

12 February 2014

Mr Gary Richards
General Manager – Energy White Paper Taskforce
Energy White Paper Taskforce
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Dear Mr Richards

CME submission to the Energy White Paper issues paper

The Chamber of Minerals and Energy of Western Australia (CME) is the peak resources sector representative body in the state. CME is funded by its member companies, which generate 95 percent of the value of all mineral and energy production and employ 80 percent of the resources sector workforce in Western Australia.

The state's resources sector is diverse and complex, covering exploration, processing, downstream value adding and refining of over 50 different types of mineral and petroleum resources.

In 2012-13, the value of the production of these resources in Western Australia was \$102 billion, accounting for 89 percent of total state merchandise exports and thus the majority of the state's 47 percent contribution to national merchandise exports.

Energy is a critical input to, and export from, the state's resources sector. CME therefore supports the development of the Energy White Paper and its provision of clear, guiding energy policy positions for issues of national importance to ensure Western Australia's resources sector can continue to deliver nationwide economic benefits.

CME is pleased to include the attached submission on the Energy White Paper issues paper. Given the differing remits of the state and commonwealth governments with regard to energy policy, CME's submission focuses on issues for which the commonwealth government has primary responsibility or areas where reforms are required to streamline processes across jurisdictions.

CME looks forward to the opportunity to provide further input on policy positions proposed in the green paper.

Should you wish to discuss this submission further, please contact Mr Benjamin Hammer, Policy Adviser – Infrastructure, on 08 9220 8527 or b.hammer@cmewa.com.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Reg Howard-Smith', is written over a large, faint circular watermark.

Reg Howard-Smith
Chief Executive

Att.

CME Submission to the Energy White Paper: Issues Paper

Energy in Western Australia

Western Australia has an abundance of energy resources and the production of these resources for use domestically, or as exports, is important for the state and national economies.

In 2012-13, sales of Western Australian petroleum products (including crude oil, gas, liquefied natural gas (LNG), liquefied petroleum gas (LPG) and condensate) were worth approximately \$24.4 billion, around one quarter of the state's total resources sales. LNG comprised over half of petroleum sales value, making it the state's second most important resources sector export behind iron ore.¹ The state also has significant undeveloped reserves of shale and tight gas.

In the south west region of the state there is substantial black coal production, used primarily to fuel electricity generation in the state's main electricity grid, the South West Interconnected System. In 2011-12, the value of coal sales from the south west was around \$310 million.² The production of other coal reserves in northern Western Australia has also been under consideration.

Western Australia has around six percent of Australia's estimated total uranium reserves, which comprise approximately one third of global reserves.³ In 2013, Toro Energy's uranium project received final environmental approval and will be well positioned to bring uranium to market under a more favourable commodity price. An increase in uranium price could be driven by the resurgent global demand for nuclear energy, which is forecast to grow by approximately 1.9 percent per year to 2035, with around 96 percent of this growth expected to occur in China, Russia and India.⁴

The state also has excellent renewable energy resources and recent investment in wind and solar generation systems at utility, commercial and residential level has been substantial. Several demonstration projects, such as a wave energy project and biochar project, are also being developed for other renewable energy technologies.

The Importance of Energy to the Resources Sector

Energy is an important input to resources sector operations in Western Australia. Reliable, secure and sustainable energy supplies are critical to ensuring the sector can continue to deliver economic benefits. CME's 2013 State Growth Outlook forecasts electricity demand in Western Australia will grow by around 52 percent on 2012 levels to 2018. The majority of this forecast growth is driven by demand for resources sector projects in the state's Pilbara and Mid West regions and 94 percent of new generation capacity to power these projects is forecast to be fuelled by natural gas. Accordingly, gas demand is forecast to grow by around 63 percent on 2012 levels by 2023.⁵

However, resources sector companies are facing several challenges in terms of the production and export of energy commodities. Project development and operating costs in Western Australia are high, driven by factors such as delays and duplication in approvals processes, changes to taxation and royalties regimes, and logistics for remote project locations, including the cost of fuel. The sector has also seen the impacts of declining productivity, particularly workforce productivity, and fluctuating commodity prices.

¹ Department of Mines & Petroleum (DMP), 2013. *Western Australian Mineral and Petroleum Statistics Digest 2012-13*. Perth.

² DMP, *loc. cit.*

³ Minerals Council of Australia, 2013. *Australian Uranium Industry*. Melbourne.
www.aurac.org.au/Content/UraniumDeposits.aspx.

⁴ BP, 2014. *Energy Outlook 2035*. London.

⁵ CME & PwC, 2012. *WA State Growth Outlook 2013*. Perth.

To ensure Western Australia's resources sector remains internationally competitive, it is critical for a renewed, cooperative focus between governments and resources sector companies to arrest growing costs and declining productivity.

Given the thin markets in Western Australia by virtue of the size of the state, its low population density, the remote locations of projects and lack of alternative fuel sources and competition, it is important commonwealth government policy takes into account the unique nature of the energy market in Western Australia and not impose conditions detrimental to the resources sector.

Energy White Paper Process

Australia's energy policy responsibilities are shared between the commonwealth government and state and territory governments. In Western Australia, the state government assumes the primary role for policies relating to onshore energy production, transport, land access, mineral rights and environmental assessments. Given these matters are the remit of the state government, the white paper should be used as a guiding vision for state and territory energy policy. Conflicting state and commonwealth government approaches to energy policy will inhibit reforms to more efficient energy markets.

The Standing Council on Energy and Resources (SCER) is an appropriate channel through which to undertake policy development for energy issues of national significance. **CME supports SCER retaining the primacy in pursuing improved consistency and coordination, and reduced duplication, in energy policy across Australian jurisdictions.**

However, CME notes SCER has often focused on energy issues in the national energy markets which largely exclude Western Australia. Energy policy development by SCER must recognise the diverse spectrum of circumstances and challenges that exist across Australia's jurisdictions, including appropriate consideration of the context of Western Australia's energy sector. For example, many resources sector operations and supporting communities in regional and remote parts of the state are powered by privately owned self-generation assets in off grid settings and the potential cost implications in these settings must be considered in policy development.

CME also notes the importance of developing the white paper in conjunction with other concurrent policy development processes, such as the Direct Action Plan, and CME supports the consideration of key findings from other studies, such as the Eastern Australian Domestic Gas Market Study.

Security of Energy Supply

Western Australia's energy resources have provided, and will continue to provide, long term and stable supplies to the state for many decades. Energy security, reliability and sustainability are critically important to Western Australia's resources sector. **The state has substantial diversity and quantity in its energy resources and the energy mix should utilise all available energy resources to ensure security of supply.**

Utilising all available energy resources could also reduce the nation's reliance on imported liquid fuels through market driven substitution with alternatives such as electricity, natural gas, hydrogen and biofuels.

Increasing new gas sources

In Western Australia, many known offshore gas resources have been developed. Undeveloped resources are generally located in more challenging geological conditions, farther from shore and in deeper water. These resources generally contain fewer revenue generating liquids, a greater proportion of impurities, lower energy content and require more infrastructure for their extraction.

Western Australia also has approximately 7.5 billion cubic metres of shale gas, almost double the volume of its offshore gas reserves, across the Canning Basin and Perth Basin.⁶ Development of the state's shale gas sector is currently at the exploration and appraisal stage.

Developing new offshore and onshore gas resources is heavily dependent on exploration activity and innovation. Unfortunately, the state has seen a 6.2 percent decline in exploration expenditure across the resources sector, driven by a 10.6 percent decline in the petroleum sector, in the quarter to September 2013.⁷

CME welcomes the continuation of funding for the state government's Exploration Incentive Scheme until 2017 to assist in arresting the decline in exploration expenditure. However, CME remains concerned funding may be reduced in subsequent years and encourages the state government to recommit to this important program. The state government's co-funding assists companies in their exploration efforts by providing direct financial incentives to explore for mineral and petroleum resources in Western Australia.

CME supports the commonwealth government initiative to implement the Exploration Development Incentive scheme from 1 July 2014. Under the proposed scheme, a tax credit will be provided to Australian resident shareholders for eligible greenfields exploration expenditure incurred in Australia. While CME encourages the adoption of the scheme, its design should be broadened to also include petroleum resources and the proposed \$100 million credit cap should be expanded accordingly so as not to risk diluting the intended support for minerals exploration. More broadly, expansion of the credit cap will also ensure the scheme is able to best achieve its aim of encouraging further investment in exploration activities.

Policies to encourage exploration activities, through incentives or credits, benefit the nation by improving geological knowledge in remote and underexplored areas and by stimulating domestic investment in exploration companies that may otherwise have difficulties in raising the required capital. Without this ongoing investment in exploration activities, many resources would remain undiscovered.

Innovation is also important for increasing new gas resources given their remote and challenging offshore and onshore locations. Floating LNG technology is an innovation expected to assist in the development of new gas resources by bringing forward revenue streams and making projects more competitive, particularly for challenging or remote gas fields.

Decisions regarding the use of floating LNG technology should be made by project proponents on a case by case basis within stable policy settings. LNG project proponents have several technology options available for project development and floating LNG technology is one such option that can play a role in addressing the cost challenges facing Western Australia's LNG sector, while delivering stable, long term benefits to the state.

For the development of the state's shale gas sector, rigorous, transparent and timely regulation and approvals processes, and public education, can also assist in ensuring shale gas resources are efficiently brought to market. The existing processes used by the state Department of Mines and Petroleum for assessing and managing the occupational health and safety, environmental and resource management risks associated with the development of the state's shale gas resources require industry best practice. This provides industry with a robust and practical approvals process and project management framework and minimises the impact on current and future uses of land.

Western Australia's coal reserves and the evolving gasification technologies also position the state to pursue coal gasification. As with shale gas, any development of a coal gasification industry should be facilitated through appropriate and transparent regulation and approvals processes.

⁶ US Energy Information Administration, 2013. *Technically Recoverable Shale Oil and Shale Gas Resources: An Assessment of 137 Shale Formations in 41 Countries Outside the United States, June 2013*. Washington.

⁷ CME & KPMG, 2014. *WA Resources and Economics Report, December 2013*. Perth.

Regulation of energy infrastructure

The development of the state's domestic gas resources and markets should also be supported by infrastructure initiatives, such as the expansion of pipeline capacity and construction of gas storage facilities. **Regulatory frameworks should ensure efficient and timely approvals of proposed energy infrastructure development.**

Consideration of access regimes for the use of supporting infrastructure is also important. Third party access regulatory frameworks should be structured and applied in a way that incentivises efficient private sector investment in regulated infrastructure. The framework should encourage access seekers and project proponents to negotiate directly, create a mechanism enabling access disputes to be resolved in a timely manner, provide certainty for investors, and establish rates of return reflecting prevailing market conditions and risks.

Energy policy should also acknowledge the importance of supporting infrastructure, such as diesel storage, renewable energy systems and road access, required for energy provision in regional and remote locations in Western Australia.

Regulatory Reform and Role of Government

Energy markets depend upon the economic fundamentals of demand and supply, as well as access to market information, to ensure efficient outcomes in terms of price signals driving sufficient supply to meet demand. Governments play an important role in establishing policies and frameworks to allow these markets to function efficiently and effectively.

Energy markets should be open and competitive and governments should not intervene in these markets unless evidence of a market failure or net public benefit can be transparently and quantifiably demonstrated.

Electricity market development

Open and competitive electricity markets should be pursued in Western Australia through deregulation, such as in the non-contestable market, and through the development of market related pricing methods to reward private sector risk, promote efficiency, and provide price signals to consumers.

In Western Australia, peak demand periods can drive investment in peaking generators that are deployed for only a few hours per year, resulting in significant additional costs for electricity infrastructure and inefficiencies in ensuring adequate electricity supply. Smart metering and time of use tariffs can provide consumers with the necessary market based signals on the true cost for electricity during these periods of peak demand and inform decision making on consumption behaviour. The development of smart grids can also play a role by allowing for instantaneous identification and balancing of faults and ensure continuity of electricity supply for users.

Gas market development

Western Australia's gas market has developed substantially in recent years, with new supplies brought to market through the commissioning of the Devil Creek, Macedon and Red Gully domestic gas processing facilities. The Gorgon and Wheatstone processing facilities will also supply the domestic market in the coming years.

Open and competitive domestic gas markets should be pursued through market mechanisms to provide supply, demand and price information to buyers and sellers. Mechanisms such as independent market reports and transparent trading hubs for gas, gas transport and forward contracts should be used to allow timely investment decisions and support the development of short term, secondary and transport markets.

While CME supports the provision of domestic gas market information, such as through the state government's gas bulletin board, these initiatives should be pursued at least cost to market participants.

The costs and benefits of any non-market mechanisms, such as the state's domestic gas reservation policy position, should be transparently and quantifiably demonstrable through an independent review.

Privatisation and coordinated planning of government owned assets

To deliver successful projects, Western Australia's resources sector relies on a range of public and private infrastructure including transport, electricity, water, accommodation and social infrastructure. There are several factors limiting the ability of governments to fund the infrastructure projects to support the resources sector. Predominantly amongst these are the state's smaller than anticipated increase in consolidated revenue and larger than forecast increased spending in essential services.

Long term, coordinated infrastructure planning assists in identifying needs and efficiently delivering the necessary infrastructure to support resources sector operations. In its report, *Investment in Resources Sector Infrastructure*, CME again called for the state government to develop an infrastructure plan to ensure efficient frameworks are in place to encourage appropriate infrastructure investment, as well as considering innovative financing and funding models across governments, resources sector companies and financiers.⁸ For example, improved planning could allow for the timely future development of infrastructure requirements such as extensions or upgrades to the state's main electricity transmission network to support proposed mining and generation projects, particularly in the Mid West region.

CME supports the commonwealth government's commitment to strengthening Infrastructure Australia as an advisory body to support and guide government infrastructure planning processes by articulating growth priorities and identifying nationally significant infrastructure projects.

CME's report also calls for consideration of privatisation, particularly 'capital recycling', of government owned assets. Capital recycling of existing state owned assets is an option that would allow for investment in new, value creating infrastructure for the resources sector, provided the government invests the proceeds into infrastructure that will generate a return and increase in value over time.

A potential barrier to capital recycling is the transfer of tax that would flow from the state to the commonwealth government as a result of assets moving into private ownership. CME therefore supports the federal government's announcement in late 2013 of an in-principle agreement to protect state tax revenues after the privatisation of major assets.

Growth and Investment

Streamlining and coordinating approvals processes

CME considers it important for state and commonwealth governments and the resources sector to work collaboratively to address inefficiencies in approvals processes. Duplication and delays in approval processes contribute to the high cost environment for resources sector companies in Western Australia.

CME supports the state government's decision to work with the commonwealth government towards the Council of Australian Governments' initiative to implement a one-stop shop environmental approvals process. Once finalised this bilateral agreement will enable the state government to undertake environmental assessments under the *Environmental Protection and Biodiversity Conservation Act 1999* in parallel with state based approvals processes. The one-stop shop will include the same high level of environmental protection, whilst minimising process duplication and delays.

⁸ CME & PwC, 2014. *Investment in Resources Sector Infrastructure*, January 2014. Perth.

CME is also engaging at the state level, including working with the state Department of Mines and Petroleum on the Reforming Environmental Regulation (RER) program. The state government's Mining Legislation Amendment Bill, which recently passed parliament, is aimed at streamlining environmental regulation processes and improving transparency and efficiency in approvals and compliance.

To foster this cooperative focus, CME is engaging with state government departments on issues such as the development of bilateral approval agreements and is a member of the Industry Government Working Group on Environmental Offsets and the RER Advisory Panel, which is working to implement these reforms.

Regulatory approvals processes required for energy infrastructure developments, such as land release, access rights and environmental approvals are typically administered by multiple government agencies. **Long term, coordinated infrastructure planning, clearly defined government agency roles and responsibilities, and a single decision making government agency for approvals processes could assist infrastructure project proponents by improving certainty and avoiding duplication and delays.**

Supporting initiatives to streamline processes, such as online portals, could also assist in reducing approval times and costs. However, any such initiatives must be supported by appropriate skills and resourcing within, and coordination across, government departments.

Variable land access policy

Transparency in land use planning decision making is an essential enabler for effective relationships and confidence in government land use decisions. Land access arrangements should be built on cooperation, trust and high standards of behaviour.

It is important to note resources projects do not preclude or prevent other land uses. As a result, a variety of land users can coexist, or exist sequentially to resource extraction.

CME considers there are enhanced opportunities for integrated land use arrangements and, in particular, identifies the Multiple Land Use Framework developed by SCER as one such mechanism to pursue these opportunities. If implemented at a state and federal level with appropriate industry consultation, the framework may have the potential to assist in developing a further understanding of the range of ways different land users can harmoniously coexist.

Land access arrangements also need to appropriately account for unique circumstances and factors applicable to individual states. As such, any proposed amendments to land access policies need to be progressed in close consultation with land users, the resources sector and the states.

Trade and International Relations

Removing barriers to foreign investment

The resources sector is heavily reliant on foreign investment and Western Australia is well regarded as a stable investment destination and a reliable exporter of energy. However, the high cost of doing business in Western Australia can significantly impact potential rates of return for projects and thus decrease the state's attractiveness as an investment destination when compared to investment options in emerging, resources-rich jurisdictions around the world. Addressing this challenge is critical to ensuring the state's resources sector can continue to compete against global rivals.

In addition to the costs imposed due to delays, ongoing compliance and duplication in approvals processes, CME research identified significant imposed costs through changes to the taxation regime, including the minerals and petroleum resource rent taxes, the carbon pricing mechanism and royalty payments.

Fiscal and taxation regimes should facilitate private sector investment in energy projects and infrastructure without incentivising over investment. Maintenance of these appropriate and stable regimes is important to support the confidence of potential investors and any proposed changes should be pursued through extensive industry consultation. CME supports genuine taxation reforms through the commonwealth government's proposed Tax White Paper and looks forward to industry consultation throughout the process.

Maximising export opportunities and local industry participation

There continues to be a high level of local industry participation in the resources sector and the development of high quality, competitive local industries is important. Policies to encourage local industry participation should focus on supporting ongoing government and industry collaboration to determine opportunities and key areas of competitiveness, getting into higher value areas in supply chains by building research and development capacity, and aligning state and commonwealth government initiatives to avoid duplication and inconsistency.

CME does not support local industry participation policies mandating requirements or using other protectionist methods. These policies will further burden resources sector companies with greater complexities and higher costs in project development and will ultimately lead to less competitive local industries.

Innovating to stay at the forefront of technological change is important for the state's resources sector to maintain its competitive advantage, particularly in key energy exports such as LNG. Support for innovation can assist local companies to participate in global markets.

Collaborative centres of excellence are a means of supporting innovation by bringing together research organisations, industry partners and government agencies to collaborate on research objectives leading to advances in technology, capabilities and knowledge. These advances can facilitate improvements in local industry participation in domestic projects as well as improving export opportunities.

Western Australia's gas reserves and established LNG sector position the state to be at the forefront of innovation in LNG project development and operations. As such, CME would welcome an announcement of government support for the proposed Perth based Oil and Gas Collaborative Centre of Excellence to bring together industry, government and research organisations and ensure Australia remains globally competitive in the LNG sector.

Workforce Productivity

CME identified declining workforce productivity as a key driver in the high cost of doing business in Western Australia and therefore supports reforms in the industrial relations regime to address cost pressures on resources sector companies.

Australia's workplace relations system has been re-regulated in a way that bolsters the power of trade unions at the expense of employers and employees. The *Fair Work Act 2009* has reduced flexibility and choice in workplace arrangements and created a more adversarial bargaining system.

The forthcoming Productivity Commission review of the *Fair Work Act 2009* should take full account of the broad economic and social context in which workplace regulation operates, as well as the need for businesses to be able to adapt in a rapidly changing global economy.

Addressing skills shortages

As much of the state's resources sector transitions from a construction to an operations phase, skill requirements are also changing, both in terms of the number and types of skills required, especially for experienced process operators and engineering professionals. The transition will be more evident in the state's petroleum sector as several large LNG projects come on stream in the coming years.

Although the issues paper acknowledges a flexible and responsible vocational education and training program, and industry connected university training needs, it is also important to focus on attracting potential skilled workers in the community to meet the sector's skilled labour requirements in the long term.

CME works in partnership with member companies and governments to build the pipeline of a future skilled workforce, notably through its education and careers websites, www.peopleforthefuture.com.au and www.oresomeresources.com, as well as promoting successful collaborative education initiatives led by industry and other organisations, including government agencies.

CME supports the Resources Industry Training Council, a joint venture between CME and the Australian Petroleum Production and Exploration Association, which is funded by the state government to provide strategic industry advice to the government on training and workforce development issues for the resources and process manufacturing sectors.

Programs to meet training and skills development needs

While the petroleum sector will expand with the commissioning of new LNG projects, there remains limited capacity at domestic facilities to train the number of operators required and some companies have used alternative training facilities abroad to work around this constraint.

To ensure the local sector can access the required number of skilled operators, greater government support should be provided for innovative and flexible training models, delivered through industry and training sector collaboration.

Shell's partnership with the Challenger Institute's Australian Centre for Energy and Process Training (ACEPT) is an example of a collaborative vocational training model aimed at ensuring operators are available with the required specialist skills to work with new floating LNG projects. For example, due to limited accommodation and remote offshore locations, floating LNG proponents are investigating cross-skilling programs, requiring innovative program design and delivery and significant upfront investment in infrastructure. ACEPT provides training in these industry relevant skills; however, despite utilising a range of training delivery models, it is reaching capacity.

Collaborative research programs are also important for the sector to innovate and capitalise on local developments and export opportunities in areas of competitive advantage, as identified previously, and meet its long term skill requirements. For example, Chevron's Global Technology Centre, established in Perth in 2007, develops alliances with universities and industry research partners to enable innovation and new technology deployment. The Global Technology Centre provides research and development services in process safety, environmental stewardship, LNG processing, subsea engineering, exploration, reservoir management, oil recovery and deep water operations. It also assists in the identification of opportunities in exploration and production, ultimately helping to bring new gas resources to market.

The Australian Resources Research Centre is an example of broader research collaboration between a number of industry partners and universities, which also includes government leadership and involvement in research programs through CSIRO.

This confluence in Western Australia of local and multinational petroleum companies, associated service companies and supporting training and research capacity, positions the state to be at the forefront of petroleum sector development. With several floating LNG projects now also committed or proposed, some of which will be amongst the first to operate in the world, the state is well positioned to further specialise in floating LNG technology.

To capitalise on these opportunities CME would welcome greater research collaboration, such as through the establishment of the proposed Oil and Gas Collaborative Centre of Excellence. CME is also supportive of other complementary proposed collaborative centres for the sector, such as the Western Australian Energy Research Alliance (WA:ERA) Floating Systems Centre.

Government and industry support for research and development in the petroleum sector, through initiatives such as collaborative centres of excellence, assists local industry participation and builds capacity in the research sector.

Driving Energy Productivity

Energy efficiency measures

The resources sector encourages the adoption of energy efficient technology as a means of reducing operating costs and greenhouse gas emissions. However, improving energy efficiency in the resources sector should not be pursued through mandated requirements or market interventions, as these measures can compromise companies' international competitiveness.

Resources sector companies are in competition with one other and moves to improve energy efficiency should be driven by market fundamentals. The pursuit of more efficient use of energy inputs and associated cost reductions is a commercial decision that can improve returns on invested capital, making capital more productive and facilitating economic growth. Companies should not be required to share any such competitive advantage with other companies.

The Energy Efficiency Opportunities program is overly prescriptive and burdensome for resources sector companies and CME welcomes the announcement in the 2013 Mid-Year Economic and Fiscal Outlook that funding for the program is to cease in July 2014. The independent five year life cycle evaluation found the majority of industry representatives surveyed wished to see the program concluded immediately or during the assessment cycle.⁹ These results are reflective of the program not delivering the benefits to industry as intended by the government.

Any future policy initiatives to foster industrial energy efficiency improvements should be developed with greater consultation between governments and industrial energy users. Initiatives should also clearly demonstrate the desired policy outcome, clarify terminology and be market driven and evidence based. The establishment of an industrial energy efficiency reference group, chaired by the commonwealth government, could assist in this regard.

Peak energy demand and demand side participation

The pursuit of deregulated electricity markets, including fully cost reflective and time of use tariffs, is an important reform for addressing peak energy use. The provision of this market information can allow energy consumers to make decisions around reducing energy use at times of peak pricing. As with a residential consumer, a resources sector company could decide to adjust production in response to short term changes in input costs for energy.

In Western Australia's generation capacity market, demand side aggregators provide another option by compensating energy users that elect to reduce their use during peak demand periods. The reductions thus diminish the need for more costly peaking generation.

While load shedding methods have been used for many years by state owned utilities, developments in smart grid and communications technology have meant demand side participation now allows for load management to be localised and tailored in response to consumer and market needs. Demand side participation can also be used efficiently for ancillary services such as frequency control, spinning and non-spinning reserves, and wind-firming services, which can be costly for generators to provide.

Several resources sector companies are demand side participation customers and making their capacity available also provides these companies with an opportunity to undertake service and maintenance requirements on generation assets.

⁹ ACIL Tasman, 2013. *Energy Efficiency Opportunities Program Review*. Melbourne. <http://eeo.govspace.gov.au/files/2013/05/EEO-Program-Review-Final-Report.pdf>.

Alternative and Emerging Energy Sources and Technology

The state's energy mix should utilise all available energy resources, including alternative and emerging resources, to ensure security of supply. Utility scale wind energy generators and solar photovoltaic systems, particularly residential and commercial scale systems, are now well established in Western Australia.

Prospective alternative and emerging resources in the state include other renewable energy technologies such as geothermal, solar thermal, marine and biomass energy, and the use of other resources such as shale and tight gas, waste to energy, and nuclear energy. **The pursuit of these alternative and emerging resources and technologies should be evidence based and supported by consultation on the opportunities for, and barriers to, their development.**

Nuclear energy and uranium mining

It is important for government and industry efforts to focus on creating a policy environment conducive to open and informed discussion about future development opportunities for energy generation, including for nuclear energy.

Government policy should enable, not preclude or prohibit, proponents developing nuclear energy projects should there be a business case to do so and should appropriate environmental and planning conditions be met. The prohibition on nuclear energy, through the *Australian Radiation Protection and Nuclear Safety Act 1998*, should therefore be removed. Informed debate about the prospects for nuclear energy in Australia, including the use of emerging and innovative reactor technologies, is also needed to enable any future nuclear energy sector to be developed and compete on its merits.

The regulatory framework for Western Australia's mining sector adequately governs uranium mining. Beside the appropriate radiation protection and export controls, additional restrictions on the uranium sector, such as state government transport and shipping restrictions and commonwealth government environmental approval requirements, impose duplicative and costly burdens on uranium project proponents.

CME supports the introduction of the commonwealth government's one-stop shop environmental approvals policy. Enabling state and territory governments to assess and approve uranium projects under the *Environmental Protection and Biodiversity Conservation Act 1999* will be important for assisting Western Australian uranium projects to remain competitive against other uranium mining jurisdictions, such as Canada. Under an efficient and merit based regulatory framework, the state's uranium projects will be well placed to meet uranium demand for the forecast global growth in nuclear energy.

Renewable energy

Hybrid models combining emerging and conventional technologies may be a cost effective method to increase the uptake of renewable resources. Research commissioned by Austrade has indicated the business case for integrating renewable generation into conventional generation for resources sector operations in regional and remote areas can be strong in some circumstances, particularly projects with a long mine life and powered by diesel fired generation.

However, CME members have indicated key concerns and barriers to renewable energy uptake in the resources sector include substantial opportunity costs of foregone mining production in the event of any supply interruptions due to intermittency, renewable generation not matching load profiles for 24 hour operations, and access to comparatively cheap gas for generation at many mine sites.

Any government investment in alternative and emerging resources and technologies to achieve energy policy objectives should be merit based and transparent. As such, CME welcomed the Australian Renewable Energy Agency (ARENA) Regional Australia's Renewables initiative, which aimed to assist in overcoming the barriers to renewable energy uptake in regional and remote locations, particularly in industrial settings. The initiative is particularly relevant for Western Australia, given the forecast electricity demand growth from resources sector projects in regional and remote areas.

As with the development of any energy technology or market, long term, stable policy settings are required to facilitate investor confidence and commercialise emerging technologies.

Diesel and alternative transport fuels

Energy policy should acknowledge the importance of imported diesel to the resources sector and risks to operations in the event of supply chain disruptions. Investigation into the development of alternative energy solutions, such as the uptake of LNG in the heavy transport sector and further downstream processing of coal to create low emissions fuels, could mitigate the risks to operations of importation supply disruptions.

Given the importance of diesel to resources sector operations, CME also supports the continuation of fuel tax credits, recognising the credits are a mechanism to streamline the administration of tax levied on fuel used in business activities off-road or in heavy on-road vehicles.

The fuel tax was implemented to fund the development of public roads. However, as resources sector companies typically develop and maintain their own private roads, the tax would be an inappropriate cost imposed on the sector. Diesel is a key business input and removing or reducing this credit for resource sector companies is against established tax principles of equity, simplicity and efficiency.