing the penalty from overspending, which in turn can have made it commercially attractive. In other words; the current incentive regulation regime encourages businesses to build too much infrastructure.

In addition the Commission suggests that state-owned corporations particularly have been prone to overspending due to easier access to finance than private companies. The Commission argues that state governments appear to have been willing to fund overspending in capital, which would have been considered imprudent in private companies, especially given the financial climate in global equity and debt markets over the last five years.

To see the draft report's full chapter on Incentive Regulation, click here.

Benchmarking

The Terms of Reference require the Commission to consider the use of benchmarking under the current regulatory framework, as well as to provide advice on how different benchmarking methodologies could be used to enhance efficient outcomes.

The Commission concludes that at present, benchmarking is not sufficiently reliable to guide the regulatory framework. In particular the Commission raises the concern that in the current model it is difficult to accurately distinguish between inefficiencies and errors arising from model misspecification, poor data, and different regulatory settings and varying operating environments.

However, the Commission finds that there is a potential role for benchmarking in the future provided that current flaws in the regulatory regime are corrected. A study found Australia is a relatively unsophisticated user of benchmarking in electricity network pricing, thus the standard of reporting along with testing the rigour and robustness of benchmarking would need to improve significantly before it could play a major role in enhancing efficient outcomes.

To see the draft report's full chapter on Benchmarking, click here.

Interconnectors

The second stream of the inquiry is concerned with examining whether the current regulatory regime is delivering efficient levels of investment in networks and generation across the National Electricity Market.

The Commission finds the argument of underinvestment in interconnectors is not justified. Rather, it points to evidence suggesting interconnector capacity is close to its optimal level. In addition, the Commission notes that the problems attributed to apparent underinvestment in interconnectors are often the consequence of other aspects of the network and the regulatory system. Simply increasing interconnector investment would often not resolve these problems.

To see the draft report's full chapter on Interconnectors, click here.

Recommendations

The main conclusion to be drawn from the Productivity Commission's draft report is that although some legitimate reasons for recent price increases exists, the system as a whole is inefficient, and price pressures could be reduced substantially over the longer term if a coordinated set of reforms were introduced.

Here are some of the Commission's main recommendations:

Issue	Proposed response
Demand Management	A coordinated suite of reforms should be introduced over time, including consumer consultation, removal of retail price regulation, and the phased introduction of smart meters, accompanied by time-based pricing for critical peak periods. Direct load control options —complementing or substituting for time-based pricing — would also play a role.
Network Ownership	State-owned network businesses should be privatised. If not, governance should be improved and non-commercial objectives and policies should be removed.
Incentive Regulation	Obvious flaws should be eliminated, including: • Ensuring the allowed rate of return on regulated assets is not excessive • Ex post review of capital spending, when businesses overspend

Benchmarking	At this stage, benchmarking is too unreliable to be used to set regulated revenue allowances, but could better inform the regulator's decisions. In the future (after the rigour and accuracy of benchmarking improves), reforms could be made to underpin negotiations for 'early settlements' with businesses, and potentially to base allowances on benchmarking.
Interconnectors	There should be reforms to the wholesale market to influence generator bidding behaviour, and change the way they pay for access to the transmission network. In the long-term, 'nodal pricing' should be introduced with a system of financial transmission rights (pending an implementation review).
Focus on Consumers	A new consumer body, with the expertise and funding to be an effective participant in the regulatory process should be created.

A complete list of recommendations and finding is available here.

Next Steps

The Productivity Commission is now seeking feedback. Submissions are due by 23 November 2012.

For more information on how to make a submission, click here.

Federal, state and territory Energy Ministers are currently developing an energy market reform package to be agreed to by the Council of Australian Governments (COAG) in December 2012.

The Productivity Commissions final report is expected in April 2013.