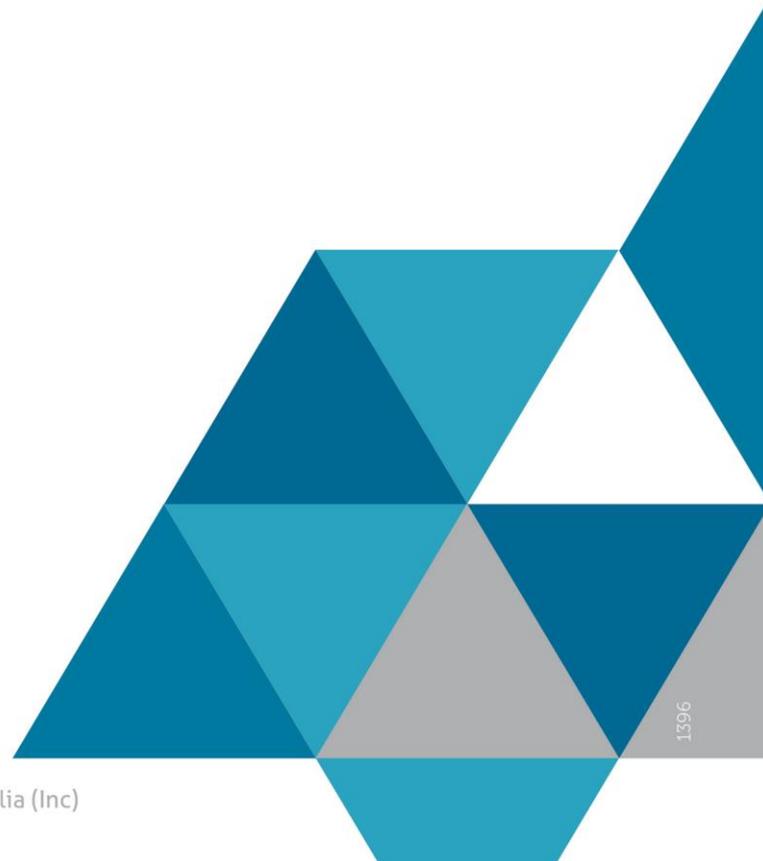




Submission to the Energy White Paper Issues Paper

March 2014



About CCI

The Chamber of Commerce and Industry of Western Australia (CCI) is the peak organisation representing business in Western Australia. It is the second largest organisation of its kind in Australia, with a membership of over 8,500 businesses across all sectors of the economy. CCI aims to build a competitive and productive business environment in Western Australia by promoting free enterprise through advocacy and essential services that make it easier to do business. CCI's vision is for Western Australia to be a world leading place to live and do business.

Introduction

Over the years, a number of reviews, including the 2012 Energy White Paper, have outlined many principled positions on key energy reform issues. However, policy makers have often not committed to specific actions and timeframes and consequently reform has not progressed. In order for the 2014 Energy White Paper to deliver real benefits, the Australian Government must make a commitment to reform. The Energy White Paper should clearly articulate a pathway for reform, including specific actions that will be undertaken and appropriate timeframes.

The focus of the 2014 Energy White Paper should be on reforms that facilitate the development of well-functioning energy markets. Reforms should seek to ensure that energy markets are transparent and appropriately regulated, barriers to entry are minimised, and energy supply chains have competitive ownership structures.

This submission outlines several key issues for the energy sector in Western Australia that warrant reform.

- Western Australia's domestic gas reservation policy distorts decision making, and penalises gas producers to subsidise gas consumers. Government policy should be redirected towards measures aimed at improving transparency and liquidity in gas markets.
- Electricity market reform in Western Australia lags other jurisdictions. Continued electricity market reform is needed in Western Australia, including:
 - cost reflectivity of electricity tariffs;
 - full retail contestability of electricity customers;
 - structural reform of electricity markets;
 - greater interconnection and coordination of the North West Interconnected System (NWIS); and
 - privatisation of government-owned electricity assets.
- Growth and investment in the energy and resources sectors can be promoted through improved taxation treatment of exploration expenditure and streamlined approvals processes.
- Without concerted action by stakeholders, the oil and gas industry is facing a skills shortage, particularly for process plant operators.
- Government legislated energy productivity measures have compliance costs and should only be introduced where justified by market failures and a robust benefit-cost analysis. Existing programs should be reviewed periodically.
- There should be uniform treatment of renewables and other sources of emissions abatement.

Western Australian Context

Western Australia's energy sector has a number of unique characteristics that set it, and the challenges it faces, apart from Australia's eastern states and territories.

Western Australia's electricity markets are relatively small and isolated from others in Australia. This presents challenges in terms of economies of scale for market participants and institutions, and market concentration. The largest network, the South West Interconnected System (SWIS) serves approximately 930 000 households and 95 000 business customers in Perth and the south-west corner of the state.¹ Outside Western Australia's south-west corner, Horizon Power services 45 000 customers across the NWIS and 37 other systems in regional towns and communities.² Some other regional communities' electricity services are provided by resources companies. Across the Western Australian electricity market, Government-owned utilities continue to have significant market share and competition is limited.

Western Australia has abundant energy reserves, particularly in natural gas. Natural gas reserves in Western Australia's Browse and Carnarvon basins account for 63 per cent of Australia's proved and probable reserves of natural gas (August 2013). In the year to 30 June 2013, production from Western Australia accounted for 65 per cent of Australia's total production of gas and 99 per cent of Australia's exports of LNG. Further investment in capacity is taking place with Chevron's Gorgon and Wheatstone developments due to commence production in 2015 and 2016 respectively. Shell and Woodside have announced floating liquefied natural gas (FLNG) projects for the Browse Basin in the state's north, which will add to LNG production from the state over the longer term.³

Western Australia is also the largest consumer of domestic gas in Australia and accounted for a third of Australia's domestic consumption in 2013.⁴ Gas in Western Australia is primarily used for electricity generation, mining and minerals processing. Residential and small commercial customers account for only a small percentage of demand, currently about four per cent.⁵

Structural differences exist in the Western Australian and eastern domestic gas markets, which may result in higher prices for gas in the Western Australian domestic market. These include that Western Australia's domestic gas comes from basins that are located further from the major centres of demand.⁶ The domestic market in Western Australia has also traditionally competed with LNG exports for supply, and demand for gas for electricity generation in the eastern states is tempered by greater competition from coal.⁷ Currently, Western Australia's market operates without central coordination and up to 98 per cent of domestic gas is contracted under long-term bilateral contracts. This means there is little transparency on price and volumes for the broader market.⁸

¹ See <http://www.westernpower.com.au/aboutus/aboutus.html>.

² See http://www.horizonpower.com.au/about_us.html.

³ Australian Energy Regulator 2013, *State of the Energy Market*.

⁴ Independent Market Operator 2014, *Gas Statement of Opportunities — January 2014*.

⁵ Australian Energy Market Operator; Retail Energy Market Company 2013, *Business Case for a Short Term Trading Market in Western Australia*.

⁶ Independent Market Operator 2014, *Gas Statement of Opportunities — January 2014*.

⁷ Western Australian Legislative Assembly Economics and Industry Standing Committee 2009, *Inquiry into Domestic Gas Prices*, Report No. 6.

⁸ Independent Market Operator 2014, *Gas Statement of Opportunities — January 2014*.

Security of Supply

Security of energy supply is an important issue for both business and residential consumers. CCI considers that well-functioning markets with efficient price signals will provide the environment for investment that is most conducive to ensuring security of supply of energy over the long term.

Western Australia's domestic gas reservation policy

Growing demand for energy exports, in particular liquefied natural gas (LNG), has created pressures in the Western Australian market, driving up the price of domestic gas — from \$2 per gigajoule in the early 2000s to over \$7 per gigajoule in 2013.⁹ Concerns about the impact of higher gas prices saw the previous Western Australian Government introduce a domestic gas reservation policy. Under this policy, 15 per cent of reserves are now required to be set aside for domestic use.

However, increasing LNG and gas prices have also driven investment in domestic gas processing, including Apache's new plant at Devil Creek and BHP Billiton's Macedon Gas project. The emergence of unconventional gas in the Canning and Perth Basins further underpins the importance of market signals in driving greater production and opportunities for domestic use and export.¹⁰ In addition, domestic supplies from projects such as the Gorgon and Wheatstone developments rely on export opportunities to underwrite their capital investment.

The expiry in 2015 of the joint marketing authorisations for the North West Shelf and Gorgon projects provide a timely opportunity to consider how to best secure domestic gas supplies.¹¹ The Australian Competition and Consumer Commission authorisations have been long-standing and permit the partners in the North West Shelf and Gorgon gas projects to jointly market and sell natural gas produced from the project to customers in Western Australia.

CCI considers that there is no identifiable market failure in relation to the supply of gas to the domestic market, and therefore does not support the reservation policy. The reservation policy may in fact result in adverse outcomes by distorting the market and deterring investment.

The Productivity Commission, in a review of the regulatory burden on the upstream petroleum sector, noted that Western Australia's gas reservation policy suggests a subsidised domestic gas price, and has the potential to result in lower investment in exploration and development of both LNG and domestic gas projects.¹² Research by Deloitte Access Economics for the Australian Petroleum Production & Exploration Association reinforced the distortionary impacts of domestic gas reservation policies. The report

⁹ Australian Energy Market Operator; Retail Energy Market Company 2013, *Business Case for a Short Term Trading Market in Western Australia*.

¹⁰ See <https://petroleum.curtin.edu.au/research/ugrg/> (accessed 14 February 2014).

¹¹ ACCC 2010, *ACCC allows joint marketing of natural gas from the North West Shelf Project*, <http://www.accc.gov.au/media-release/accc-allows-joint-marketing-of-natural-gas-from-the-north-west-shelf-project> (accessed 14 February 2014).

¹² Productivity Commission 2009, *Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector, Research Report*, Melbourne.

estimated that the introduction of a domestic gas reservation policy on the east coast of Australia would come at a significant cost to the nation's economy, in the order of \$6 billion in foregone GDP by 2025.¹³

Rather than a reservation policy, the Government should instead continue efforts to improve market transparency and ultimately to increase the liquidity of the domestic market in order to better facilitate the availability of gas to domestic users.

Some important reforms have already been introduced in this regard. Western Australia's Gas Bulletin Board and Gas Statement of Opportunities commenced operation in 2013 and provide an opportunity to better understand gas demand and consider options to improve liquidity in the future. However, the gas bulletin board and statement of opportunities need time to be refined and develop into a more useful snapshot of gas markets, ultimately to enable broader reform across the supply chain.

Gas trading initiatives have also been developed by the private sector, but it remains to be seen whether these will be able to provide the trading mechanism and market transparency required.¹⁴

- The Gas Trading 'spot market' commenced operation in 2009 and provides a platform for the sale and purchase of natural gas a month in advance, with prices and volumes published on its website.
- The Energy Access platform commenced operation in 2010 and provides opportunities for gas sellers and buyers to trade short to medium-term gas supply. However, the volume and price of gas traded is not published.

Other potential reforms include the introduction of a short term trading market (STTM) for gas. The Western Australian Government has stated that it will consider introduction of an STTM after a review of the Gas Bulletin Board.¹⁵ An STTM would likely improve transparency in the market but would also have implementation and operational costs. Once the Gas Bulletin Board has matured, and if market transparency is still insufficient, the feasibility of an STTM in Western Australia should be assessed.

Greater trading of gas pipeline capacity has also been identified as a potential way to increase supply and competition in the domestic gas market.^{16, 17} CCI understands that pipeline capacity is already actively traded in Western Australia under informal arrangements. However, Western Australia's Gas Advisory Board, established to govern the operation of the Gas Bulletin Board and Gas Statement of Opportunities, has indicated an interest in investigating a potential pipeline capacity trading market for Western Australia.¹⁸ If a formal trading market or other regulatory reform can simplify pipeline capacity trading

¹³ Deloitte Access Economics 2013, *The economic impacts of a domestic gas reservation: Report for the Australian Petroleum Production & Exploration Association*, October.

¹⁴ Australian Energy Market Operator; Retail Energy Market Company 2013, *Business Case for a Short Term Trading Market in Western Australia*.

¹⁵ Government response to the Economics and Industry Standing Committee's 'Inquiry into Domestic Gas Prices'.

¹⁶ Wood, T. Carter, L. and Mullerworth, D. 2013, *Getting gas right: Australia's energy challenge*, Grattan Institute.

¹⁷ Standing Council on Energy and Resources 2013, *Gas Transmission Pipeline Capacity Trading Regulation Impact Statement Decision Paper*, December.

¹⁸ Independent Market Operator 2014, *Gas Statement of Opportunities — January 2014*.

and reduce transaction costs, and the likely benefits exceed the costs, then it should be actively considered.

Regulatory Reform and the Role of Government

The focus of the 2014 Energy White Paper should be on reforms that facilitate the development of well-functioning energy markets. Reforms should seek to ensure that energy markets are transparent and appropriately regulated, barriers to entry are minimised, and energy supply chains have competitive ownership structures.

Electricity reform in Western Australia lags that in National Electricity Market jurisdictions.

- Competition in the SWIS is limited by the structure of the electricity market.
- The major electricity utilities are government owned.
- Western Australia is yet to implement full retail contestability of electricity customers or to set a timeframe to do so.
- Western Australia's regulated tariffs are not cost-reflective.
- There is a lack of interconnection and coordination in the NWIS.

These issues should be addressed as a priority to improve efficiency and encourage a more competitive market.

Western Australia's electricity market structure

On 1 January 2014, the Western Australian Government re-merged the Government-owned retailer and generator serving the SWIS to create an integrated 'gentailer'. Prior to 1 January 2014 and following the 2006 disaggregation of the vertically integrated and government-owned Western Power, the structure of the Western Australian electricity market comprised:

- Synergy, the government-owned retailer in the SWIS, and a limited number of private retailers serving contestable business customers;
- Verve, the government-owned generator in the SWIS and a number of privately owned generators;
- Western Power, the government-owned monopoly provider of electricity transmission and distribution networks in the SWIS; and
- Horizon Power, the vertically integrated and government-owned electricity utility for areas of the state outside the SWIS, and a number of resources companies supplying electricity to regional towns and communities.

The new merged entity, which retains the name of the retailer, Synergy, remains dominant in both retail and generation markets in the SWIS. The merged entity now accounts for about 50 per cent of the generation capacity in the SWIS¹⁹, 65 per cent of the total retail electricity market and 42 per cent of contestable business customers.²⁰

Given Synergy's significant market share, the merger has the potential to adversely impact on competition in the market for electricity in the SWIS. The risk of unfair and anti-competitive behaviour in electricity procurement needs to be appropriately managed. CCI considers that there should be transparent analysis and consultation of post-merger options for increasing competition. This should include consideration of measures including

¹⁹ Based on 2013-14 capacity credits.

²⁰ Synergy 2012, *Annual Report 2011-12*.

plant shutdowns, asset sales and capital recycling, splitting the merged entity into competing 'gentailers', and/or complete privatisation. However, the success of these options will depend on achieving tariff cost reflectivity and full retail contestability, as discussed below.

Privatisation of electricity network infrastructure should also be considered in Western Australia. This is in line with the findings of the Productivity Commission's 2013 inquiry into electricity network regulation, that privately-owned operators are better at efficiently meeting the long-term interests of their customers.²¹

Cost-reflective tariffs

Cost-reflective electricity tariffs have been consistently called for across electricity market reviews at the state and national levels. Cost-reflectivity is a key first step towards genuine retail competition.

In Western Australia, electricity prices were frozen for a number of years up to 2009 leading to an expansion in Community Service Obligation payments. In recent years, the Western Australian Government has recognised the need to move towards cost reflectivity and has increased tariffs. Despite the increases implemented, there still remains a 33.5 per cent gap between regulated residential tariffs and the cost of supplying electricity.²² Successive state governments have consistently pushed the pain of tariff increases into the future. By appointing an independent regulator to set regulated electricity tariffs, the Western Australian Government could take some of the politics out of tariff setting and align its procedures with other states.

For the Western Australian Government, the subsidy required to maintain electricity tariffs below cost-reflective levels has ballooned to \$500 million per year and rising²³, a significant sum of taxpayer funds that could be invested more productively elsewhere in the economy. In addition, electricity consumers in the SWIS continue to be charged the Tariff Equalisation Contribution, to ensure the cost of electricity in Western Australia's regions is the same as it is in Perth. Tariff equalisation is a social policy decision, and the Tariff Equalisation Contribution inefficiently adjusts prices for SWIS consumers to subsidise those in the regions. Should the Western Australian Government maintain tariff equalisation as a policy, it should be funded from direct revenue, not through the current cross-subsidy.

Retail contestability

Western Australia is the only jurisdiction in Australia not to have implemented full retail contestability of electricity customers or to set a timeframe for its implementation.^{24,25} This

²¹ Productivity Commission 2013, *Electricity Network Regulatory Frameworks*, Report No. 62, Canberra.

²² Nahan, M. 2014, *Questions on Notice Supplementary Information*, [http://www.parliament.wa.gov.au/parliament/commit.nsf/\(Evidence+Lookup+by+Com+ID\)/B9EE16C2FE904FE748257C6F0013D8D0/\\$file/ef.aar12.140128.aqon.001.Synergy.pdf](http://www.parliament.wa.gov.au/parliament/commit.nsf/(Evidence+Lookup+by+Com+ID)/B9EE16C2FE904FE748257C6F0013D8D0/$file/ef.aar12.140128.aqon.001.Synergy.pdf) (accesses 7 March 2014).

²³ Nahan, M. 2014, *Review seeks reforms to electricity market*, Media Statement Minister for Energy, <http://www.mediastatements.wa.gov.au/pages/StatementDetails.aspx?listName=StatementsBarnett&StatId=8138> (accessed 7 March 2014).

²⁴ Australian Energy Market Commission 2013, *Advice on best practice retail price methodology*, September.

is an outstanding commitment under the Australian Energy Market Agreement agreed by all states and territories. In each of its reviews of the wholesale electricity market, Western Australia's Economic Regulation Authority has made a strong case for expanding retail contestability which is currently limited to customers consuming more than 50 MWh per year.²⁶

Government-owned Synergy continues to hold a significant share of the retail market (65 per cent) and with it a significant amount of collateral and risk in underpinning much of the state's generation. Without opening up the significant and stable market for residential and small business consumers, independent retailers will be unable to secure significant capacity from generators, and government will continue to bear a significant amount of risk.

CCI strongly supports the implementation of full retail contestability in Western Australia. Through its mixed market combining bilateral contracts, the reserve capacity mechanism and short term energy market, Western Australia has a structure in place to help provide for efficient and effective competition. In concert with full retail contestability, regulated tariffs should be gradually removed after levels of customers making the choice to change their provider (customer churn) increase to rates seen in more competitive markets (for example, Victoria). But even with regulated tariffs, retailers should be free to set prices lower than regulated levels (as occurs in Western Australia's residential gas market).

Interconnection and coordination of Western Australia's North West Interconnected System

Resources companies are significant providers of infrastructure in the north of Australia. Over time, the ad hoc provision of energy infrastructure by resources companies to service their operations has resulted in the development of infrastructure in a below optimal manner in some areas. One area where this is notable is in the provision of electricity in the Pilbara region of Western Australia.

The Pilbara is serviced by the NWIS covering the towns of Dampier, Wickham, Pannawonica, Paraburdoo, Tom Price, Port Hedland, South Hedland, Karratha, Roebourne and Point Samson, and resources projects connected to the system. Horizon Power, the Western Australian Government owned provider of electricity in regional Western Australia, purchases electricity from various private power producers and retails that electricity in five of the towns connected to the system. Mining companies are the retailer for the remainder of the towns.

The power supply infrastructure in the Pilbara has developed without central coordination, and is predominantly owned and controlled by the resources companies operating in the region and thus largely tailored to their individual needs. Limited interconnection of the system was undertaken by the Western Australian Government in 1985 — Horizon Power owns and maintains only one-third of the 1,400 km transmission system. However, the poor level of interconnection and the high costs associated with the loss of production during

²⁵ Tasmania has announced that it will introduce full retail competition from 1 January 2014. Full retail contestability was introduced in the Northern Territory, however, Power and Water Corporation is currently the sole retailer operating in the Northern Territory.

²⁶ Economic Regulation Authority 2013, *2012 Wholesale Electricity Market Report for the Minister for Energy*, April.

electricity outages have resulted in the construction of a large number of small and inefficient generators to provide backup capacity.²⁷

The inefficiencies in the NWIS result in increased costs for Horizon Power to service residential and business customers, increased costs and lower productivity for established resources companies and higher barriers for new investment in the region. Separate studies conducted over the past decade indicate that the savings to stakeholders from investment in an integrated transmission network combined with an effective governance framework could be in the order of billions of dollars.²⁸ Further, the opportunity to decrease barriers to entry and increase productivity would result in an increase in the volume of ore that is economically viable, which has broader implications for economic activity and in turn government revenues.

In 2003, the Pilbara Coast Petroleum and Minerals Study (undertaken in partnership between State and Commonwealth Governments, and the key industry players in the region through the Commonwealth's Regional Mineral Study program) recommended effective interconnection of existing sub-systems, the establishment of a reliable and stable transmission system connecting all major centres, and improved utilisation of generation capacity. The Study recommended that the Government establish a Pilbara electricity working group comprising the major Pilbara stakeholders, with the objective of providing a reliable and lower cost supply system in the Pilbara.²⁹ To date, this recommendation has not been implemented.

CCI considers that there is a strong case for government to progress implementation of an integrated and coordinated NWIS given the large prospective gains from implementation and the benefits that would accrue to parties that are not major infrastructure providers.

Growth and Investment

Over the past decade an investment surge occurred in the energy and resources sector as commodity prices were rising, terms of trade improving, and demand for our commodities overseas remained strong. It occurred despite serious problems with project approvals systems. Western Australia's ability to continue to benefit from strong demand from overseas to the same extent is not guaranteed. While demand for our resources is expected to increase, competitors are developing their own resources, often with lower costs, larger reserves, and simpler approval processes. The International Energy Agency predicts a number of new and existing competitors (Russia, East African nations, the United States) will increase gas exports in direct competition with a number of major projects on the horizon for Western Australia.³⁰ Increasing political stability is driving major mining companies to consider and develop projects in Africa and Latin America and Australia can no longer rely on its stable political environment as an investment winning comparative advantage.

It is also increasingly difficult to compete on project costs, even against advanced high cost nations in the EU and North America. Numerous senior executives from major project

²⁷ Allen Consulting Group 2008, *Power for the Pilbara Region*.

²⁸ Allen Consulting Group 2008, *Power to the Pilbara Region*; SKM 2010, *Efficient Energy Infrastructure Investment in the Pilbara*.

²⁹ SMEC Australia 2004, *Pilbara Coast Petroleum and Minerals Study*, Published by Department of Industry and Resources, Perth.

³⁰ International Energy Agency. 2012. *World Energy Outlook 2012*.

proponents in Western Australia, including Rio Tinto, BHP Billiton and Chevron have all stated their concerns with rising costs, noting Western Australia is often the most expensive market to develop major projects.³¹

There is significant scope to promote growth and investment in the energy and resources sector by lowering barriers to investment. Barriers to investment come in many forms, but they impede investment in the same way — by skewing the risk-return profile of a project until it no longer stacks up compared to alternative investments. Any measures that increase the profitability, or reduce the risk of investing in Australia, will have a positive outcome for investment in the resources and energy sector.

Improved taxation treatment of exploration expenditure

The tax system could be improved to encourage exploration expenditure. In the lead up to the 2013 election the Coalition announced the introduction of an Exploration Development Incentive that would allow investors to deduct the expense of mining and exploration against their taxable income.³² The proposed policy targets small exploration companies by limiting eligibility to companies with no taxable income and would be capped at \$100 million over the forward estimates. If implemented, the proposed policy reform would be a step in the right direction.

CCI has long advocated for a flow through share (FTS) scheme to be established in Australia. A FTS scheme essentially enables the transfer of tax deductions of individual exploration companies to individual investors. By doing this, the tax deduction of the exploration expenditure is leveraged in the capital markets in the subject year, attracting external investors rather than being accumulated as tax losses, which will only be realisable if the company earns taxable income.

An FTS scheme can be particularly beneficial to junior exploration companies who lack the taxable income to raise sufficient exploration capital for fields on which they hold licences. Having junior firms active in exploration is particularly important to the future of the resources sector but a key challenge they face is access to capital. As a result, juniors are often required to focus on marginally prospective acreage with consequentially lower success rates.

One of the reasons for this is the impact of the income tax system. For companies that have a tax liability, the ability to deduct such costs immediately against other income provides an important form of cost relief. Entities that do not have (or have insufficient) income are therefore required to carry forward potential tax benefits for exploration expenditure which may never be used. As a consequence, this inability to obtain a tax deduction significantly reduces the after tax value of exploration activity undertaken by these companies.

An FTS mechanism has been used with considerable success in Canada, where it was first introduced to allow transfer (or ‘flow through’) of tax credits between corporations in order to boost investment in resource exploration. However, this was eventually extended to

³¹ See for example http://www.riotintoironore.com/ENG/media/38_presentations_2739.asp, www.uwainthezone.com.au/wp-content/uploads/2012/11/S2.docx.

³² The Coalition 2013, *The Coalition’s Policy for Resources and Energy*, <http://lpaweb-static.s3.amazonaws.com/Coalition%202013%20Election%20Policy%20%E2%80%93%20Energy%20and%20Resources%20%E2%80%93%20Final.pdf> (accessed 14 February 2014).

allow Canadian resource companies to transfer certain exploration expenses to investors, who were able to apply these expenses against their income.

At present, Canada's FTS scheme is available to mining, petroleum and certain types of renewable energy companies to facilitate financing exploration and project development activities. Since Canada introduced its FTS scheme there has been strong growth in its equity financing and it has become the world's leading market for raising equity capital for mining.

Streamlining environmental approvals

The commitment by COAG in December 2013 to integrate Commonwealth and State environmental assessment and approval processes is an important reform that needs to be followed through. Although integration of approvals processes will reduce regulatory burden by eliminating duplication, there is also a need for broader reform of state environmental approval processes.

Current approvals processes are complex and time consuming. Some businesses in Western Australia report that their projects require hundreds of approvals from numerous agencies at the federal, state and local levels. Overlaps, duplication and inconsistency, drive up the costs of project approvals without providing additional protection to the environment or the local community. CCI members have highlighted a range of areas where overlaps, duplication and inconsistency occur.

- State legislation overlaps. Numerous duplications exist in the roles of Western Australian approval authorities. For example, the Environmental Protection Authority (EPA) and Department of Mines and Petroleum have environmental approval responsibilities, while the EPA and Department of Aboriginal Affairs both have Aboriginal heritage responsibilities.
- Environmental offsets. Within a project a single environmental impact can require two separate, sometimes conflicting, actions as an offset. For example, Commonwealth procedures could require a direct offset of offsite habitat protection, while the state might mandate scientific research in response to the same impact, effectively double counting the impact and its costs to the business.
- Water. Amendments to the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) in 2013 require Commonwealth assessment and approval of the water impacts of coal seam gas and coal mine projects, directly duplicating existing state assessments and approvals.
- Analysis and reports. Tailored reports are required for both state and federal environmental approvals and for monitoring and compliance of projects after approvals have been granted, but cannot be shared between approval authorities.
- Greenhouse gas approvals. Many state project approvals in Western Australia include mandatory reporting of greenhouse gas emissions, a direct duplication of the Commonwealth National Greenhouse and Energy Reporting Scheme.

A fair and transparent approvals process also remains an ongoing concern for many project proponents in Western Australia. While some recent changes have been enacted to the EPA's guidelines for environmental impact assessment to improve procedural fairness, CCI still has ongoing concerns.

For example, the Western Australian Government recently enacted a blanket ban on coal mines in the Margaret River region without any strategic assessment of the region. The decision followed an impact assessment and appeal for one project in the region under

which other existing and potential investors had no indication it would form the basis of a more wide ranging decision. The option of a strategic environmental assessment, and with it the benefits of transparency and wide ranging consultation, was in effect ignored.

There are also limited opportunities to weigh the costs and benefits of major projects in approvals processes. Environmental assessments often form the primary vehicle for governments to engage the public on major projects. As occurred in the case noted above, environmental assessments therefore often consider wider cultural and strategic development issues, outside the relevant acts (in this case cultural and economic issues). A more integrated process could provide an opportunity for the costs and benefits of projects to be weighed against one another. It would also provide greater transparency of the basis on which decisions are made.

Workforce Productivity

Skills shortages in the energy sector

Quality of labour and its availability are key drivers of business productivity. As part of the June quarter 2012 Commonwealth Bank-CCI Survey of Business Expectations³³, businesses were asked about their productivity performance over the past year and the factors that influenced this result. For firms that reported an increase in productivity, the quality of skills and labour (37 per cent), staff turnover (30 per cent) and labour shortages (27 per cent) were cited as key issues. For firms that reported a decrease in productivity, 46 per cent cited their wages bill as a key issue.

Labour shortages are likely to persist in Western Australia's resources and energy sector unless there is concerted action by industry and government. For LNG and FLNG projects, analysis by ACIL Tasman points to critical shortages of Chemical, Gas, Petroleum and Power Generation Plant Operators from 2012, with the shortages growing significantly from 2017 onwards. Even with sustained high levels of 457 visa migrants, Western Australia is projected to have a shortage of these skills of over 1,000 workers, or approximately one third of the state's unconstrained demand, in 2022 – particularly for the mining³⁴ and manufacturing sectors. In addition, shortages in other relevant occupations include geologists and geophysicists, and mining engineers.³⁵

The difficulty facing the industry nationwide can be illustrated with reference to the labour shortages for Process Plant Operators (PPO). There are currently seven LNG trains under construction in Australia and it is estimated that the number of LNG trains will triple by 2018. The Australian Petroleum Production & Exploration Association has estimated that the demand for LNG PPOs will increase six-fold over the five to 10 years from 2012, from around 500 to 3,000 workers.³⁶ The cost of training a qualified PPO can be up to \$500,000, and the competition for qualified PPOs can result in short term tenure for employees as companies bid to poach them from other operators.

³³ CCI 2012, *Boosting Australia's Productivity*, Perth.

³⁴ ABS classification of the mining sector, includes oil and gas exploration and extraction.

³⁵ ACIL Tasman 2013, *Crowding out: competition for skilled labour in WA*.

³⁶ Australian Petroleum Production and Exploration Association 2012, *State of the Industry 2012*.

Investment in the supply of skilled staff is the key mechanism to reduce pressures on the industry. To help alleviate pressures expected for LNG projects the focus of efforts should be placed on:

- chemical, gas, petroleum and power generation plant operators³⁷;
- geologists and geophysicists³⁸; and
- mining engineers.³⁹

Further collaboration between education and training institutions, and the business community could greatly improve the capacity to deliver skilled staff. The benefits of greater collaboration would include:

- improved forecasting of skills shortages so they can be addressed in advance of their development;
- better career advice for prospective students and trainees;
- better alignment of course content and future skills requirements; and
- smoother transition of trainees and graduates to employment.

While investment in skills and providing opportunities for Australians should be a priority, migration is also likely to be a key source of labour. The Commonwealth's temporary migration program plays an important role in allowing employers to source the additional skills required to meet short and longer term labour and skills demands. Having a responsive migration program driven by employer demand can reduce the 'heat' in the economy during periods of economic expansion. The program can, if flexible, have a positive impact and assist employers in the energy sector.

The temporary subclass 457 visa was established to be a demand driven, responsive tool to assist employers meet workforce shortages in times of high demand. The former Australian Government's changes to the subclass 457 visa program in 2013 have been met with disapproval from the business community. The additional administrative burden on employers to utilise the 457 instrument including requirements to test the labour market, steep hikes in application fees and increased complexity to demonstrate compliance, is hampering the ability of many businesses to access the visa effectively, to meet workforce needs.

For many businesses working out how to apply for a 457 visa to source employees to address workforce shortages is confusing and often time consuming. Efforts to adjust the subclass 457 visa should be focussed on improving access for small to medium businesses in particular. It should be made more easily accessible to business by simplifying the application process, penalising employer misuse through appropriate and established channels (rather than over regulating the system to stop the minority) and the Department of Immigration and Border Protection must work on improving processing times. Together, this would improve the usability of the visa and ensure the migration system is responding efficiently and effectively to employer's needs.

³⁷ ANZSCO Code 3992. Includes Gas or Petroleum Operators.

³⁸ ANZSCO Code 2344.

³⁹ ANZSCO Code 2336. Includes Petroleum engineers.

Driving Energy Productivity

Energy productivity

Businesses have incentives to invest in energy productivity to reduce costs and increase profitability. However, legislated energy productivity measures can have more costs than benefits and should only be introduced where they address an identified market failure and pass a robust benefit-cost analysis. Existing programs should be reviewed periodically to assess if their benefits still exceed their costs.

The *Energy Efficiencies and Opportunities Act 2006* (Cwlth) requires that large energy using businesses identify, evaluate and report on energy efficiency opportunities, to encourage implementation of cost effective energy efficiency opportunities. Businesses already have a profit incentive to improve energy efficiency and there is no market failure rationale for the program (such as information gaps and asymmetry which are the commonly cited market failures warranting household appliance labelling and minimum energy performance standards). As a result, the program has compliance costs without material offsetting benefits. Although the Australian Government has indicated the program may end on 30 June 2014, industry would benefit from the earliest possible repeal of the legislation.

Demand response

Significant costs are incurred to meet electricity demand for only small periods of the year — peak demand periods. To ensure Western Australia's electricity system is as efficient as possible, peak demand needs to be addressed and accounted for in pricing structures.

Electricity in the SWIS is traded on the Wholesale Electricity Market operated by the Independent Market Operator (IMO) and includes a reserve capacity mechanism to incentivise investment in sufficient generating capacity or demand side management to meet peak demand. Under the mechanism, the IMO purchases capacity credits from generators and demand side management providers, in exchange for making their capacity available at all times. It is important that the lowest-cost combination of demand and supply side options be procured to meet demand.

The Independent Market Operator's 2013 Electricity Statement of Opportunities notes that the demand side program and market reforms have helped to reduce peak demand on the hottest days by almost two per cent of total peak demand. These results demonstrate how appropriate pricing mechanisms in the market can have a material impact on demand.

However, more can be done in Western Australia outside the capacity mechanism. Time of use tariffs are a widely supported mechanism for encouraging smaller users to reduce demand during peak periods that should also be available for residential customers in a contestable market.

When combined with smart meters, time-of-use tariffs have proven successful at reducing peak demand, and reducing household electricity bills. In Western Power's Perth Solar City project, households with smart meters with in home displays and time-of-use tariffs (implemented via the electricity retailer, Synergy) have reduced their annual electricity bill by between \$115 and \$235, and achieved a 13 per cent reduction in consumption during the 2pm – 8pm weekday 'super peak' period. If expanded to a wider range of households this could bring significant network savings while assisting households in actually reducing their

electricity bills. This could provide significant relief as tariffs in Western Australia increase towards cost-reflective levels.

Alternative and Emerging Energy Sources and Technology

Renewable Energy Target

CCI has concerns about the efficiency of the Renewable Energy Target (RET). By focusing emissions abatement on renewable sources of electricity, the RET 'picks winners' and does not result in lowest-cost emissions abatement. The Productivity Commission noted that the Large Scale Renewable Energy Target has cost between \$37 and \$111, and the Small Scale Renewable Energy Target between \$152 and \$525 per tonne of abatement.⁴⁰ This is compared with a carbon price in 2012 of \$23. Western Australia's Economic Regulation Authority has also described the RET as 'an expensive, economically inefficient' means to achieve greenhouse gas abatement.⁴¹ CCI considers that Australia's climate change mitigation measures should treat renewables and other methods of emissions abatement uniformly.

Renewable generation may also impose additional costs on electricity networks because of the intermittent nature of supply and poor alignment with peak demand (the wind blows mostly at night when less electricity is used).

The Review of the Renewable Energy Target (RET) in 2014 presents an ideal opportunity to assess the cost effectiveness of the RET.

⁴⁰ Productivity Commission 2011, *Carbon Emissions Policies in Key Economies*, Research Report, May.

⁴¹ Economic Regulation Authority 2012, *2011 Annual Wholesale Electricity Market Report for the Minister for Energy*, 5 April.