

SE Business
HD **Steps to secure our future prosperity**
BY JOHN DURIE
WC 5,044 words
PD 20 November 2014
SN The Australian
SC AUSTLN
ED Australian
PG 21
LA English
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JUST how to power Australia, the subject of a special series in The Australian this year, is a vexed question and today's exclusive survey of political and business leaders showcases diverse views on how to achieve aims.

Starting with the role of government, BlueScope chair Graham Kraehe sums up the view of many, saying it should take a holistic approach aimed at ensuring the economy is competitive.

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"The basic responsibility for government is to make sure the whole economy is as competitive as it can be so all sectors can achieve their potential," he said in response to one of five questions put to the leaders in the Powering Australia survey.

Suncorp and NBN Co's Ziggy Switkowski agrees, saying "the government should resist industry-specific advocacy in other than general terms".

Instead he urges a focus on investment in efficient infrastructure, being business-friendly and avoiding any policies that hint at any moral hazard or sovereign risk.

When it comes to **energy** policy that is sometimes easier said than done. Take nuclear **energy**, which according to AGL economist Paul Simshauser has no real role today "because of the current oversupply of generation and the relatively high total average unit cost of nuclear power compared to alternatives available in Australia".

GE's Steve Sargent says Australia's challenge "is to ensure we continue to develop (**energy**) reserves efficiently and maintain our global competitiveness".

"In many regards Australia is at the forefront of resources **operations** with the adoption of new technologies which are enabling a shift from a break-and-fix model to a predict-and-prevent," Sargent says.

Kraehe notes: "Australia's relative productivity has fallen while our unit labour costs have risen compared to our competitor countries." Gas reservation is a divisive issue, with Kraehe saying we can have our cake and eat it too, "if we can establish a properly functioning domestic gas market".

Switkowski says a reservation policy "is just another form of industry subsidy". The final word on the issues goes to Infigen's Miles George, whose **wind** power sector has been at the centre of the debate for years. He wants government to accept the finding that the RET in its present form would result in lower consumer prices and "move to restore the policy stability and Australia's reputation as a safe place to invest".

JOHN DURIE'S 5 QUESTIONS TO KEY LEADERS 1. What role should government play in promoting the resources and farm sectors of the Australian economy?

2. Is there a role for nuclear **energy** and should Australia be used to store nuclear waste?

3. How does Australia rate on the global resources productivity scale? 4. Is the answer to **energy** prices more supply or reservation policies to keep local industry running?

5. What future role should **solar** and **wind** power have in Australia and what support if any should government provide?

IAN MACFARLANE Industry Minister JAMES BAULDERSTONE Santos GRAHAM KRAEHE BlueScope
PAUL SIMSHAUSER AGL STEVE SARGENT GE ZIGGY SWITKOWSKI NBN Co, Suncorp PHIL
BLYTHE Greensync MILES GEORGE Infigen **Energy** MATTHEW RENNIE Ernst & Young

Five questions that hold the key to Australia's future prosperity

Ian Macfarlane Minister for Industry Q1: The government has a role in providing a framework that supports project development and investment in Australia's resources sector over the long term. This includes a stable operating environment for companies that is underpinned by robust and efficient regulatory frameworks. We are working with industry on a range of measures to ensure the ongoing competitiveness of Australian projects. These include regulatory reform, streamlining environmental approvals, workforce productivity measures, and boosting skills. These measures seek to reduce business costs, ensure access to skilled labour and increase productivity and efficiency. The Industry Innovation and Competitiveness Agenda will enhance Australia's international competitiveness. Two of the new Industry Growth Centres focused on **oil**, gas and **energy** resources, and **mining** equipment, technology and services will build upon our competitive advantages and keep us at the forefront of technological and productivity advances.

Q2: The Australian government is preparing an **energy** white paper to set the long-term course for **energy** policy and **energy** security. The **energy** green paper, which will guide the development of the white paper, does not preclude any area of **energy** from discussion, but the government has no intention of actively pursuing a nuclear **energy** option in Australia for the short to medium term.

Australia is very well endowed with **uranium** and we look to be a safe and secure supplier of **uranium**, particularly to our Asian neighbours, well into the future. In Australia, the appetite for nuclear fuel has waned quite significantly since the Fukushima incident and that fact, combined with the fact that we are blessed with a range of **energy** options which include **coal**, gas and renewables, means the community has made it clear that nuclear **energy** is not an issue they wish to pursue at this time.

On the separate question of the storage of nuclear waste, Australia has a role to play in storing waste that is generated in Australia, primarily as a result of medical procedures. Currently, this waste is being stored securely, but in an ad hoc manner in temporary sites around Australia. The government is proceeding with the construction of a national radioactive waste management facility to store low and medium-level waste.

Q3: The Australian **mining** industry has been challenged by declining productivity during the investment phase of the **mining** boom. However, Australia has not been alone in experiencing declining **mining** productivity and the **mining** sectors in many countries have experienced similar productivity losses as they sought to increase output to meet the rapidly growing demand for resources in emerging economies.

In Australia the investment phase of the **mining** boom delivered a substantial expansion in the number of operating mines and also in the size of the workforce, both of which require some time to reach optimal efficiency levels. Now that commodity prices have come off their record high levels there is a renewed industry focus on improving productivity. That is already evident in the production reports of many Australian **mining** companies that are showing increased production and lower operating costs. The resources industry is broad and diverse. While some miners have experienced the productivity challenge more than others, some remain among the most efficient and low-cost producers in the world.

For example, Australia's **iron ore** miners in the Pilbara are world leaders in adopting innovative technologies, such as driverless trucks, and operate integrated infrastructure networks that are among the most productive in the world. While productivity in the **mining** industry has slipped, it is still high relative to many producers around the world and Australia remains an appealing location for **mining** investment. However it is essential that Australia doesn't fall into complacency. Given our higher cost base, productivity gains are essential, as well as capitalising on other advantages that can boost productivity.

Q4: The Australian government does not consider that a mandatory domestic gas reservation policy will sustainably change the outlook for our domestic gas market. Rather, the best way to address issues of **energy** supply and pricing is to ensure Australia makes full use of our own gas assets, through exploration and development of new gas fields, both onshore and offshore. The government has recently released the **energy** green paper which discusses a range of gas issues including ways to bring on extra supply, reduce market entry barriers and encourage new entrants and competition to support future

growth. It may be the case that state governments wish to consider proposals whereby some gas from future projects, not existing projects, could be used in the domestic market.

Q5: One of Australia's great advantages is the diversity of our **energy** mix. This includes both traditional sources of electricity such as **coal** and gas as well as renewables including **solar** and **wind** power. The Australian government believes it's in the nation's best interests to maintain that diversity. Renewable **energy** has a significant role in the future and the government will continue to support its development through the Renewable **Energy** Target. We are committed to a Renewable **Energy** Target that represents a real 20 per cent of electricity production in Australia, as was the original intent supported by Labor.

James Baulderstone Vice-president eastern Australia, Santos Q1: Governments have a critical role in the facilitation of the development of a thriving resources sector. First, they have a role to work with industry and communities to ensure that this country's resources are developed in a way that minimises our impact on the environment and that communities are engaged in a fair and respectful manner. It is also critical that governments continue to work to build trust among our communities in the regulatory regimes that work to ensure this.

Second, having designed robust regulatory regimes, governments must ensure that they are appropriately enforced. And while regulation must be robust and enforced, it is critical that this regulation is streamlined and efficient to ensure that costs are minimised for meeting the regulatory burden.

Q2: By 2030 the world is going to need 50 per cent more **energy**. All forms of **energy** including nuclear power will continue to have roles to play in the global **energy** market to help meet that growing demand. It is not for Santos to comment on nuclear waste storage.

Q3: Santos's growth and the continued growth of Australia's gas industry is reliant on access to export markets, and our ability to remain competitive in global **energy** markets. Productivity remains a key issue in keeping down the costs of development, and improvements in this space should be a focus of governments and industry.

Q4: Domestic gas reservation only ensures that gas stays in the ground. There are some claims that a domestic gas reservation policy will reduce prices; however, this will do the opposite. Increased production and therefore supply will keep downward pressure on costs — which we can achieve through an open and competitive market, innovation and collaboration. It is important to note the recent report by the independent think-tank, The Grattan Institute, which identified that "reserving or subsidising gas for domestic use will add more costs than benefits and do nothing to increase supply. And in the long run, protection harms everyone".

Q5: The global **energy** mix will be diverse. Renewables must continue to grow. Nuclear power will continue to have its place. In many situations **coal** will continue to provide the cheapest **energy** and **oil** will likely remain the largest part of the global **energy** mix for some time.

Government needs to provide the regulation and facilitation of a robust **energy** market that works to the benefit of all Australians in a carbon-constrained future.

Graham Kraeche Chairman, BlueScope Q1: Additional focus on growth sectors such as agriculture and resources is fine, but it is not a substitute for a competitive economy. The basic responsibility for government is to make sure the whole economy is as competitive as it can be, so all sectors can achieve their potential. This requires a combination of microeconomic reform, labour market reform, **energy** policy, etc. Then all sectors have the chance to thrive (rather than a government picking winners).

Q2: Yes, of course nuclear has a role, especially in the pursuit of a reduction of CO2 emissions from our **energy** profile. It should be up to the market to decide. If it stacks up financially, it should be a valuable part of our **energy** mix, operating with appropriate regulations.

Q3: Australia's relative productivity has fallen while our unit labour costs have risen compared with competitors such as the US, Canada, Germany and Scandinavia. If Australia is to maintain high wages it must boost productivity.

Q4: The answer is we can have our cake and eat it — that is, more **energy** supply to boost our export income and national wealth. If we establish a properly functioning domestic gas market, we can ensure our domestic industry and households are not penalised by the export boom.

Q5: Like any technology, if it's viable it will make its own market and grow. But taxpayer-subsidised **energy** is a flawed policy when we have cheaper resources at hand.

Paul Simshauser Chief economist & group head of corporate affairs, AGL Q1: Government has a role to play in supporting and promoting Australian industry in international markets through the negotiation of trade agreements and the provision of a stable policy environment to attract investment and limit sovereign risk. The development of new **energy** and resource industries requires a balanced regulatory framework that addresses economic opportunities and community concerns.

Q2: In a very practical sense, the answer is no for the foreseeable future because of the current oversupply of generation and the relatively high total average unit cost of nuclear power compared with alternatives available in Australia. That said, **energy** policy should be stable and technology neutral so that demand for **energy**, and any other policy objectives (for example, **energy**-related environmental objectives) can be met at least cost. Nuclear plants are among the most capital-intensive of all generating equipment, albeit with very low marginal running costs. They have particularly long construction times, and are prone to non-trivial cost overruns.

Given the scale at which the current generation III plant are being built (typically 2 x 800+MW configurations), the construction and price risk is so large and difficult to manage that such projects could prove too financially risky for even the largest **energy** utilities in Australia.

If ultimately successful, the development of smaller modular and lower-cost nuclear power plants could change the nature of these risks. But until a fleet of such generators exists with a proven track record of reliability, financing will remain problematic.

Q4: The development of new LNG export demand for natural gas will produce substantial net economic benefits for Australia. However, it is also placing upward pressure on Australian gas prices, as east coast gas markets are for the first time linked internationally.

A reservation policy to redirect LNG gas into the domestic market is unlikely to be effective in reducing prices because the problem with gas prices has to do with a tight supply/demand balance for natural gas.

Such a policy, applied retrospectively, would have the effect of introducing significant sovereign risk in the sector and would represent "time inconsistency" of policy, damaging future (and evidently, necessary) investment.

Sufficient additional gas supplies, on the other hand, will eventually place downward pressure on gas prices because, on the east coast, the construction of additional LNG terminals in the short-to-medium term appears unlikely given revised construction and feedstock cost bases facing marginal developments.

Q5: AGL is a strong supporter of renewable **energy**. As the largest ASX-listed owner, operator and developer of renewable **energy** generation in the country, we support increasing the proportion of renewables in Australia's **energy** mix and have invested more than \$3 **billion** in renewables in Australia. AGL is also building Australia's largest utility-scale **solar** plant at Nyngan in NSW plus another **solar** plant at Broken Hill.

However, given the oversupply in generation capacity in the national **energy** market and the West Australian **energy** market, and stagnant or declining electricity demand forecasts, AGL does not consider the RET to be achievable at any level envisaged by policymakers — at least not without complementary policies aimed at restoring relevant market signals.

Current spot prices for electricity and for renewable certificates are sending a clear signal to participants that the market is heavily oversupplied. Unless investors perceive that revenues for new renewable projects will exceed cost of construction and operation, it is difficult to imagine new projects being banked any time soon.

Complementary policies therefore need to be considered to address the policy-induced oversupply in the national **energy** market, and the apparent barriers to exit that seem to exist at present.

Finally, household **solar** PV no longer requires subsidies and so the federal government's Small-Scale Renewable **Energy** Scheme, which is funded by electricity consumers through a synthetic tax and levied by **energy** retailers, should be phased out.

Steve Sargent President and chief executive, GE **Mining** Q1: Agriculture and resources are and will remain important pillars for our nation. These industries have coexisted in the past and we must continue to ensure they coexist into the future.

At GE, we argued for, and the Australian government has responded to, one mechanism to maximise the benefit for primary producers from the expansion of **energy** and resources sector. GE argued the non-farm income threshold for the Farm Management Deposit Scheme should be increased from

\$65,000 a year because many landholders were able to access payments as hosts of **wind** turbines and CSG-extraction wellheads.

The FMD Scheme is important because it allows farmers to build up financial reserves from good years for the bad, when seasons or commodity prices are down or if there are natural disasters. From July 1, the non-farm income threshold has been increased to \$100,000.

The agricultural competitiveness white paper is seeking views on whether it should be increased further.

Q2: Nuclear is one option in the world's **energy** mix. Its role in Australia as both a fuel and in regard to storage needs to be considered amid a raft of suitability, viability and social factors. The Australian government's **energy** white paper is an important opportunity to look at the fuel and technology mix for our nation's **energy**.

Q3: Australia is a critical source of **energy** for the world. Within five years, Australia will be the world's biggest LNG exporter and we are a major exporter of **coal**, **iron ore** and **uranium**.

The challenge is to ensure we continue to develop these reserves efficiently and maintain global competitiveness.

Globally, resources companies are struggling with declining productivity, rising operating costs and falling prices of what they sell. But it is during times of cyclical downturn that companies can seize the opportunity to make changes to become more productive and more competitive.

Technology has a huge role to play in enhancing our competitiveness across current **operations** and for future projects. In many regards, Australia is at the forefront of resources **operations** with the adoption of new technologies that are enabling a shift from a "break and fix" model to one of "predict and prevent". The result is a reduction in unplanned down time and improved asset management.

Q4: The answer to **energy** prices is the sustainable development of competitively priced sources — **coal**, gas, **wind**, **solar**. The development and utilisation of Australia's reserves will continue to depend on foreign investment and a clear regulatory framework is vital to securing future investment and encouraging new technology innovation and adoption.

GE supports free markets and free trade. While governments have been working towards providing more transparency in domestic gas, the imposition of measures such as reserving gas for domestic consumers could dissuade that investment. Australia has an opportunity to set and harmonise the policy framework for the development of gas reserves, providing gas for domestic and export consumers. Government must balance this framework to support both global investment and opportunities for domestic industry, while meeting the needs of the broader community and stakeholders.

Q5: Renewables, as with **coal** and gas, will have an important role in our **energy** mix. As indicated in a Newspoll (for the Powering Australia series), the Australian public also believes a greater commitment needs to be made to non-fossil fuel **energy** sources. Stable policy is critical for all forms of **energy**, so stability on the Renewable **Energy** Target through a restated bipartisan agreement will be essential.

The adoption of technologies beyond renewable **energy** generation, including other fuel sources, transmission and distribution should also be among the objectives of any successful government.

Renewable **energy** can provide a hedge to volatile domestic gas prices and with many projects developed in regional areas, they are so important to boosting regional and rural economies with improved power supply and reliability.

The role of government and regulators must be measured in line with the need to ensure the safe, efficient and reliable support of **energy** infrastructure, while also allowing enough freedom for the viability of private participants.

Ziggy Switkowski Chairman, SuncorpMetway Chairman, NBN CoChancellor, RMIT University Q1: The government should resist industry-specific advocacy in other than general terms. It should focus upon three themes: investment in efficient infrastructure; being business-friendly; and avoid policies that hint at any moral hazard or sovereign risk — always.

Q2: Nuclear **energy** must be in the **energy** mix as Australia moves to a lower carbon future. Post-Fukushima, the entry strategy is likely to be via small modular reactors in support of regional centres and industrial sites. Any nuclear deployment will require enabling legislation and some level of direct government support.

The market opportunity for storage of other country's nuclear waste is probably overstated and Australia's endless fumbling of the issue of storage of low level radioactive waste is discouraging.

Q3: I don't have any data to comment but, in general, productivity per unit of labour is competitive, but per unit of labour cost, we are getting worse and worse (before the recent dollar devaluation).

Q4: No, that's just another form of industry subsidy.

Q5: Climate change is real and minimising emissions should be a national strategy. But given our small contribution to global carbon emissions, we have time to introduce thoughtful policies.

The US has been very effective by doing two things: 1) mandating auto fuel efficiency targets; and 2) shifting to shale gas. In Australia, **solar** will grow in importance, **wind** may not, and nuclear is over the planning horizon.

What is required of government is consistency, clarity and continuity of goals and policy. And to align with Britain and US view: in a contest between climate change and the economy, the economy wins.

Phil Blythe Managing director, Greensync Q1: Australia has attracted every major resource **company** from around the world, and **billions** of dollars in investment into the resources industry each year. With or without government help, the resources sector will grow and flourish (or decline) in line with global commodity prices. The government's role is to regulate where required to collect appropriate income (tax), and ensure that the social and environmental impacts of the **mining** sector do not have adverse effects on the rest of society.

The farming sector is more complex. A changing climate, an ageing workforce and an influx of overseas ownership are all complex issues that need careful and well-crafted policy to ensure that the farm sector, and its associated supply chain, remains strong.

Q2: The learning curve for Australia to invest in nuclear technology will take 10-15 years before we can safely own and operate nuclear plants. This requires huge financial investments, and huge risks for underwriters of such asset investments. Given that there is such vigorous debate over relatively modest **solar** and **wind** contributions under the Renewable **Energy** Target, it is hard to imagine how large contributions will be accepted by ratepayers to subsidise rollout of nuclear power plants.

Q3: Clearly, our labour costs are well beyond many other countries, pushing up our costs in the resources sector beyond where they need to be. Australia has not managed these issues through the boom period. There has been a shortage of skilled workers, and a two-speed economy from highly inflated labour costs in some parts.

Q4: The Australian market does not require more **energy** supply to tackle **energy** prices. In fact, it needs the opposite — generators to be retired — to remain viable in the coming years. Reservation policies for gas, and other sensible forms of regulation, should be immediately implemented to prevent sudden price shocks to industries reliant on gas (this is already happening), which would have a dire and irreversible effect on our manufacturing sector.

Q5: **Wind** power is being overtaken by **solar** as the most cost-efficient renewable **energy** for Australia in the medium and long term. However, it is likely that both **wind** and **solar** will make up part of our **energy** portfolio in the longer term. Beyond the next five to six years, one should expect that both technologies will be at or below price parity with **coal**-based fuel, and all subsidies should be phased out over the next few years.

Miles George Managing director, Infigen **Energy** Q1: Government should promote those sectors where we have natural advantages and that provide the opportunity to achieve industry excellence.

Australia has exceptional **solar** and **wind** resources. Acknowledging those strengths, we have been able to achieve world leadership in renewable **energy** technology research and development, particularly in **solar** PV technology. This was perhaps indirectly due to government promotion through various R&D funding initiatives. But we have failed to develop a broader vibrant renewable **energy** industry while other nations with weaker renewable **energy** resources, such as Denmark, have succeeded.

A stable policy environment that transcends short-term political cycles is required to facilitate the long-term investment needed in capital intensive industries such as power generation.

Q2: Conventional nuclear **energy** requires large-scale development, proximity to the load, and access to substantial water resources. Securing an acceptable location for such a plant close to major load centres on the east coast of Australia is highly problematic. In addition, the cost of electricity generated from conventional nuclear plant, including the hidden costs such as government-backed insurance to

underwrite debt financing, will exceed the cost of available renewable **energy** technologies. A new generation of smaller modular nuclear power plants is under development and may have application for distributed generation solutions in the long term. Cost competitiveness is unknown. I think Australia should store only its own nuclear waste.

Q3: Capital and operating costs for large-scale renewable **energy** facilities in Australia are high by world standards. A strong Australian dollar in recent years has helped with the cost of imported components, representing about half the cost of a typical large-scale **wind** farm. But the balance of plant capital costs and operating costs are significantly higher than for our US **operations**.

Q4: Australia has now linked its east coast gas market to export parity pricing in much the same way as WA did many years ago. Domestic gas prices on the east coast will be much higher than they were previously. Increases in local supply will do little to change this because the scale of the export market and the quantum of our gas exports far exceed domestic demand for gas. Reservation policies may assist local industrial gas users to secure supply, but prices will not be materially lower without additional interventions.

Q5: Australia has some of the best **wind** and **solar** resources in the world and we should exploit those natural advantages in much the same way as we exploit our mineral and other natural resources. Government should support **solar** and **wind** power by providing a stable and consistent policy environment. The large-scale renewable **energy** industry has ground to a halt in Australia because of uncertainty created by the government's ad hoc review of the RET. As a direct consequence, large-scale renewables capital investment this year is down to one-tenth of that achieved in recent years and the industry is shrinking — including shedding jobs in regional areas. Yet the government's review found that maintaining the RET in its current form will result in the lowest power prices for consumers compared to the options of cutting or shutting the RET. Government should now accept that finding and move to restore policy stability and Australia's reputation as a safe place to invest, as previously existed for well over a decade under previous Labor and Coalition governments.

Matthew Rennie Leader, power and utilities, Ernst & Young Q2: Nuclear **energy** is, in most parts of the world, a conventional and stable source of generation, operating in about 30 countries with more than 400 nuclear reactors. The Nuclear **Energy** Institute reports there are 72 new plants under construction in 15 countries and I'm aware from my travels to **China** that there are almost 30 projects there alone.

The issue with developing new nuclear power projects is twofold. First, there is the issue of scale. The majority of new nuclear power stations are over 1000 MW, which is a lot of capacity to bring online in a system such as the national electricity market, let alone in an environment where new generation is not forecast to be required for the next 10 years.

Second, financing these types of projects requires long-term power **purchase** agreements to be entered into with retailers, which are sufficiently credit worthy to have the confidence of financiers, which would in turn require those retailers to be able to forecast prices over a very long term. The difficulty in doing this would necessitate some role for government, perhaps as a contractual intermediary. Waste storage would be only one of a number of issues to be thought through during the development and government approvals processes.

Q5: There are two aspects to renewable **energy** which are complex for policymakers to think through. First, renewable **energy** is, in the main, more expensive than conventional (**coal** and gas) power to generate. This means that, at the margin, policies that provide incentives or subsidise renewable **energy** will incur cost to taxpayers for the subsidy itself, and will increase the overall total cost of all electricity generation to the extent it displaces cheaper **coal**-fired power. Second, however, is the fact that current market pricing, in the absence of a carbon tax or similar intervention, assumes that non-renewable generation is neutral to the environment, and therefore conventional generators bear no additional cost. The outcome of the pure market process is therefore that renewable **energy** will be less attractive to consumers and to investors. Working through this requires government to weigh up these objectives — higher prices (including taxes and subsidies) and more renewable generators, versus lower prices and conventional generation. These are complicated objectives, and explains somewhat why the RET process is as emotionally and politically charged as it is.

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