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Select Committee on Energy Planning and Regulation in Australia
Parliament House
Canberra ACT 2600

Dear Committee Secretary,

Institute of Public Affairs submission to the Inquiry into Energy Planning and Regulation

The Institute of Public Affairs (IPA) commends the Senate for establishing the Select Committee on Energy Planning and Regulation in Australia, and thanks the committee for the opportunity to make a submission.

The IPA notes that the select committee's webpage lists 43 Participating Members in addition to the seven Committee Members. The engagement of 50 of Australia's 76 Senators with this topic is a clear indication of the broad awareness in the parliament that energy security and reliability are of paramount importance, along with issues of affordability and competitiveness, even as society seeks to minimise adverse impacts on the natural environment including (but not limited to) emissions into the atmosphere. Not only are Australia's current policy settings failing in all these areas, these failures will be exacerbated if reforms are not made.

Major reform of electricity markets is now unavoidable. This is largely the result of ill-advised public policy that introduced anti-free-market laws, regulations and policies that, unsurprisingly, conflict with the underlying free-market principles and the original intentions of the competitive electricity market, first enacted in the 1990s.

Reform will need to re-assess and clarify where the responsibilities of the state end and those of the market begin, and conversely where the market ends, and the role of the state begins.

Our recommendations are as follows:

1. Remove subsidies and other distortions that favour renewables and undermine the principles of a competitive energy market.
2. Retain and re-use valuable energy assets, including coal-fired plants that are being prematurely closed under state and federal net zero targets.
3. Repeal bans on nuclear energy generation and quasi-bans on gas exploration, new coal plants, and new hydropower generation plants.
4. Re-examine the consequences—many of them unintended and not obvious—of abandoning base-load power sources in favour of relying on variable weather-dependent energy sources.
5. Reform electricity markets, once the above tasks are complete.

This submission sets out the reasoning behind these suggestions and recommendations, which are grounded on practical considerations as well as technical, economic and public policy principles, aligned with Australia's wider legitimate national interests.

The last item—Reform electricity markets—will require a well-thought-through set of interconnected changes to the National Electricity Law, the National Gas Law, and the National Energy Retail Law; the role and function of the Australian Energy Regulator (AER), the Australian Energy Market Operator (AEMO) (including its development of the Integrated System Plan under the National Electricity Objectives), the Australian Energy Market Commission (AEMC), Energy Consumers Australia (ECA), the state energy regulators, the statutory framework which supports consideration of stakeholder views and the public interest, and the detailed market rules. If legislative and regulatory reform is attempted without first addressing the principles and tasks in items 1 to 4 above, then the thicket of problems that has been created will continue to get worse. Once items 1 to 4 above are addressed and implemented, reform will still be required, but the burden will be eased.

No single minister, and indeed no one government has the authority and capability to implement the range of changes required. The task ahead is likely to be more complex and challenging than the reforms of the 1990s. That is because the mess of legal and regulatory energy policy contradictions into which Australia has blundered since about 2000 is greater than the challenges that faced reformers in the early 1990s.

Responsibility is spread across the commonwealth and the states. The unavoidable reform needed requires collaborative leadership of the highest order, along with the ability to navigate complex, contested and difficult problems. Yielding to the temptation to shift responsibility and blame between Canberra and the state capitals, and between governments and business, is sure to result in the problems becoming worse and the difficulty of reform increasing, while the time available becomes shorter.

The current situation facing reformers

If conflicts and contradictions had not been introduced into energy law, the electricity market may have worked as intended, but we will never know, because the competitive free market experiment was corrupted soon after the electricity market was introduced.

The present author noted several years ago that the laws governing the National Electricity Market (NEM) and the subsidisation of renewable energy under the Renewable Energy Target (RET) legislation are in direct contradiction. This goes beyond the general observation that introducing subsidies flies in the face of the principle of a competitive market.

The design of the NEM is based on two implicit principles: (i) that the value of electricity does not vary with the source, while (ii) the value of energy can vary enormously throughout the day and year, including the lead-time before delivery, and according to location. Capacity is not priced, but energy prices rise when generation and interstate transmission capacity are in high demand.

The RET is comprised of two schemes: the Large Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES). Both schemes are based implicitly on two principles: (i) that renewable energy has a higher value than other energy sources, for which it receives a large premium, but (ii) the premium does not vary throughout the day and year, nor with the lead-time before delivery, nor according to location in the network... Clearly, the principles on which the RET is based directly oppose those of the NEM.¹

Although not publicly acknowledged, this appears now to have been implicitly recognised. The RET scheme will not be extended beyond its 2030 sunset date, and a Capacity Investment Scheme is being introduced in its place. By excluding generation capacity with the technical characteristics required (coal, gas, nuclear), and supporting generation capacity of the types causing the technical, economic, social, environmental and political problems across the system (wind and solar power), the design of the new scheme will exacerbate rather than ameliorate the problems it purports to solve.

The damage caused by the anti-free-market effect of existing laws is now so extensive that it is not possible to return to the original intention of the 1990s market reforms. Although a 180-degree course reversal is not possible, a 90-degree change of direction is needed.

Six steps are advised before diving into major reform of the detail of electricity and gas laws and the related regulatory and institutional arrangements. Attempting major reform before taking the corrective and stabilising measures may exacerbate the problems, and would likely undermine what may otherwise be effective reforms.

Making sense of Australia’s current energy policy mess and risks

Energy in general—and electricity in particular—is more complex than most other parts of the economy. Electricity is a real-time service, in which generation, long-distance transmission of energy, and its local distribution must all occur at the instant of demand. This is a non-negotiable requirement, and not of fussy customers but of immutable physical laws. A highly *engineered system* is required, dominated by fixed infrastructure with sufficient capacity throughout an interconnected network. The operation of such a system can be imbued with some characteristics of a *commodity market*. Such markets must be legislatively enacted, synthetically created, and pre-emptively regulated. This contrasts with markets that arise from the spontaneous initiative of buyers and sellers, evolve naturally, and are regulated after the fact typically to prevent monopoly power.

Australia’s current energy policy settings, combined with the market design and rules, are driving wholesale and retail electricity price levels relentlessly upwards. A recent IPA paper

¹ Stephen Wilson, *How to reform the electricity market before we reach the top of a cliff* (Energy Policy Institute of Australia, Public Policy Paper 1, 2017) 4.

explains the cost drivers.² Widening price volatility exacerbates the effects. The design of the market magnifies the effects.

Australia has a range of anti-free-market policies currently enacted throughout state and federal law. These include subsidies, most notably for so-called ‘renewable’ energy in the form of solar and wind power; and bans, most notably on nuclear energy, but in effect also on gas exploration and production, new coal plants, and new hydropower generation plants. Combining anti-free-market policies with supposedly free-market-principles as embodied in the (so-called) electricity markets is a recipe for disaster.

The problems now becoming evident are further exacerbated by existing laws and policies on the emissions of CO₂ and other greenhouse gases. These have Australia on a blind track to ‘net zero’ targets by applying ever-tightening constraints in the absence of checks and balances or calibrations. The targets are framed in a vacuum completely isolated from the technical, economic, political, legal, social, and environmental consequences for Australia and also from the international environmental, geopolitical and national security ramifications. The precise timing and sequence of consequential events cannot be predicted with certainty. However, if the current policy settings, laws and regulations are left unchanged, the result will be some combination of the collapse of the electricity system, the undermining of economic activity leading to perpetual recession, or a popular or political revolt.

Electricity is the keystone of our civilisational support system. Remove or interrupt electricity and virtually every aspect of the economy and modern society, and life itself, ceases to function. Health, education, welfare, industry, commerce, food supplies, leisure, communications, and parts of transport cannot function without electricity. A country with disrupted electricity supply would be very difficult to defend.

Sound economic principles to clarify a practical course of action

The affordability and competitiveness of electricity as expressed in its *price level*, and the availability and reliability reflected in its *price volatility* are of vital importance because electricity is so deeply woven through every layer across the entire economy. In the framework of Menger (1840-1921), electricity is simultaneously a ‘good of the first order’ and of second, third and higher orders. Electrical power stands ready on demand for direct use or ‘consumption’ by final consumers at the flick of a switch to energise a vast array of machines of enormous variety, both simple and complex. Electricity is also a ‘good of the second order’, being a vital factor of production to produce virtually every good or service used by people. Electricity is also a third order good used to make the materials and machinery to make the good of the second order, and so on.³

² Stephen Wilson, *The Ruinous Cost of Free Energy: Why an Electricity System Built on Renewables is the Most Expensive of all options* (Institute of Public Affairs Research Report, July 2024).

³ Henry Hazlitt, *Understanding Austrian Economics*, <https://fee.org/articles/understanding-austrian-economics/>

All the failings of Australia’s energy policy, especially with respect to electricity, could perhaps be encompassed under the heading of the failure to trace and understand the range of consequences.

...the whole of economics can be reduced to a single lesson, and that lesson can be reduced to a single sentence. The art of economics consists in looking not merely at the immediate but at the longer effects of any act or policy; it consists in tracing the consequences of that policy not merely for one group but for all groups.⁴

Controlling inflation and bringing the cost-of-living crisis under control will be extremely difficult, or perhaps impossible, if electricity prices continue to escalate. Current policy settings are a recipe for ever-steepening costs of providing a reliable electricity service.

Australians tend to favour practical and balanced policy approaches

Australia today has a ‘mixed market’ in electricity, with a combination of market competition and regulation, and a mix of government and private ownership of assets. Australia was one of the first countries in the world to reform its electricity sector in the 1990s, led by privatisation of the vertically-integrated state government-owned State Electricity Commission of Victoria. The regulatory philosophy drew upon the principles of competitive free markets. Implementation followed closely the British formula. South Australia followed Victoria, as did New South Wales. Queensland and Tasmania later interconnected, but largely retained state government ownership albeit with ‘contestability’ of generation and retail supply, and submitting to the regulation of networks on the same regulatory basis as private owners. Snowy Hydro assets were prepared for privatisation, but not sold. The Australian government bought out the shares of Victoria and New South Wales: a harbinger of the nationalisation or re-nationalisation of electricity in Australia?

Physical electricity systems are being pushed closer and closer to their limits, as reserves and margins of operational reliability are gradually eroded. There are more factors than one causing this, and their effects tend to multiply and compound.

Electricity markets in Australia are failing. Evidence of this can be seen in a prolonged suspension of the National Electricity Market, and the fact that practically the only investment that has occurred in the past decade or more has been driven by subsidies outside the electricity market itself, or at the direction of one or other government.

The spot pricing of electricity according to market economic theory was intended to achieve two main things: efficient operation of the generation fleet in the short-run, and efficient allocation of investment capital in the long-run. Politicians generally bought into the comforting notion that governments would no longer need to worry about electricity, which would become just another market.

⁴ Henry Hazlitt, *Economics in One Lesson* (Foundation for Economic Freedom, Special edition, 1952) 5.

However, for the reasons described above, the reality is that electricity is not, never was, and likely never will be ‘just another market’. Despite the liberalisation, privatisation, and the introduction of electricity market competition to varying degrees around the world, no government anywhere has yet managed to completely absolve itself of ultimate responsibility for electricity. When markets fail, when consumer prices rise rapidly and remain high, when systems go black, the people do not blame the abstract market, nor even the companies in the industry. They blame the government. Increasingly they look to Canberra, not their state government.

Two respected MIT economists perceptively wrote in 1983:

If the power system is co-ordinated so that operating efficiency is at least possible, generating firms able to sell power only on the spot market will be extremely vulnerable to opportunistic behaviour on the part of the transmission-pooling entity with which they must deal. (Such behaviour might benefit the pool or its member distribution companies.) Although it might be possible to raise capital on reasonable terms to build base-load generating plants that would not be insulated by long-term contracts from the natural risks of the bulk power marketplace, we find it hard to imagine that base-load plants anything like those we see today would be constructed in the face of the extraordinary opportunism risks inherent in a regime permitting only spot market sales.⁵

In Australia, the ‘transmission-pooling entity’ with which generators must deal is AEMO. It is notable that the members of this not-for-profit public company limited by guarantee are the generation and network companies that comprise the industry. The set of incentives are encouraging a collective game that may be in the short- and medium-term interests of the players, but deleterious to the long-term interests of electricity consumers and the nation as a whole.

Tracing the consequences

‘Base-load’ still exists: by definition, base-load is that level of electrical load or demand that is always present continuously 24 hours a day, 365 days a year. Understanding that meeting base-load reliably and economically has always been, and remains, the key to robust power system design and sound electricity economics.

It is often claimed that ‘base-load is an obsolete concept’ due to the rise of intermittent renewable energy, and especially rooftop solar photovoltaic (PV) generation behind the customer meter, eroding the demand ‘seen’ by the main power system in the middle of the day. The reality is that ‘base-load’ is a demand-side concept, as the word ‘load’ clearly indicates. The load still exists. Consumers still expect to receive uninterrupted power at all hours of the day and night throughout the year for an affordable price.

⁵ Joskow and Schmalensee, *Markets for Power: An Analysis of Electrical Utility Deregulation*, MIT, 1983.

The erosion of energy demand without reduction in system peak demand or local distribution peak flows is a significant systemic problem being exacerbated by current energy policy and regulatory settings and subsidies under the current market design.

‘The Australian energy market’ is not monolithic: it is composed of many markets, which are connected with each other and with global energy markets via both exports and imports. The linkages include physical energy flows as well as both direct and indirect price linkages. An example of a simple and obvious connection is the use of natural gas for power generation. A more complex and less obvious connection is the chain of linkages from global oil prices to LNG, to Australian natural gas and wholesale electricity prices.

While the emphasis of the Select Committee on Energy Planning and Regulation in Australia is on electricity and gas, sound domestic public policy settings in energy requires near-term situational awareness and long-term vision across the energy complex, nationally and globally. This may be illustrated by a counter-example.

A popular notion has it that encouraging, subsidising or even forcing increased reliance on wind and solar power must improve Australia’s energy security. The simple but flawed reasoning is that neither wind nor sunshine can be disrupted by a hostile actor. The unfortunate reality is that making a power generation system over-reliant on weather-dependent energy flows reduces energy security by direct and indirect effects. Energy storage technologies are severely limited by basic physics and chemistry, which are experienced as high cost, limited duration storage, and round-trip losses, short cycle life, large land and material use, and extensive environmental impacts. As a result, over-dependence on weather-dependent energy leads to increased dependence on fast-response natural gas and liquid fuel (diesel) generators. Increased reliance on natural gas has an indirect effect on energy and national security by reducing the extent to which Australia is able to contribute to the energy security of neighbours via gas exports to the Indo-Pacific region. Increased reliance on liquid fuels directly affects energy and national security by increasing reliance on the least secure and most easily disrupted energy form.

The IPA would be pleased to answer follow-up questions the committee may have in relation to this submission, in writing, or in person.

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