NATIONAL GENERATORS FORUM

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The Secretary
Select Committee on Fuel and Energy
The Senate
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Parliament House
CANBERRA ACT 2600

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Dear Committee Secretary

**Submission to the Senate Select Committee on Fuel and Energy**

The National Generators Forum appreciates the opportunity to make a submission to the Senate Select Committee on Fuel and Energy.

The NGF directly represents the major power generators in the National Electricity Market and the Western Australian market. The installed capacity of the members is in the order of 45,000 MW, with an asset value of about $40 billion. Annual sales are over 205,000 GWh, having a value of more than $12 billion. This represents over 95% of the total electricity generated in Australia.

NGF members are publicly and privately owned businesses which generate electricity for sale and trade under the National Electricity Rules and in the Western Australian market, and whose generating capacity is at least 300 MW. The Chief Executives of these businesses form the Board of National Generators Forum Ltd.

This submission addresses the Committee's terms of reference relating to the impact of an emissions trading scheme on the Australian electricity industry. It focuses on the possible implications of climate change policies for the efficient operation of electricity markets and possible consequences that such policies may have for the delivery of a reliable energy supply to Australian household and business customers.

The NGF's key message is that electricity markets rely on new investment to meet growth in demand and to replace plant that is no longer financially viable. The introduction of climate change policies, namely the Carbon Pollution Reduction Scheme (CPRS) and the expanded Renewable Energy Target (RET), will deliver a different mix of economic signals to the market. Existing and new participants

will need to make a substantial investment in new plant in order to achieve the levels of the system reliability that the community expects.

The introduction of a direct impost on the existing owners of coal-fired plant without adequate compensation will diminish the returns from previous investments in the electricity supply industry. This has the real potential to deter new investors from considering projects in Australia when the risk of a policy change can strand those investments. This is compounded by the reality that the introduction of greenhouse measures will occur at a time when debt and equity finance for new low emission projects is severely constrained as a result of the global financial crisis.

Yours sincerely

Patrick Gibbons
Chair, Public Affairs Committee

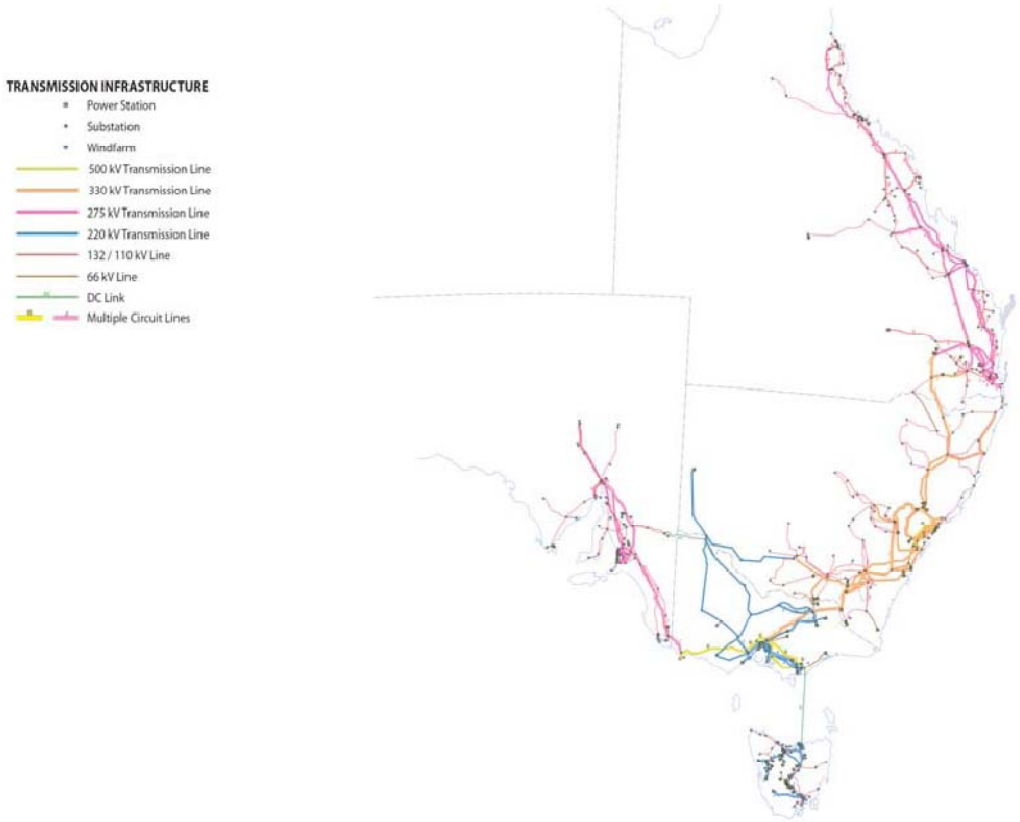
**The Australian electricity system**

The National Electricity Market (NEM) operates as a wholesale market for the supply of electricity to retailers and end users within Australia's eastern states and territories. The NEM includes South Australia, Victoria, New South Wales, Queensland, Tasmania and the Australian Capital Territory. In geographical span, the NEM is the largest interconnected power system in the world, covering a total distance of some 4,500km.

The NEM has around 260 registered generators, six state-based transmission networks and 13 major distribution networks that collectively supply electricity to over eight million end-use customers. Figure 1 shows the coverage of the NEM and how the network is connected.

Almost 85% of Australia's electricity production is sourced from coal-fired generation. Of the remainder, approximately 12% is generated using natural gas and 7% from renewable sources, predominately hydro operations.

*Figure 1: Networks in the National Electricity Market*




The South West Interconnected System (SWIS) is Western Australia's largest electricity network. It provides some 5,000MW of the almost 7,000MW of installed generation capacity in Western Australia under a wholesale electricity market administered by the WA Independent Market Operator.

Table 1 shows the increase in demand and change in the generation mix over the period from 1997-98 to 2008-09 for the mainland NEM regions (Tasmania did not join the market until 2005). Demand has increased by around 9,200MW or 37%. Over the same period generation capacity has increased by around 5,960MW or 17%. The load factor, a measure of the 'peakiness of load', calculated by

measuring average load as a percentage of maximum demand, decreased from 71% to 66% over the period. The level of surplus generation, after accounting for the reserve levels required by the system operator, has fallen sharply from 18% to 8%.

*Table 1: NEM demand, installed capacity and surplus reserves*

| | 1997-98 | 2008-09 |
|---|---|---|
| Maximum demand | 24,991 | 34,169 |
| Average demand | 17,111 | 22,552 |
| Minimum demand | 11,885 | 15,587 |
| Load factor | 71% | 66% |
| Baseload (MW) | 25,540 | 29,728 |
| Intermediate (MW) | 4,532 | 5,501 |
| Peaking (MW) | 3,266 | 7,202 |
| Total | 33,338 | 39,299 |
| Surplus | 18% | 8% |

The exchange of electricity between electricity generators and consumers is facilitated through a pool where the output from all generators is aggregated and scheduled to meet demand. The electricity wholesale market is not a physical location; rather it is a set of procedures that the system operator manages according to statutory rules in conjunction with market participants and regulatory agencies.

Electricity has two unique characteristics which make make it well suited for trading using pool arrangements. Firstly, electricity cannot be stored for future use, so supply must vary dynamically with changing demand. Secondly, because one unit of electricity is indistinguishable from all other units, it is impossible to determine which generator produced which electricity.

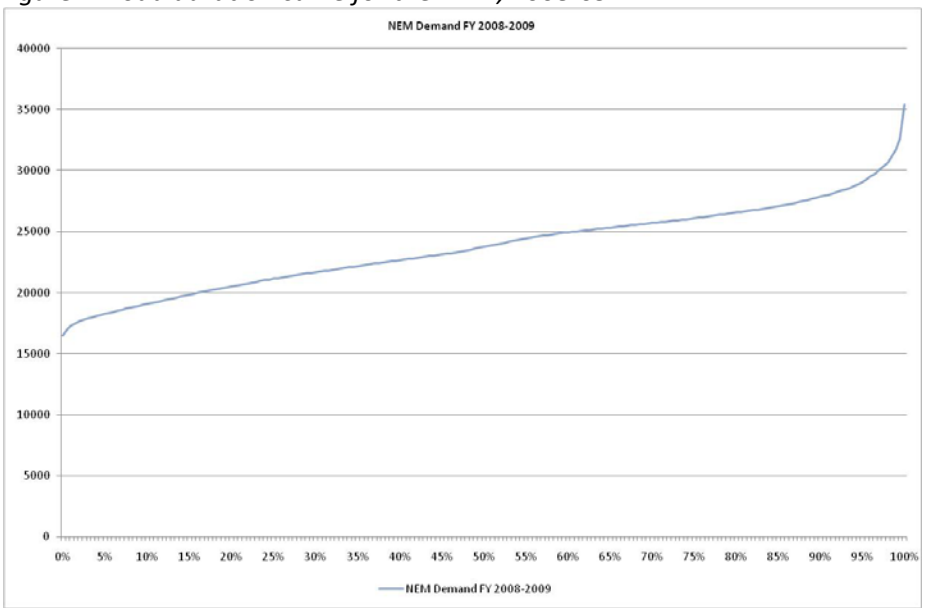
Sophisticated information technology systems underpin the operation of the energy markets. The systems aim to balance supply and demand, maintain reserve requirements and select which components of the power system operate at any one time.

Wholesale trading in electricity is conducted as a spot market where supply and demand are instantaneously matched in real-time. Generators offer to supply the market with specific amounts of electricity at different prices. Offers are submitted every five minutes of every day. The system operator determines the generators required to produce electricity based on the principle of meeting prevailing demand in the most cost-efficient way. The system operator then dispatches these generators into production.

The demand for electricity is not constant, varying with time of day, day of week and ambient temperature. Demand tends to peak in summer when hot weather drives up air conditioning loads and winter when cold weather increases heating requirements. A reliable power system needs sufficient capacity to meet these demand peaks with adequate reserves. In effect, a substantial amount of capacity may be called on for only brief periods and may remain idle for most of the year.

Figure 2 shows a load duration curve for the NEM for 2008-09. The curve shows the percentage of trading intervals in a year in which demand is at or below a certain level. For example, the 50% level indicates that half of all hourly demand levels were at or below 24,200MW. An important feature of the curve is the steep upswing towards the right hand axis. This indicates that approximately 5,000MW of demand occurs in 3% of all trading intervals or 272 hours of the year. The NEM must have sufficient capacity to satisfy this peak demand and provide adequate reserves in each region.

*Figure 2: Load duration curve for the NEM, 2008-09*




It is necessary to have a mix of generation capacity that reflects these demand patterns. The mix consists of base load, intermediate and peaking power stations.

Baseload generators, which meet the bulk of demand, tend to have relatively low operating costs but higher start-up costs – making it economical to run them continuously. Peaking generators have higher operating costs (but lower capital costs) and are used to supplement base load generation at times when prices are high. This normally occurs in periods of peak demand, or when an issue such as a network outage constrains the supply of less expensive plant. While peaking generators are expensive to run, they must be capable of a reasonably quick and economical start-up as they may be called upon to operate at short notice. There are also intermediate generators, such as combined cycle gas turbines, which operate more frequently than peaking plant, but not continuously.

To date, the Australian electricity markets have relied on the independent decisions of participants to determine when, where and what type of new generation capacity to build. This also extends to the decisions about how generators and demand side providers respond to short-term market signals. Without adequate new investment in plant and equipment, and the transmission and distribution systems that support the delivery of that energy to customers, the overall level of system reliability could be compromised in the near term.

**Maintaining system reliability**

System reliability is a measure of the power system's capacity to continue to supply sufficient power to satisfy customer load. A shortfall of supply against demand is referred to as unserved energy.

Various factors, both planned and unplanned, can interrupt the power system. These may occur in generation or in the networks that deliver power to customers.

- Inadequate investment in new plant and network capacity;
- The quality and capacity of existing infrastructure – for example, there is a higher risk of outages if generators or networks are ageing or are being used near their capacity limits;
- Inadequate maintenance;

- Extreme events that are not provided for in contingency planning – for example, a severe storm or bushfire.

The effect of a power system outage varies, depending on the sector affected. A major generation or transmission failure could potentially shift generation and consumption out of balance and cause the power system to collapse – affecting hundreds of thousands of customers across multiple regions.

The level of planned and unplanned outages for a coal-fired generator depends in large part on the age of the plant and the frequency of maintenance work. Most coal-fired plant would undergo a major planned unit outage every four to five years which would take the plant off line for approximately four to six weeks. Unplanned unit outage rates can vary widely. The average rate of unplanned outages would be around 3% to 5% which equates to about 10 to 20 days a year where the plant is unavailable. Older plant can experience unplanned outage rates of 15% to 20% in some years, resulting in extended periods where the plant is not available for production. Given that most major maintenance work is carried out in spring and autumn, these low-season months can also experience periods where surplus generation is relatively low.

AEMO can manage the effect of lost supply and out of balance events through controlled load shedding (disconnection of load). Jurisdictional security coordinators determine the order in which customers are load shed or "blacked out".

AEMO manages load shedding in accord with priorities set by the jurisdictional system security coordinators, which make judgements as to which customers are least affected by the loss of supply. The NEM Rules require the coordinators to submit to the AEMO a schedule of all the sensitive loads in the jurisdiction, and the order in which loads may be shed if AEMO deems that load shedding is required (the "share the pain" guidelines).

**The Reliability Standard**

Under the Reliability Standard the NEM should aim to achieve an expected unserved energy of no more than 0.002% in each financial year, each region and in the NEM as a whole. Overall compliance with the standard is measured over the most recent ten financial years.

The AEMC Reliability Panel reviews the performance of the NEM each year.[1] The Panel's most recent report for 2007-08 noted that since market start in 1998, averages for unserved energy due to shortfalls in available capacity indicate that New South Wales and Queensland remain within the Reliability Standard. South Australia and Victoria fell outside the Standard in the year 2000 when there was coincidence of industrial action, high demand and temporary unavailability of generating units in Victoria. In terms of long term averages, Victoria remains outside the Standard due to that single event. Tasmania joined the NEM in 2005 and has met the Standard in every year.

Some power system interruptions are caused by events that are 'non-credible' - events that occur simultaneously or in a chain reaction. For example, several generating units might fail at the same time or a transmission fault might cause the tripping of a generator. These events are uncommon. The cost of the power system infrastructure would be significantly greater if the system was designed to avoid these situations. Such events are excluded from reliability statistics. However, when these events occur they do affect the continuity of supply and often require the system operator to interrupt electricity supplies to customers to avoid a power system collapse.

[1] AEMC Reliability Panel, *Annual Electricity Market Performance Review 2008*, December 2008.

The Reliability Panel noted in its Comprehensive Reliability Review in 2007 that the NEM's performance has, historically, been bolstered by generation capacity overhang in some regions. [2] The Panel commented that "this has perhaps made the Reliability Standard an easier benchmark to perform against than would otherwise have been the case in a system starting with a tighter supply-demand balance".

The Reliability Panel's Comprehensive Reliability Review noted the impact that uncertainty surrounding the timing and form of climate change policies. The Panel concluded that external policy factors were leading to "risks on the horizon that may impact the NEM achieving the reliability standard in the future if the amount of investment in new generation required to meet expected demand is either delayed in timing or did not occur".

Partly in response to the concerns raised by the Reliability Panel, the Ministerial Council on Energy commissioned the AEMC to review the adequacy of energy market frameworks in light of climate change policies. The AEMC's 2nd Interim Report commented that there are relatively tight capacity margins in the NEM presently and that there is a "heightened exposure to reserve shortfalls, either consequent to the transition in generation capacity resulting from CPRS and expanded RET or otherwise."[3] The AEMC noted that the adequacy of existing generation capacity would become material if there was a technical failure of existing large scale plant or the early forced retirement of such plant. Much would depend on the ability of the generation sector to access credit to fund plant maintenance and plant replacement. This sector's capacity to access new finance "will depend on the expectation of returns and the underlying value of the plant".

**The need for new investment**

A survey by the Energy Supply Association of Australia has highlighted the Australian energy sector requires $100 billion of new capital by 2015.[4] Of this, the generation sector would need to spend $18 billion on new investment and capital maintenance while also refinancing $19 billion of existing debt. In total, the generation sector will need to raise $37 billion from debt and equity markets over the next five years.

An investment in a new generation project takes a significant period from the initial planning stages to final commissioning. In the case of a coal-fired generator, it would take at least seven years. For a gas generation project it would take about 4 to 5 years for a combined cycle plant and 2 to 3 years for an open-cycle plant.

A reliable electricity system requires a continuous pipeline of new projects at different stages of development to ensure that there is adequate new investment to meet growing demand and to replace ageing or uneconomic plant. This is currently not occurring.

**Projected supply and demand balance over the next few years**

The Australian Energy Market Operator publishes an annual Statement of Opportunities (SOO) detailing the supply outlook for the NEM and NEM regions. The SOO provides a snapshot of the capability of existing and committed supply to meet the Reliability Standard for the next 10 years. The energy supply outlooks incorporate a range of information and assumptions:

- Capacities of existing and committed scheduled generation;

[2] AEMC Reliability Panel, *Comprehensive Reliability Review*, *Final Report*. 2007.
[3] AEMC *Review of Energy Market Frameworks in Light of Climate Change Policies*, 2nd Interim Report, June 2009.
[4] Energy Supply Association of Australia, Global Financial Crisis and the energy supply sector, April 2009.

- Historic actual scheduled demand and current winter and summer schedule maximum demand;
- Projected medium economic growth scenario;
- Levels of committed demand side participation;
- Minimum reserve levels and net import limits;
- Existing transmission capabilities, committed transmission projects and routine augmentations.

Capacity for reliability represents the capacity required (local generation plus net imports) to meet the minimum reserve level for each region and the NEM. The minimum reserve levels are calculated to ensure sufficient supplies are available to meet the Reliability Standard.

Allocated installed capacity represents the current projection of installed generation capacity allocated to each region. The SOO allocates regional imports and exports to minimise reserve deficits. Reserve deficits are shared in proportion to the maximum demand for each region up to the interconnector limits.

Additional capacity required represents the deficit between the capacity for reliability and the allocated installed capacity, otherwise known as the reserve deficit.

Chart 1 shows the system outlook for the NEM over summer periods (the period of highest demand and the period where higher temperatures reduce the thermal capacity of generators and power transfer capability of the transmission system). The NEM-wide outlook assumes all generation can contribute to reserves, regardless of network limits or net import limits between regions. The SOO outlook shows a very tight balance in 2012-13 and a lack of reserve in 2013-14 (the yellow shaded area). This shortfall would be exacerbated if there were unplanned withdrawals of existing plant from the market, any delays in commissioning committed projects or an increase in the level of forced outages rate in the existing generation fleet.

*Chart 1: NEM-wide summer supply-demand outlook*

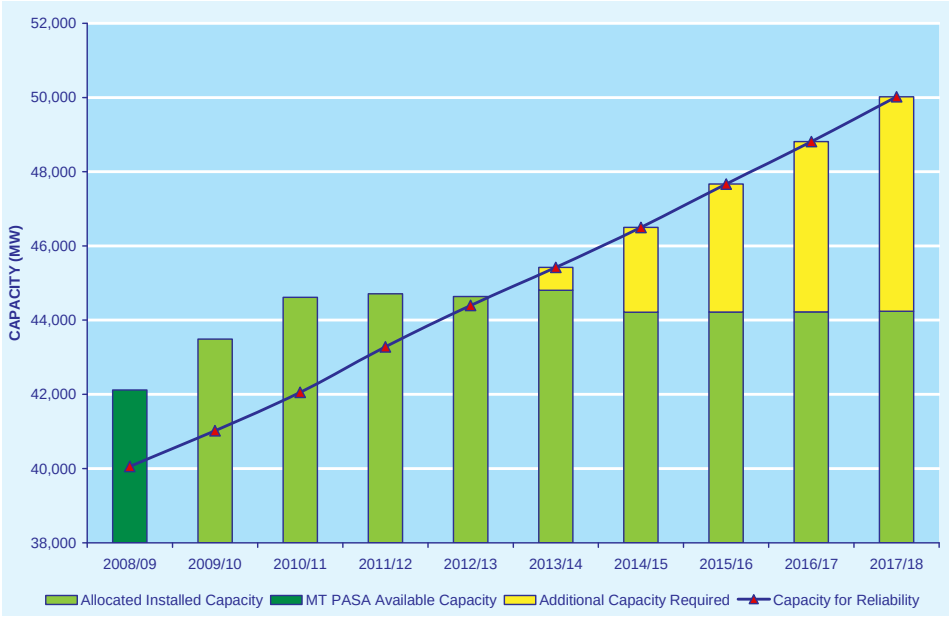
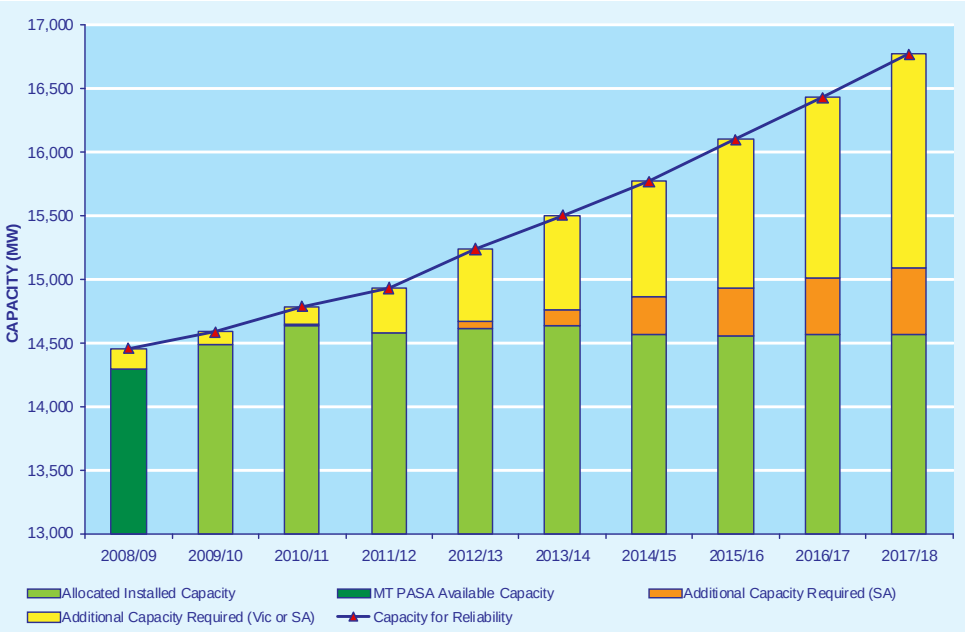


Chart 2 shows the system outlook for Victoria and South Australia simultaneously. They are considered jointly because surplus installed capacity in South Australia reduces the requirement for more installed capacity in Victoria and the regions have similar weather patterns that often involve coincident peak demands.

Victoria and South Australia combined experience a lack of reserve in 2008-09 and an increasing shortfall through time. The Reliability and Emergency Reserve Trader was not enacted in 2008-09 because the shortfall was estimated to be within a level that would satisfy the longer term unserved energy target for both regions at the time. Victoria and South Australia will require generation investment through time to satisfy the Reliability Standard. These estimates incorporate some committed new renewable projects but do not factor in any retirement of baseload plant.

*Chart 2: Victorian and South Australian summer supply-demand outlook*




**Impact of the Carbon Pollution Reduction Scheme on supply reliability**

Independent modelling commissioned by the Commonwealth Treasury indicates that the coal-fired generation sector could experience a significant reduction in the value of assets following the introduction of the CPRS and RET. Two of the modelling exercises indicated losses in the vicinity of $10 billion over the next 10 years.

Given these assets have commercial lives of between 25 and 50 years, a more realistic assessment would be based on an asset impact to at least 2030. In which case, the asset impact would be substantially greater.

The Government's draft CPRS legislation incorporates an Electricity Sector Adjustment Scheme (ESAS) that delivers approximately $3.5 billion of assistance over a five year period. The NGF contends that this is a completely inadequate recognition of the likely financial impact on the sector which will have a number of detrimental consequences that may threaten the sector's ability to deliver a reliable and affordable supply of electricity.

*Uncertainty for new investors*

For investors to commit to new projects, they need confidence in the policy and regulatory setting that underpin climate change programs. A key step in this process is the enactment of the legislation that will establish the emissions trading scheme and the expanded renewable target. Even then, however, investors will be cautious if the government has earned a reputation for devaluing investments made under previous regulatory structures.

Confidence in the likely direction and nature of the development of regulatory arrangements and any potential policy changes is important for industries such as electricity where investment in assets is lumpy, and requires significant lead times. This means even short periods of uncertainty about key scheme design parameters can have significant effects on investment outcomes. This uncertainty is likely to be a very serious concern for both owners of existing electricity assets, who experience asset stranding as a result of the introduction of CPRS and RET, and potential new investors who fear asset stranding in the context of new investment projects. It is important to emphasize that, initially at least, owners of existing assets are likely to make up the lion's share of the potential pool of new investors. The impact of uncertainty will be compounded as a result.

*Impact on maintenance plans*

Generators undertake maintenance because the expected payoff from doing so exceeds the costs. If maintenance is not undertaken the likelihood that a generator is not available to produce electricity when required increases. An unreliable generator may cause spillover failures in the transmission system and physical shortfalls in the electricity market, resulting in direct and indirect costs on other participants and electricity customers.

An emissions trading scheme is designed to actively discourage the use of and investment in high emitting activities such as coal fired generation. It must follow that if the marginal value of energy from a coal-fired generator declines as a consequence of an emissions trading scheme, then the payoff for undertaking maintenance will decline. A number of generators are reporting a reduction in current maintenance budgets given that they have limited management discretion over other areas of expenditure, for example debt repayments and fuel. At the margin, few maintenance projects will be worthwhile and the reliability of the existing stock of coal fired generation will decline over time.

A reduction in maintenance, together with the likely delay by investors in committing to new, low-emissions technology, has the potential to result in unacceptable market outcomes. As system demand grows, older generators exit the market, and the level of maintenance spending by remaining coal-fired generators declines, the need for timely new investment will become more urgent. If this investment is not readily available an increase in the frequency and duration of unplanned outages resulting in load shedding and higher electricity prices could be a feature of the transition from the existing system to a newer, cleaner one.

*Impact on the derivatives market*

Insufficient assistance is likely to result in an immediate reduction in generators' credit ratings and/or breaches of financial ratios due to the immediate loss in asset values. At the very least, a number of generators would be unable to meet the prudential requirements of their Financial Services Licence and would be unable to trade. In addition, for many of those generators it could also trigger a revision by financiers and possibly result in the suspension of payments under hedge contracts as the generators would be unlikely to meet any requests for additional credit support.

This may result in a series of financial defaults through the market. These events could significantly undermine investor confidence in energy markets and result in a reduced number of potential investors in the Australian energy sector for future developments, including low emission plants. Higher hurdle rates would apply to any new investments that did occur due to increased risk premiums. This would, in turn, place further upward pressure on retail energy prices.

*Importance of transitional assistance*

The provision of transitional assistance can play an important role in encouraging new investment in generation capacity.

Firstly, it is a demonstration by the government that it recognises that policy change can cause shocks to investors. It shows that the government's commitment to minimise the detrimental effects of uncertainty resulting from policy changes that are outside the control of investors.

Secondly, unless it is assumed that there is a pipeline of new producers and projects that will come on line relatively quickly, the delivery of the necessary abatement will depend on the decisions made by current asset holders. If these asset holders suffer substantial asset stranding, their investment decisions will be affected. Transitional assistance would help to give existing asset holders confidence that their new investments are not likely to be subject to the same stranding risk.

For international power generation investors the loss of profitability, and potential asset stranding of generation assets, unless adequately compensated via scheme design, will change their assessment of regulatory risk in Australia, with flow on impacts on future investment decisions in Australia. International power companies prefer to invest in markets with predictable and stable regulation, or at least in markets where it is possible to pass through the costs associated with regulatory risk. The Australian market has traditionally been characterised by predictable and stable wholesale electricity market regulation.

To put the inadequacy of ESAS in context, what is proposed under the CPRS is starkly different from the European Union's emissions trading scheme. Currently 93% of permits are made available for free in the European Union. Likewise, the draft Waxman-Markey Bill in the United States allows for an 18 year transition with merchant coal generators being allocated for free – on average – about 40%. The CPRS only provides 13% for the first five years, and then nothing. Importantly, Australia is unlike either the United States or the European Union. In Australia 85% of electricity is generated from coal, whereas in the United States the figure is 49% and the European Union it is 31%.

Perceptions in the investment community about the threat of fundamental change in the key scheme parameters that damages the value of past investments will add to the cost of new projects. This is particularly important for foreign investors with a significant Australian presence considering new projects in various international locations. Transitional assistance that mitigates this regulatory risk and encourages earlier new investment would reduce the prospect of system-wide reliability problems.

The problem created by significant regulatory risk also has an impact on the sector's ability to attract debt finance for existing and new investment projects. The global financial crisis has significantly reduced the sector's ability to re-finance existing projects. NGF members have reported a reluctance of international debt providers to extend existing lines of credit or to consider further investments in the Australian market. Australian banks are also moving to limit their exposure to coal-fired generation businesses or to apply a high cost of capital when renewing project financing.

**System operator advice on supply reliability**

The Australian Energy Market Operator has responsibility for managing the dispatch of generation in the NEM, operating ancillary service markets, developing and implementing system operating procedures, calculating regional minimum reserve levels and exercising the Reliability and Emergency Reserve Trader mechanism. As discussed earlier, it also publishes the Statement of Opportunities for the NEM and the Annual National Transmission Statement.

Given its overarching responsibilities for managing NEM operations, AEMO has an extensive and detailed understanding of the capabilities of existing generators, participant investment plans, emerging constraints in the transmission system, regional projections of supply and demand balances, and expected levels of future system reliability and security.

NEMMCO (the system operator prior to the establishment of the Australian Energy Market Operator on 1 July 2009) was asked by the Department of Climate Change in December 2008 to provide advice on possible energy security implications resulting from the introduction of the Carbon Pollution Reduction Scheme.[5] NEMMCO made a number of important observations about the risks created for the electricity sector by the introduction of an emissions trading scheme, focusing in particular on anticipated reserve balances and the impact the CPRS would have on existing and prospective entrants considering new investment projects.

NEMMCO observed that the global financial crisis could potentially delay the necessary new investment in generation facilities:

> "Although the global 'credit crisis' might be temporary in nature, its coincidence with the introduction of CPRS mechanisms materially elevates the underlying level of financial risk faced by generation businesses and retailers of electricity. It also has the potential to delay the commissioning of replacement plant and therefore increases the total level of security risk as a result of the CPRS, and is central to this advice because it offsets some of the risk mitigation measures resident in the policy package."

NEMMCO also noted that evidence is emerging of a tightening supply and demand balance in most regions and that there are underlying system reliability risks that may be exacerbated by the timing and financial impact of the CPRS.

> "The Statement of Opportunities published by NEMMCO in October 2008 is based on regional demand forecasts prepared by regional planning authorities and on an extensive information gathering exercise in respect of generation investment intentions across the NEM. Regional reserve indicators used in the SOO show that generation reserve levels in Victoria, South Australia and Tasmania are already low, and that investment is required to avoid shortfalls as early as 2009/10. This serves to highlight that there are existing risks to energy security that are independent of the CPRS. ... In particular, technical problems with generation plant can arise at any time, and if underlying reserves are low as indicated by the 2008 SOO, supply shortages can arise."

Finally, NEMMCO commented that it was unable to say whether the level of financial assistance provided through the ESAS would be sufficient to mitigate the financial impact of the CPRS on existing generation businesses.

[5] Letter from NEMMCO Chief Executive Officer to Secretary of the Department of Climate Change, 'Carbon Pollution Reduction Scheme and Energy Security Advice', 4 December 2008.

> "While the ESAS payments will serve to mitigate some risks to generation businesses, and therefore to energy security, their overall effectiveness in this regard will depend on whether the payments completely cover the financial impact to the business, and if not, the ability of the business to manage the residual impact. NEMMCO is not in a position to comment on whether or not the quantum of ESAS payments advised in the policy package is appropriate".

The fact that the system operator is unable to give an unqualified assessment of the adequacy of the proposed ESAS arrangement should be a cause for concern. The risks for government are to a large extent one-way. It can either provide a reasonable level of assistance to existing participants (which would be subject to the 'windfall gains' test) or it could risk the possibility that the scheme forces the early retirement of existing plant and discourages new investment in plant and maintenance resulting in a deterioration of the reliability levels that customers have enjoyed over the past decade.

**Summary**

The introduction of the CPRS and RET will inflict a major financial hit to the balance sheets of Australian coal-fired generators. The NGF appreciates that the underlying purpose of the scheme is to discourage generation from higher emission plant through time. However, electricity markets will continue to rely on the operation of coal-fired generators during the transition to a low carbon economy. The design of the scheme should ensure that there is sufficient generation available to deliver a reliable supply of electricity over the short to medium term.

Over the medium to longer term, participants will need to make a substantial investment in new lower emission plant. Investors will be reluctant to commit the more than $20 billion of new investment that is required over the next decade if the Government has a reputation for making fundamental policy changes that damage earlier investments made under established regulatory frameworks. Given that major generation projects involve a significant timeframe for planning, permitting and commissioning, it will not be possible to quickly rectify problems that may emerge in a few years time because of decisions made today to strand existing investments.