CEPU

CEPU Submission to the Senate Select Committee on ELECTRICITY PRICES

September 2012

"The bad news is, today, Australians are paying more than they should for electricity ….

The good news is, we can do something about it"
(Prime Minster Julia Gillard 7 August 2012)[1]

The CEPU welcomes the opportunity to participate in this inquiry. We agree with the Prime Minister who stated in a recent speech; *"We have a chance to make our clean energy future a smart, affordable energy future."* However, we caution against calls to cut electricity prices through policies such as full privatisation, cutbacks in investment and cuts to renewable energy schemes. We believe we are in a unique and difficult time; a period of transition where we are replacing dirty polluting non renewable energy with renewable energy. Like any transition to a better way of doing things, costs may need to go up in the short term but in the longer term that investment will pay a dividend in terms of a cleaner future and more stable energy prices.

Cutting costs usually leads to cutting jobs and this in itself is a cost which should be factored into the equation. It's almost a cliché to say that for every job lost the ripple effect leads to five more being lost elsewhere in the economy. What happens to the cost of the labour shedding? The cost is still there but with a bigger impact - both economic and social. It has just moved from the power company to the Government's social security and health system but it's there all the same. Some labour is no doubt re-employed but the rest becomes a cost borne by the social security system.

When considering rising energy costs, the following factors should be of concern:

1. It is vital to ease the burden of the higher energy prices on low income earning consumers in part caused by the transition to a cleaner future. We propose a scheme to be implemented for low income earners to access renewable energy and smart metering technology.

2. Productivity and efficiency in energy companies should not be at the expense of jobs. The saving is an illusion. The actual cost to the economy of job shedding due to cost cutting should somehow be counter balanced against the cost of keeping workers in employment.

3. Labour costs should not be constrained by the guesstimate approved by the Regulator as part of operational costs for the current regulatory period. If labour costs exceed the estimate to maintain market parity, the energy company should not be penalised.

4. Reliability of supply should not be sacrificed for cheaper energy bills. Compromising reliability of supply by reducing investment in maintenance, is a recipe for disaster. We cite the Victorian bush fires as a case in point.

5. Energy companies should be accountable for their investments. There should be checks and balances to ensure that the money approved by the Regulator is actually invested in the projects the money was allocated to. Rural and remote communities should not "miss out" because the Regulator failed to approve an urban renewal project.

[1] The Prime Minister, Julia Gillard, in a speech to the Energy Policy Institute 7 August 2012, http://www.pm.gov.au/press-office/electricity-prices-facts-speech-energy-policy-institute-australia

TERMS OF REFERENCE

a. identification of the key causes of electricity price increases over recent years and those likely in the future;

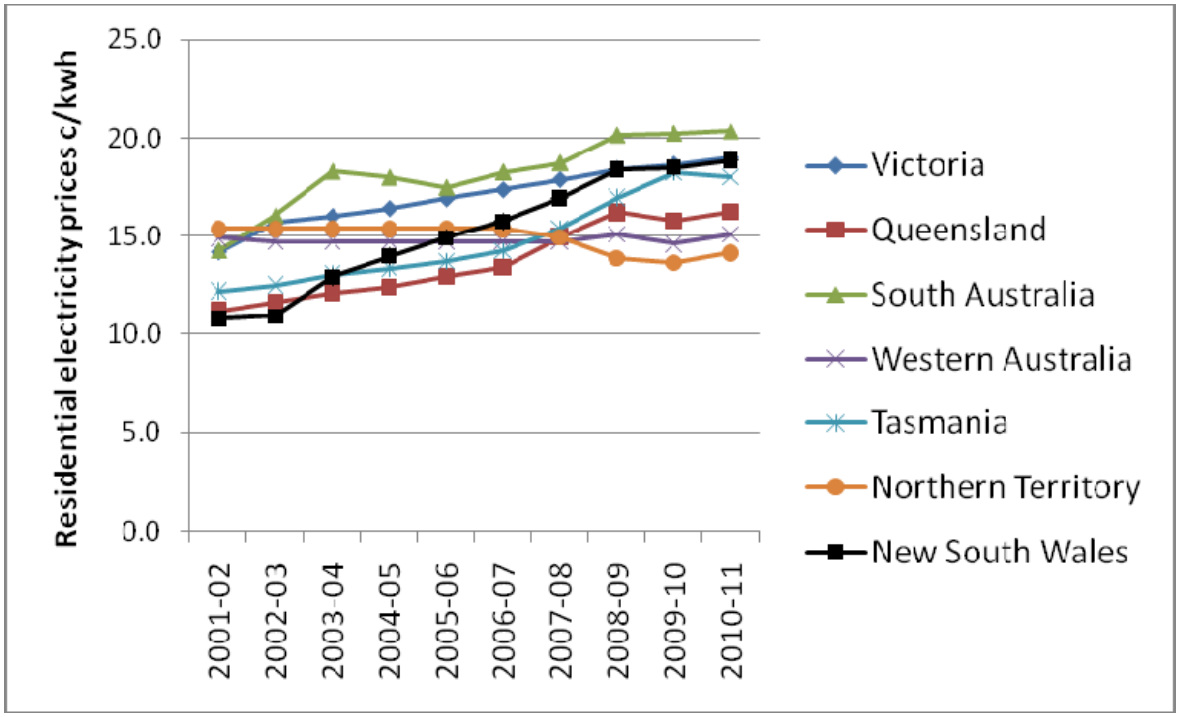
A customer's bill is constituted by the following components:

- **Network costs**, which are the costs of transporting electricity from the generators to customers via the transmission and distribution networks.
- **Energy costs,** which include the costs of purchasing electricity from generators on the wholesale electricity market.
- **Green costs,** which include the costs of complying with several green (or climate change mitigation) schemes, as required by the Federal and NSW Governments.
- **Retail costs,** which includes the costs of running the retail business (including call centre costs, billing costs, etc) and making an appropriate profit.[2]

The chart below shows the breakdown of the components of an average bill and shows that a huge portion is represented by network costs. Despite the fact that the price on carbon is shown, it will in fact be compensated so its contribution t the bill should be cancelled out.

[2] http://www.ipart.nsw.gov.au/Home/Industries/Electricity/Reviews/Retail_Pricing/Changes_in_regulated_electricity_retail_prices_from_1_July_2012/06_Dec_2011_-_Industry

The chart below shows the movement in prices across all States since 2001. While NSW electricity prices have risen sharply over the past few years, historically NSW had cheap electricity relative to other jurisdictions[3]. However, NSW prices are still cheaper than or equal to the privatised networks in South Australia and Victoria.



Source: Derived from KPMG Forecast spreadsheets 31 August 2010, accessed at http://www.aemo.com.au/planning/esoo2010.html.
Note: Residential electricity prices in WA and the NT are not fully cost-reflective – chart used in the NSW Electricity Network and Prices Inquiry – Final Report[4]

While increases in NSW have been steep over the last two years, the trend of increasing prices is common across all jurisdictions. The NSW Government notes;

> "One of the particular challenges in NSW is that several of the drivers of price increases have peaked at the same time, compressing increases over a shorter period of time. These combined impacts were not necessarily fully anticipated by the businesses or the NSW Government as they were affected by separate policy decisions related to each of the cost components."[5]

While the situation in NSW is not ideal, the Government is examining a range of possible options that may assist to ease the upward pressure on prices for NSW customers from 1 July 2011 which, over time could mean a flattening out of the rate of increase for NSW. The main point to make about this trend, is that the pattern of ownership is not a driver of the price increases.

[3] http://www.dpc.nsw.gov.au/__data/assets/pdf_file/0005/118904/NSW_Electricity_Network_and_Prices_Inquiry_Report.pdf at p.3
[4] http://www.dpc.nsw.gov.au/__data/assets/pdf_file/0005/118904/NSW_Electricity_Network_and_Prices_Inquiry_Report.pdf
[5] http://www.dpc.nsw.gov.au/__data/assets/pdf_file/0005/118904/NSW_Electricity_Network_and_Prices_Inquiry_Report.pdf, p.30

Increasing network prices to blame

The main cause of the recent price rises in all States has been the increasing network costs of transmitting and distributing electricity. These costs have been rising because of much needed increased investment in the transmission and distribution networks. The second main driver but less significant in terms of its total percentage contribution to the price increases are renewable energy schemes and to a lesser extent, the price on carbon.

The Australian Energy Regulator (AER) gives several reasons for the increase in network costs. Electricity networks are being upgraded to:

- replace ageing infrastructure;
- expand networks so they can cope with peaks in demand for electricity;
- more customers on the networks due to population growth and increased usage;
- meet higher safety and reliability standards in some states;
- rising costs of debt;

In NSW for instance, expenditure on replacement of assets by the distribution businesses is at a peak and is expected to grow from 31% of total capital expenditure to 43% between 2010/11 to 2013/14. This expenditure is characteristically lumpy but has risen consistently since 2005. This increase partly results from the need to replace 40 to 50 year old post World War II assets and it's hard to see how that level of investment will be required for some time to come. AUSGRID, the largest of the distributors in terms of revenue, is forecast to spend 46% of its total capital expenditure from 2010/11 to 2013/14 on replacement of infrastructure compared to 30% by Endeavour Energy and 21% by Essential Energy (old Country Energy). AUSGRID's supply area encompasses Sydney's most established and densely populated areas, which is contributing to the need to invest relatively more in replacement assets at this time compared to the other distribution businesses.

The Role of Renewable Energy

The second main contributor to increasing network costs (but to a much lesser extent),is collectively a range of renewable energy schemes, which have been expressly designed to either increase electricity prices or offer a renewable alternative in order to achieve an environmental outcome.

The CEPU believes we are in a period of transition, where the costs of renewables is coming down and a price on carbon was introduced as a necessary policy measure to alter production and consumption of energy in favour of renewable energy. There is no cost benefit analysis that can make it OK to continue to consume fossil fuels. We need to make the transition to renewables at some time and that time is now. If those programs to get us there are more costly, those who can pay should bear the brunt of the cost. However, costs of renewables are coming down. In the longer term, the cost will become manageable. But in the short term, appropriate support should be given to low income consumers who are unable to manage the cost of these programs.

The price on carbon will affect the price of electricity by increasing the cost of generating power. The majority of Australia's electricity is generated by burning fossil fuels. A price on carbon is a step towards a cleaner future based on renewable energy. As consumers are being compensated for the impact of the price on carbon on electricity prices it is a price we can pay.

How investment is determined and its impact on price

Energy networks are capital intensive and incur declining average costs as output increases[6]. The Australian Energy Regulator (AER) regulates all electricity networks in the National Electricity Market (NEM). Regulated electricity network businesses periodically apply to the AER to assess their revenue requirements, typically every 5 years. While the regulatory frameworks for transmission and distribution are similar there are differences. In transmission, the AER must determine a cap on the maximum revenue that a network can earn during a regulatory period. Generally with distribution, a ceiling is set on revenue or prices that a network can earn or charge during a period.

Regardless of the regulatory approach, the AER must forecast the revenue requirements of a business to cover its costs and provide a commercial return. It uses what is called a "building block model" which involves a network's:

- operating and maintenance expenses;
- Capital expenses;
- Asset depreciation costs and taxation liabilities; and
- A commercial return on capital.

The largest component is the return on capital which may account for two thirds of revenue.[7] The allowance for operating expenditure typically accounts for another 30% of revenue requirements. Average revenues are forecast to rise about 43% above levels of previous regulatory periods. The main reason for the increases are higher capital expenditure (investment) and operating costs and capital financing costs.

At the start of each regulatory period the AER approves an investment (capital expenditure) forecast for each network. The regulatory process approves a pool of funds for capital expenditure which involves assessing each individual project to determine whether it is the most efficient way of meeting the needs or whether there is an alternative.

Network investment over the current 5 year cycle is forecast at over $7 billion for transmission networks and $35 billion for distribution networks. These forecasts represent an increase on investment in the previous regulatory periods of around 82% in transmission and 62% in distribution.[8] On an annual basis transmission investment in the NEM totalled $1.4 billion in 2009-10 and was forecast to plateau around this level to 2011-12. Distribution investment was expected to rise from around $5 billion in 2009-10 to $6 billion in 2011-12.

The CEPU is concerned that whatever changes are to be introduced to the process of determining pricing, these changes should be implemented before the next five year round of regulatory upgrades is locked in. This will allow certainty with respect to pricing.

[6] Australian Energy Regulator (2011) Report on the State of the Energy Market, ACCC, http://www.aer.gov.au/node/6311 Chapter 2 "Electricity Networks" at p 57

[7] Australian Energy Regulator (2011) Report on the State of the Energy Market, ACCC, http://www.aer.gov.au/node/6311 Chapter 2 at p.57

[8] Australian Energy Regulator (2011) Report on the State of the Energy Market, ACCC, http://www.aer.gov.au/node/6311

b. legislative and regulatory arrangements and drivers in relation to network transmission and distribution investment decision making and the consequent impacts on electricity bills, and on the long term interests of consumers;

More checks and balances required

New investment in infrastructure is continually needed to maintain or improve network performance over time. Investment includes network expansion to meet rising demand and the replacement of ageing assets. The regulatory process aims to create incentives for efficient investment. At the start of a regulatory period, the AER approves an investment (capital expenditure) forecast for each network. It can also approve contingent projects — large investment projects that are foreseen at the time of a determination, but that involve significant uncertainty. While the regulatory process approves a pool of funds for capital expenditure, each individual project must be assessed for whether it is the most efficient way of meeting an identified need, or whether an alternative (such as investment in generation capacity) would be more efficient.[9]

The CEPU is concerned that once an investment forecast is agreed and revenue allowance approved, there are no checks in place to ensure that the money earmarked for specific projects, either upgrades or new projects, is in fact fully used for those purposes.

We are further concerned that if the regulator denies funding for a specific project, for instance a new substation for a housing development, there is no check in place to ensure the company doesn't go ahead anyway with the investment by using funds from an area such as a rural renewal project. Companies seem to be able to move the money around to best suit themselves. Areas which will be most likely to be cut back are rural and remote areas in favour of urban renewal and development projects.

We believe there should be a checking process whereby a company clearly shows that money earmarked for specific projects or renewal is actually used for that purpose. If the money is not used some justification must be given as to why it was not used for the purpose it was sought and allocated.

Overspending on CAPEX

The single biggest contributor electricity price rises in recent years has been escalating transmission and distribution network costs. The reason for this is that businesses which spent more than their capital expenditure allowance could subsequently add the amount to their asset base and recover it from consumers.

New rules recently proposed by the Australian Energy Market Commission (AEMC) are designed to ensure electricity companies won't be able to profit from so-called "gold plating", that is, overinvesting in their poles and wires. Only "efficient" spending in legitimate circumstances can be recovered.

[9] Australian Energy Regulator (2011) Report on the State of the Energy Market, ACCC, http://www.aer.gov.au/node/6311 Chapter 2 at p.57

Implementing a system of checking actual expenditure against proposed expenditure will also help. The existing rules on investment were developed out of concern over underinvestment and the need to meet standards of reliability. The new rules won't change the fact that ageing assets still need replacing and maintenance still needs to take place.

Labour costs should be allowed to exceed forecasts without penalty

An issue of specific concern to the CEPU relates to the determination of labour costs. Labour costs from part of the operational costs considered by the regulator when making a determination for a tariff increase. When applying for a tariff increase, the increase is locked in for a number of years, typically 3 or 5 years. The business when applying for the tariff increase must make a guesstimate as to market increases for labour and it can be wrong. By being locked into a set increase for labour rates, the business cannot bargain with its employees above that rate. If it does settle on a higher rate the business is penalised by the regulator.

The CEPU does not believe there should be a penalty imposed on the business if labour costs exceed the estimate made when applying for an increased tariff determination. The labour market is not so constrained and the business will be restrained from being able to employ appropriately skilled labour in sufficient numbers if it is not able to pay the market rate. For instance, if the labour market is moving by 4% annually but the business has forecast a 3% annual increase, it may be hard for the business to find suitably skilled labour. The business must have the flexibility to offer market rate increases without being penalised by the regulator.

Privatisation not the answer to efficiency

The regulatory process aims to create incentives for efficient investment. Privatisation is often justified on, among other grounds, that it will create greater efficiencies through competition. However, the CEPU rejects this conclusion and cites the example of Victorian bushfires as a case in point where private sector cost cutting had tragic consequences.

The Victorian Bushfires

In its submissions to pricing inquiries since the industry's privatisation in Victoria in 1994, the Electrical Trades Union (CEPU) Victorian Branch repeatedly warned of 'dangerously inadequate ageing infrastructure', of the 'maintenance unaccountability of distribution companies' and of a 'drastically reduced workforce to work on live lines'. A system that was maintained in the past by the State Electricity Commission prior to privatisation, was converted to a segmented, privatised industry with no dedicated form of maintenance and unreliable supply issues.

The frailty of the system was highlighted tragically with the Victorian bush fires in February 2009. As a result of the Victorian bushfires the Royal Commission made a number of recommendations regarding the replacement of the ageing electricity distribution network and changes to the regularity of inspections and maintenance.

It is not disputed that Victoria's distribution network was long overdue for major investment. In fact one of the main arguments for privatising the assets is so that this investment could occur. However

the assets were sold off, the investment did not occur and the ageing infrastructure was a major contributor to the bushfire devastation. And now that the scale of the investment required is so big, once again the Government is being asked to step in and provide the investment funding necessary to upgrade and replace the destroyed and damaged network. The Royal Commission into the Victorian Bushfires stated:

> *"The distribution businesses and the State of Victoria submitted there is a large financial cost associated with any recommendation to replace Victoria's ageing electricity distribution network with technology that delivers a reduced bushfire risk. In the Commission's view, the cost of not renewing the network could be far greater. The costs of major bushfires fall on the entire community, and the Kilmore East fire alone demonstrates, in terms of loss of both life and assets, the potential magnitude of those costs.*
>
> *The Commission makes its recommendations for the benefit of the entire community. For that reason it considers it inappropriate that electricity consumers bear the entire cost of implementing those recommendations.*
>
> *The Victorian Government already accepts—through the Powerline Relocation Scheme—that the community should share up to half the power line relocation costs for visual or cultural reasons. Given the Commission's view that protection of human life should be the highest priority, the government should consider adopting a similar scheme to help defray the cost of replacing overhead power lines in order to reduce bushfire risk."*

What has privatisation delivered in Victoria? Having reaped the benefits of the profit from the network, the power distribution companies are now reaping the benefits of doing nothing. And now the public sector, which no longer owns the asset, is stepping in to clean up the mess and inject the much needed capital to update the ageing infrastructure.

The impact on employment

The supposed efficiency gains to be made by private competitive companies have been made through short term costs savings which included cutting the quality or level of services. Cost savings have been made by both placing downward pressure on rates of pay and conditions for workers and making thousands of workers redundant. In Australia employment in the electricity sector fell from 83,000 in the mid-1990s to 33,000 workers in 2003.[10]

The flow on effect of this is enormous, especially in rural communities. The cost savings made by the private sector are in effect subsidised by the public sector footing the ongoing social security bill as thousands of people cannot find alternative work. The government bears the economic burden of the lost jobs while the community bears the social cost and the private companies pocket the profit. Prices still go up and not one more new power station has been built.

A regulatory system based on privatisation is not in the long term interests of consumers.

[10] Wilson N (2003) "Power to the People" The Australian, April 2003, p.25 cited in Prof Beder.

Foreign ownership of energy industry not in our national interest

All of Victoria's and South Australia's distribution networks are now owned by the Singapore Government and Chinese interests. Due to a deal with the Shooters and Fishers Party, the New South Wales Government plans to sell $3 billion of the state owned generators. The fact that this sale could only go ahead with the backing of the Shooters and Fishers Party speaks volumes about the actual lack of support for full privatisation within the parliament. To secure the Shooters support, the Government had to promise concessions on hunting policy.

The money generated is to be used to develop vital state infrastructure. All other objections aside, the numbers didn't stack up with respect to SA and Victoria so it's hard to see the point of the exercise. In addition, NSW may depend on bids from offshore companies for the power assets, as local utilities have stretched their balance sheets participating in earlier similar privatizations.

We do not believe it is in our long term interests for our energy industry to be owned by foreign interests. We lose control of an essential service. We cannot guarantee reliable supply, we lose control of the ability to control price and we cannot adequately plan our energy needs for the future as the development of and investment in the industry is out of our hands. If for instance, we need new power lines and poles built how do we actually make the private owner build them. If with respect to generation, we need a new power station how do we get a new power station built. As prices increase how does Government control pricing?

Two class actions have been lodged in Victoria by hundreds of black Saturday bush fire victims against the Victorian electricity companies they allege was responsible for the fires which killed 161 people and destroyed around 1700 homes. The claim lodged by lawyers Maurice Blackburn, states that inadequate maintenance standards on the part of its foreign owners, Singapore Power International, led to the Kilmore East-Kinglake bushfire.

Lawyers claim there was evidence presented to the Royal Commission that preventative steps which could have been taken to avoid the blaze were not taken and that Singapore Power failed to properly inspect and maintain the 43 year old powerline which stretched across the valley and failed to have a system in of replacing old powerlines before they break. That is, the company did not an adequate preventative maintenance system. A similar complaint can be made about SP Ausnet with respect to the Murrindindi and Marysville fires where powerlines were allegedly negligently constructed and maintained with deficiencies in the lines which should have been obvious on a regular inspection.

If SP Ausnet is found to be liable, doubt has been cast over the extent of its insurance coverage and whether or not it would be sufficient to fully cover the liability. Power companies have a responsibility to ensure public safety is not compromised to save costs. Foreign companies are much less accountable than domestic and particularly public companies. Privatisation is not the answer to containing electricity costs.

(c) reduce peak demand and improve the productivity of the national electricity system;

Transmission service issues relate principally to reliability and network congestion. Transmission networks are designed to deliver high rates of reliability. They are generally engineered with sufficient capacity to act as a buffer for planned and unplanned interruptions to power supply.

There are separate assessment requirements for distribution and transmission. For distribution networks, the regulatory test requires a business to determine that a proposed augmentation passes a cost–benefit analysis or provides a least cost solution to meet network reliability standards.

Improvement to productivity should not come at a cost to reliability. Reliability (the continuity of energy supply to customers) is the main barometer of service for an electricity network. Various factors, both planned and unplanned, can impede network reliability.

While a serious transmission network failure may require the power system operator to disconnect some customers (known as load shedding), over 90 per cent of power outages are caused by reliability issues in distribution networks. An efficient outcome requires assessing the value of reliability to the community (measuring the impact on services) and the willingness of customers to pay.

Often a trade-off between reliability and efficiency is sold as an answer to increasing productivity
A recent report by the Australian Energy Markets Commission conducted economic modelling on three scenarios for lower investment in the NSW electricity distribution network and found that unsurprisingly spending less on capital expenditure lowered costs. However, the report went a step further by asking consumers if they would trade off reliability for cheaper bills. This research showed that reliability is an important factor for consumers with just over 60% were willing to pay more for increased reliability. The research also found that the trade-off would result in between $3-$15 savings for the consumer, hardly an amount worth the trade-off. In addition, those consumers who were in favour of paying less for a less reliable service were not informed of the impact such decision may have on preventative maintenance. Saying yes is a simple answer to a simple question as to whether you want to pay less for your energy but it over simplifies the issue.

Over time, maintenance foregone for the sake of saving a few dollars is not a price worth paying as those involved in the Victorian bushfires can testify.

Investment programs should span a longer time frame

Improvements to services including investment and reliability improvements should not be constrained by unrealistic timeframes (ie the regulatory period) and should be implemented over more manageable time periods. This would allow the impact of the transition to renewables to be more easily factored into future planning.

The previous NSW Labor Government for instance, lifted reliability standards for the State's distribution network in 2005. Investment to meet those standards had been approved and

committed to mid-2014. This is a much more realistic time frame giving time for the progress of large scale projects and for clean energy programs to be assessed.

The sale of the remaining State owned networks is advocated as the solution rising electricity bills. However, why should a private company come into NSW and reap the benefit of that long term investment. If longer time period is taken to assess investments, perhaps price fluctuations would flatten out as the benefits of the investment paid off.

Privatisation is not in the public interest for a whole range of reasons. While the energy assets remain in public hands, the Government has more control over retail prices and less concern with pushing those rices up to make a profit.

Investment and the role of energy prices

The Federal Government's Draft White Paper states that ongoing public ownership in energy markets creates the potential for uneven competition and can act to discourage new entrants. To ensure that the investment climate is sufficient to meet our energy development needs, we are told that energy prices will need to provide an adequate return on these outlays. There is no doubt this means even higher energy prices.[11]

In fact, prices need to be *very* high to provide an incentive to invest in new generation plant. This has been a major rationale for the Independent Pricing and Regulatory Tribunal's approval of massive price increases in NSW. It argued; *"prices need to be sufficient to ensure that efficient and economic investment in electricity generation occurs*.[12]
An AGL environmental impact statement states:[13]

> *"Historically prior to the NEM prices have not played an important role in shaping energy infrastructure development. However, since the creation of the NEM, price determines how infrastructure is developed .... increasing prices provide an incentive for investors to invest in new generation capacity …"*

Relying on price mechanisms to drive investment leads to higher prices and electricity shortages leading to blackouts and service interruptions. Again we question what have we gained from privatisation apart from significantly raised prices? State Governments could have done this themselves and had a lot more income at their disposal for investment.

Government Dividends

Traditionally the dividends earned from government owned enterprises have been used as a source of revenue to support other government services. While there is nothing wrong with that in principle, we believe that with respect to those energy companies still in public hands that a balance should be struck between the needs of other government services and the pressure on electricity

[11] Draft Energy White Paper p.53
[12] Davies A (2005) "NSW Plan to Sell Power retailers", Sydney Morning Herald, 23 May 2005.
[13] URS "Leafs Gully Power Project: Environmental Assessment" October 2006, p.2-1, October 2006, p.2-1, quoted by Prof Beder.

prices. If price increases can be moderated by reducing the dividend payout then this is something the Government should consider.

Further, once the asset is sold to private interests, that dividend is no longer available for use to moderate price increases or for distribution to support other government services.

Privatise to retire debt not the answer

An additional argument that has been used to privatise is to retire debt. According to Professor Beder[14], debt was not a problem with the SECV when the Victorian Government sold it off. In the year before it was broken up, the Sydney Morning Herald reported it paid $995 million in interest, a $191 million dividend to the State Government and had a profit of $207 million![15] In the years prior to the SECV restructuring, its debt-equity ratio was 342% compared with an average of 382% for the top 20 Australian companies and a 1994 Bureau of Industry Economics study found that Victoria's electricity prices were the eight cheapest out of 40 OECD countries.

The case of South Australia is also worth noting. The electricity industry was privatised in SA in 1999 as a debt reduction measure. SA's debt was at historically low levels.[16] Prior to its break up and sale the Electricity Trust of SA (ETSA) contributed some $2 billion dollars to state revenue over the previous decade. The money from the sale did not compensate for this loss of income and the cash cow was gone.

(d) investigation of mechanisms that could assist households and business to reduce their energy costs, including:

Efficient price signals allow energy network owners and energy users to assess the costs of their energy use and the value of energy efficiency measures and demand-side responses to managing energy consumption. Energy users will only be motivated to change their energy demand patterns if they are given the appropriate price signals, including through time of use pricing to signal the value of shifting their energy demand away from peak times.

There are also a number of non-price barriers to energy efficiency in Australia:

- A lack of information and education on product energy ratings and energy saving practices; this is relatively easy to address with a properly resourced education campaign.

- Financial constraints faced by vulnerable customers that restrict their ability to invest in energy-saving infrastructure that takes a longer time to pay off; we propose a system set out below that allows low income consumers to benefit from energy savings.

[14] Beder S Prof (2011) "Submission – Special Commission of Inquiry Electricity Transactions", Paper prepared by Professor Beder for Unions NSW
[15] Mark Skulley (1995) "Private Power, Public Interest", Sydney Morning Herald, 11 March 1995, p.32.
[16] Beder p.8

- Split incentives, such as those between a tenant and a building owner to install energy efficient products – the property owner may pay for a more energy efficient building but the tenant benefits from lower energy costs. As an incentive to invest in such buildings perhaps a scheme can be developed through the tax system which recognises the investment in an energy efficient building; and

- Limited interest in understanding the potential benefits of more energy efficient products. This may be changing now as concern mounts over rapidly rising energy bills. The time could be right for a properly resourced campaign.

i. the identification of practical low cost energy efficiency opportunities to assist low income earners reduce their electricity costs,

Recommendation - Energy efficient equipment & a PV Solar Program

The Prime Minister, in a recent speech, referenced a recent AGL Energy review which noted, while wealthier households can cut power costs through more efficient devices and solar panels, the poorest customers are exposed to the full cost of the increases.[17]

The CEPU believes rolling out a program to instal energy efficient equipment and renewable energy sources such as PV solar panels in the households of low income earners would assist low income earners reduce their electricity costs.

The program, properly constructed, would also be a job creation program as it would create opportunities for manufacturers of solar panels and associated infrastructure and for the installers of the panels. It would have to been seen in a broader context of injecting investment and job opportunities into the economy. Clearly, considerable work would need to be done to make the program practical and feasible. However, in the context of the resources boom showing signs of slowing, and anecdotal evidence of unemployment in the Eastern seaboard States with regular industry closures, it could be a timely program to consider.

Installing solar panels which will supply energy for those peak times during the day. An advantage of using solar energy is that it supplies energy at the most expensive time of day. Low income consumers will doubly benefit from the cost savings as the cost savings will be made during the most expensive consumption times. This will also help even out the peaks in demand for which there is so much investment in network capacity. This could help ease electricity prices.

This program could go hand in hand with a program to instal smart meters to allow low income earning consumers to better manage their energy use. This is discussed in detail below.

[17] http://www.pm.gov.au/press-office/electricity-prices-facts-speech-energy-policy-institute-australia

Energy efficient equipment

Peak demand is a major problem and a major driver of excessive investment. Daily peak times correspond to departure and return to homes and seasonally correspond to temperature extremes. Australians are already using much less electricity per capita. If peak consumption is to decline further it will require major adjustments to lifestyle, being hotter or colder or alternatively more brownouts and blackouts will occur during those peak times.

The main way to manage peak demand is to peak charge with time of use pricing which clearly discriminates against those with the least capacity to pay. Lower income households have a right to be warm in the early evening and to cook their dinner as higher income households. So is there a solution?

A dual system of charging could be implemented whereby low income households, such as pensioners could pay a discount peak tariff rate. This would introduce a principle of those with the capacity to pay, pay more.

A limit on peak demand could work. In Italy most households have a 3 kilowatt demand limit – and they apparently think this is normal and reasonable.[18]

More practical and equitable approaches to time of use management of demand can be implemented. The majority of households consume between 50 per cent and 65 per cent of their annual electricity needs during peak times (typically 7am to 11pm weekdays), and between 35 per cent and 50 per cent of their annual electricity needs during the off-peak times (typically 11pm to 7am weekdays plus all weekends). Peak time charging could be adjusted to narrower time slots for lower income households so they could adjust their energy usage accordingly. A typical time to pay peak prices is from 7am to 11pm on weekdays. For lower income users, the time could be adjusted to allow some flexibility during the course of the day. The idea is to consider the concept of differential times for all users with greater flexibility built in for lower income users –the details of the timing can be worked out later.

Consumers could consider:

- Shifting electricity consumption to off-peak, cheaper times;
- Installing solar panels which will supply energy for those peak times during the day;
- the value received from a feed-in tariff for the extra electricity supplied to the grid during the day.

Electricity distributors will install a Smart Meter at every home and small business in Victoria by the end of 2013. Smart Meters allow new categories of electricity rates to be introduced based on the time electricity is used. In 2013, what's known as 'time-of-use' or flexible pricing will become more widely available to consumers on a voluntary basis. From next year, customers in Victoria will be able to choose between staying on a flat rate or moving to flexible pricing.

[18] Pears A (2012) Adapt or Die: How Utilities will cope with Technology Change Reneweconomy - http://reneweconomy.com.au/2012/adapt-or-die-how-utilities-will-cope-with-technology-change-63031

Flexible pricing is designed to encourage people to use power at times when there is lower demand, reducing strain on the system and overall power infrastructure costs for the community. Once available, different electricity companies are expected to offer different rates, with different time segments and seasonal rates.

To really be effective, smart meters must be coupled with interactive devices such as web portals and in-home displays. These interactive devices, will allow consumers to access details about their electricity usage patterns allowing them to make accurate and informed comparisons of new flexible pricing offers.

In Victoria where the roll out of smart meters is advanced, electricity companies Origin Energy and Jemena have launched Smart Meter compatible web portals, and United Energy is currently trialling a portal. Web portals help households and businesses better understand their electricity usage by providing energy consumption data. This means that households, through a Smart Meter, can access their energy use information online and track energy consumption. For instance, 'Origin Smart' is a free web portal available to Origin Energy customers who have an active Smart Meter installed. 'Origin Smart' is an online program that gives customers visibility of how much power their household is using on a daily basis. The web portal also provides projected costs based on current energy consumption, and allows customers to set usage goals and monitor their household's progress.

Smart metering can do a number of things:

1) allow consumers to see when energy is being used;
2) reward consumers for off peak use;
3) allow the consumer to better manage their electricity use; for example a significant 10% of energy use is taken up by appliances on stand by. This can be monitored through smart meters.
4) help educate the public about their patterns of electricity use and how they can better manage it.

Despite these claims, smart metering is controversial and is not without problems but if implemented well, can potentially help ease peak demand.

Smart meters must be also installed with “in home displays” so consumers can see their power usage – most smart meters are installed in meter boxes external to the residence which means people pay higher prices under time of day billing but do not have the capacity to see how much energy they are using. This defeats the purpose and denies consumers them the opportunity to reduce consumption.

Smart metering and “in home displays” to properly manage the metering are expensive making them beyond the pocket of low income consumers.

Smart meters and time of day billing potentially leave the most disadvantaged and vulnerable in our society worse off. Unless smart meters are installed in the homes of low income earners through some form of Government subsidy, they will further increase prices as retailers simply recoup installation costs through increased consumer prices.

For low income households the Government could consider a plan to instal smart meters free of charge as an investment in containing future demand and costs. To be most effective, they must also be installed with in-home displays.

We are on the cusp of a new clean energy future. The wrong responses now to high electricity prices could create setbacks which take years to undo. We should not cut electricity prices through policies such as full privatisation, cutbacks in investment and cuts to renewable energy schemes. This is a unique and difficult time in our history. How we respond will dictate the health of our economy for the next decade and beyond. This Inquiry is timely.