

22 December 2017

Budget Policy Division
Department of the Treasury
Langton Crescent
PARKES ACT 2600**APPEA SUBMISSION FEDERAL BUDGET 2018-19**

The Australian Petroleum Production & Exploration Association (APPEA) is the peak national body that represents companies engaged in oil and gas exploration and production in Australia. APPEA's 59 full and more than 140 associate members account for more than 98 per cent of Australia's oil and gas production, and the vast majority of petroleum exploration. APPEA seeks to work with Australian governments to help promote the development of the nation's oil and gas resources in a manner that maximises the return to the Australian industry and community.

The oil and gas industry is an integral part of the Australian economy, including through:

- the supply of reliable and competitively priced energy;
- the investment of hundreds of billions of dollars of capital;
- the direct payment of billions of dollars in taxes and resource charges to governments;
- the direct employment of tens of thousands of Australians; and
- the generation of significant amounts of export earnings.

The Australian oil and gas industry has the opportunity to capitalise on an immense opportunity as the Asian region to our north transforms into an economic powerhouse in this century and demands more of our resources for energy and industrial use. The International Energy Agency (IEA) in its World Energy Outlook 2017 (WEO) estimated that there are 1.1 billion people without electricity and another 2.8 billion do not have access to clean cooking facilities. As the standards of living for these people improve they will need more energy.

The industry is uniquely placed to be a major supplier in the world, following the \$200 billion invested in export facilities over the last decade, capable of supplying a growing global market for at least the next 25 years. This investment will likely see Australia become the largest exporter of liquefied natural gas (LNG) in the world by 2020, with exports increasing to \$47 billion in 2020-21, more than double as compared with export revenue of \$22.3 billion in 2016-17.¹ This growth would make LNG Australia's second largest export earner after iron ore.

A key challenge in achieving future growth in the industry is maintaining Australia's international competitiveness in the face of a changing global energy sector. A high-cost local environment, a complex domestic regulatory framework and the potential for other countries to capture market opportunities, will continue to make it challenging for Australia to capture the next wave of global investment in the industry.

The Fraser Institute's *Global Petroleum Survey 2017* released in November 2017, ranked 97 jurisdictions on 'barriers to investment' to oil and gas exploration and production. The survey

¹ Department of Industry, Innovation and Science, [Resources and Energy Quarterly](#) publication series.

results indicate investors are shying away from some Australian jurisdictions (particularly New South Wales and Victoria), leaving businesses and families exposed to higher prices and uncertain energy supply.²

The leading global survey ranked New South Wales (85th), Northern Territory (86th) and Victoria (87th) out of 97 – jurisdictions that have banned or restricted onshore gas development – have the dubious distinction of joining Venezuela, Libya and Iraq in the 15-least attractive oil and gas investment destinations in the world. With bans on conventional and unconventional onshore gas exploration, Victoria has fallen from being Australia’s most attractive jurisdiction in 2011 to the worst in 2017.

The east coast gas market is at a tipping point. Homes and businesses are already feeling the pinch. They will be put under increasing pressure by a failure to unlock new natural gas supplies. Firm action is needed to address potential supply shortfalls and climbing energy costs.

Australia’s abundant natural gas resources put us in an enviable position to deliver long term, cleaner energy domestically and across the Asia Pacific. Our growing LNG exports offer the world a cleaner energy source while also generating jobs, economic growth and taxation revenues for Australia. The opportunity for Australia is huge but our competitors are hungry. In an extremely competitive global market, Australia cannot be complacent. If Australia is to capture further investment in LNG production, it is vital to get the policy settings right by maintaining a stable and competitive tax regime and reducing regulatory costs.

With that aim in mind, APPEA seeks to ensure that government policy settings:

- allow transparent, open and secure access to resources for exploration and development;
- support investment and industry productivity through a stable taxation regime that recognises the cost of doing business; and
- facilitate access to domestic and international markets on globally competitive terms.

Energy Policy

The Australian energy sector is still facing the energy trilemma challenges of energy affordability, reliability and lowering emissions. As the *POWERING FORWARD: A better energy future for Australia* report of the Australian government noted in October 2017:

A decade-long failure to effectively integrate energy and climate policy has created uncertainty in the market, affecting investment decisions and therefore prices and reliability.³

Any policy or regulatory intervention implemented to address the challenges needs to be designed in a manner that ensures balance the objectives of ensuring affordability, reliability while leading to lower emissions. APPEA supports market-based policies which deliver least cost abatement, without putting at risk Australia’s trade-exposed industries.

To that effect, APPEA has supported the proposed National Energy Guarantee (NEG) as a promising approach to the perennial policy challenge of cutting emissions from electricity generation without crudely picking winners or jeopardising reliability. The guarantee will impose new obligations on electricity retailers to deliver dispatchable power while reducing the emissions

² Fraser Institute, [Global Petroleum Survey 2017](#), November 2017.

³ Department of the Environment and Energy, [POWERING FORWARD: A better energy future for Australia](#), October 2017, p. 3.

intensity of their generation mix. It will be vital that there is certainty about these obligations and the regulatory arrangements do not inhibit the entry of new retailers.

The guarantee makes no changes to the Renewable Energy Target (RET). Renewable energy will continue to have a growing, mandated share of the national electricity market to 2020, with that share fixed until 2030. As more and more renewable power is integrated into the grid, the challenges associated with intermittency may increase. Renewable power output fluctuates over multiple time horizons, forcing the grid operator to adjust its day-ahead, hour-ahead, and real-time operating procedures.

Intermittent renewable energy requires “on call” electricity generation to manage falls in renewable output or spikes in demand. Gas-fired generation is a key technology capable of delivering that flexible response since it can ramp up and down quickly. On-call gas-fired electricity generation will continue to back up intermittent renewable generation into the foreseeable future. Renewable projects will also have a new incentive to create firm dispatchable power. This will provide new opportunities for natural gas and renewables to partner in providing affordable, reliable and low-emissions energy to Australian consumers and industry.

The *Blueprint for the future: Independent Review into the Future Security of the National Electricity Market* report by the panel led by Australia’s Chief Scientist Dr Alan Finkel AO, commissioned by the Australian government noted:

Access to a reliable and affordable gas supply is in the interest of all Australians for its direct use for heating, as a feedstock chemical for industrial processes and as a fuel for electricity generation. In the NEM, gas-fired generation can provide a reliable, low emissions substitute for ageing coal-fired generation, and can provide essential security services to complement variable renewable electricity (VRE) generation.⁴

The best option today to cut emissions is to use more gas-fired power generation. As the Review confirmed, gas-fired power generation can complement the intermittent nature of renewable power generation and produce electricity with one-third to one-half lower emissions than coal.

Experience from the US has shown how quickly emissions from the generation sector can be cut by fuel switching. A report by the US Energy Information Administration (EIA) confirms the growing switch from coal to gas-fired electricity was the biggest contributor to a 1.7 per cent fall in US energy-related emissions in 2016. The report found that while electricity generation grew by about one percent between 2005 and 2016, related carbon emissions fell by 24 per cent. More than 63 per cent of that reduction is due to the shift to natural gas. This was possible because the US developed its abundant unconventional gas resources. It is an irritating fact for activists but the US shale gas revolution has delivered a huge environmental as well as economic dividend.⁵

We have a similar opportunity in Australia. There are more than sufficient resources to underpin a historic shift to a lower emissions generation sector. In Western Australia and the Northern Territory, gas already fuels most electricity generation.

The COAG Energy Council has endorsed the need to bring both more supply and suppliers into the market but this collective position is not supported by all state governments. The Finkel Review Final Report also recommended that governments should avoid blanket restrictions and bans on

⁴ [Independent Review into the Future Security of the National Electricity Market: Blueprint for the Future](#), Commonwealth of Australia 2017, p. 205

⁵ EIA, [U.S. Energy-Related Carbon Dioxide Emissions](#), 2016, October 2017.

gas projects and instead encourage the safe exploration and development of the industry by adopting evidence based regulatory regimes to manage risk on a case-by-case basis.

Fear campaigns around hydraulic fracturing have led some states to strangle development. The most extreme case is Victoria, which has prohibited all onshore gas activity. Victoria once had a conventional onshore gas industry, however exploration is now considered to be unacceptable. The *Gas Inquiry 2017 - 2020* interim report released by the ACCC on 13 December 2017, stated:

...the best way to address the supply shortage in the Southern States is to increase production of gas in the Southern States.⁶

The ACCC report underlines a simple truth – the only sustainable way to place downward pressure on gas prices and to improve energy security is more gas supply and more gas suppliers. Multiple inquiries and reports into hydraulic fracturing have found the practice to be safe. Most recently, the draft final report of the *Scientific Inquiry into Hydraulic Fracturing in the Northern Territory* has found that any risks associated with onshore gas development and fracking can be managed by effective regulation. The report confirmed that shale gas development would have significant economic and employment benefits for the NT and debunked many of the myths spread by activists opposed to onshore gas development.

Developing new reserves in the current market conditions is difficult. Commodity prices remain relatively subdued. Balance sheets are stressed. Onshore exploration is an expensive, high-risk activity in a challenging market. Nevertheless, with the right incentives, industry can accelerate development.

Until all states support a co-operative COAG agenda to remove the regulatory and other barriers to new gas supply, conditions will only deteriorate. The stakes for Australia could hardly be greater; a least-cost transition to cleaner energy and energy security for local industry or continuing inconsistent policies that destroy jobs, push up prices and perpetuate higher emissions.

Fiscal settings

A strong and growing oil and gas industry creates enduring wealth and prosperity for all Australians through economic growth, employment, local procurement and services contracts, and long-term revenue streams for governments at all levels.

The oil and gas industry has been operating in Australia for many decades. It is estimated that, during the last five decades, the industry has paid more than \$250 billion – in today's dollars – to governments through resources charges and company tax.

A competitive taxation regime is essential if Australia is to continue to attract investment. Further investment in both existing and future oil and gas projects is needed to underpin secure and reliable energy supplies. Australia's oil and gas exploration is at a 30-year low. Industry and governments must work together to identify and remove impediments to exploration.

The Petroleum Resource Rent Tax (PRRT) has been operating successfully since the 1980s. It remains a global benchmark for a profits-based resources tax regime and has provided a stable framework that has underpinned investment in the industry over many years. The PRRT has been instrumental

⁶ ACCC, [Gas inquiry 2017–2020: interim report](#), December 2017, p.16.

in promoting a long-term and robust exploration effort in Australia to find and develop our oil and gas resources. It remains a perfect fit for oil and gas operations in Australia.

PRRT was carefully designed to be sensitive to factors such as price, cost and production. This means it can deliver a fair return to the nation while also encouraging further industry investment – which grows the tax take over time. It is important to recognise that PRRT is a profit-based tax; a tax liability will depend on several factors, including commodity prices, production, exchange rates and project costs.

Overall, PRRT has been critical to Australia’s success as a global leader in the supply of gas to domestic and worldwide markets. It is noteworthy that taxation payments by the industry have remained robust despite a significant fall in the level of industry profitability.

Case Study: Optimising the Development of Discovered Resources: Asset Realignments

A government policy setting that would help support investment and industry productivity is roll-over relief for swaps involving both upstream and downstream project assets (i.e. asset realignments). A number of APPEA members have already suggested that deferring the tax payable on such asset realignments would remove a barrier to making efficient use of resources and existing infrastructure. It would allow projects that might not have reached a Final Investment Decision on a stand-alone basis to be aggregated into more economic prospects.

The existing realignment rules in the tax legislation are a positive first step, but these were narrowly targeted at upstream permit realignments. APPEA understands that the Board of Taxation has already submitted its recommendations to the Treasurer on roll-over relief for asset swaps involving both upstream and downstream project assets.

Recently enacted tax reforms in other jurisdictions will give fresh impetus for new investment in those jurisdictions. In APPEA’s view, this underlines the need for further progress on this policy setting. There is little risk to the tax base providing targeted integrity measures are implemented.

APPEA’s oil and gas industry financial survey results for 2015-16 – highlighted the challenging operating conditions confronting the oil and gas industry. The results showed that despite the industry recording its second consecutive year of net loss in 2015-16, it paid more than \$4.3 billion in taxes during the same period.⁷ The continued payment of taxes at a time when the industry is under severe pressure debunks critics’ suggestions that the industry is not somehow paying its way.

APPEA and its member companies support genuine tax reform. The industry has been an active participant in numerous reviews of aspects of the fiscal system since the 1970s, and has taken a constructive and transparent position in examining reform options, including assessing the potential impact on investments in the industry.

Exploration

Australia’s domestic and global success as a leading supplier of natural gas and petroleum is made possible by exploration. Without further exploration, production will decline, compromising

⁷ [APPEA Financial Survey 2015-16](#)

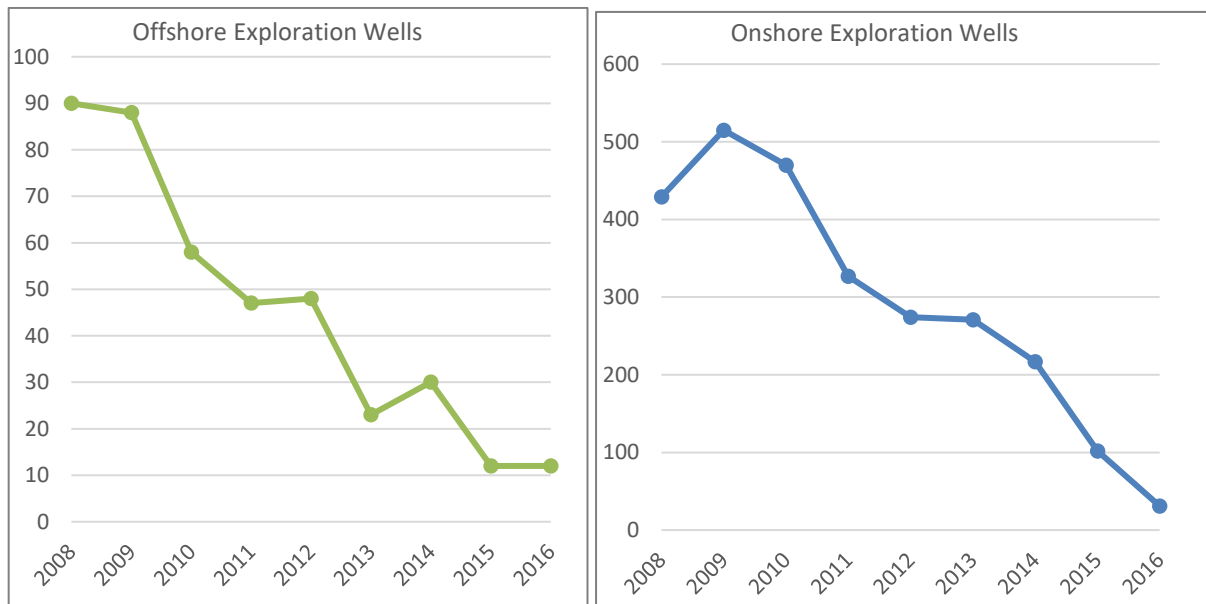
Australia's energy security and prosperity. Exploration activity (measured by wells drilled) has been falling, both onshore and offshore. Looking ahead, the most recent work programs show subdued activity. The decline in commodity prices is just one of the factors responsible for declining exploration; other factors include regulatory creep, a lack of prospective new acreage, data gaps, diminished access to capital and constraints on access.

Australia needs to maintain a stable, attractive policy environment to reverse the decline in petroleum exploration investment. Policymakers should not lose sight of the fact that global investment capital is scarce and will always go to the best commercial prospects.

The re-introduction of cash-bidding for exploration acreage has again proven to be unsuccessful. Indeed, overall offshore exploration activity has flatlined at very low levels.

As a starting point, the Government should work towards implementing the key findings from its Offshore Resource Management Review. APPEA also supports further work to develop practical options to promote exploration in promising underexplored and frontier areas.

Chart 1: Petroleum exploration wells drilled (offshore and onshore)



Source: APPEA

APPEA welcomes the Government's continued commitment to providing high-quality, pre-competitive geoscience information. Australia's pre-competitive offshore geoscience work, undertaken by Geoscience Australia, is highly regarded and provides an essential information base for explorers and governments. A review of Geoscience Australia undertaken by the Department of Finance and Administration in 2011 confirmed that there are strong 'public good' grounds for ongoing public investment in geoscience research and that such investment delivers positive returns to the community. APPEA supports this finding. For instance, the Australian Government's "Gas Acceleration Program" will support new supply into the East coast gas market by fast tracking new developments.⁸ Access to such information, combined with the long-standing and successful acreage release framework based on the work program bidding system has allowed Australia to become a reliable supplier of petroleum to both domestic and export markets.

⁸ Media Release, Senator the Hon Matthew Canavan, [Gas Acceleration Program Grant Guidelines Released](#), 20 December 2017.



There are no easy solutions that will deliver a quick recovery of Australia's exploration activity. Government must recognize that business as usual will not deliver the new reserves needed to sustain and grow one of Australia's most important industries.

Conclusion

Australia's upstream oil and gas industry remains committed to ongoing policy reforms that overcome the nation's high cost challenges and lead to more investment being secured to develop our abundant natural resources. To discuss any aspect of APPEA's submission, please contact Mr Damian Dwyer, Director – Economics at ddwyer@appea.com.au.

Yours sincerely
Malcolm Roberts
Chief Executive

THE ECONOMIC CONTRIBUTION OF AUSTRALIA'S OIL AND GAS INDUSTRY

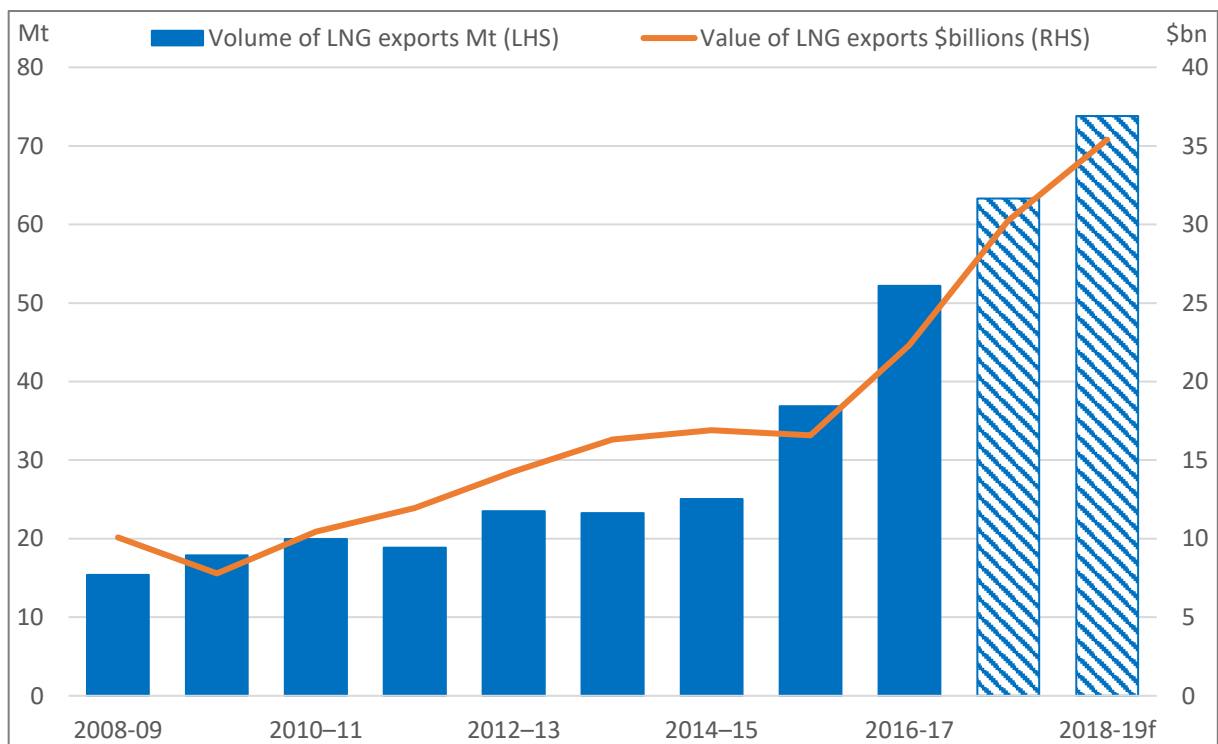
Since the middle of the nineteenth century, the Australian oil and gas industry has contributed significantly to the Australian economy. The industry has supplied energy to Australia and through exports to our major trading partners, particularly in Asia.

The industry enters 2017 off the back of major investment in LNG plants totaling more than \$200 billion over the last decade, yet with great uncertainty due to low oil price that has significantly impacted exploration both onshore and offshore.

National Economic Benefits

The Australian oil and gas industry directly employed more than 26,400 persons in November 2017. This is 32 per cent increase year on year and more than double the employment from a decade ago.⁹

LNG is Australia's third largest commodity export after iron ore and coal. According to the Department of Industry, Innovation and Science LNG exports have increased significantly over the last decade and totaled \$22.3 billion in 2016-17, an increase of 35 per cent as compared with a year ago and almost four times as compared to a decade ago. LNG exports are forecast to increase to \$35.4 billion in 2018-19 as new plants commissioned in the last 12 months start producing.¹⁰

Chart 2: Volume and value of Australia's LNG exports


Source: Department of Industry, Innovation and Science, Resources and Energy Quarterly publication series

⁹ Australian Bureau of Statistics, catalogue number 6291.0.55.003 - [Labour Force, Australia, Detailed](#), Quarterly, Nov 2017, table 06, released on 21 December 2017.

¹⁰ Department of Industry, Innovation and Science, [Resources and Energy Quarterly, September 2017](#), Canberra, October 2017, p. 59.

Contribution to domestic energy consumption

The Australian oil and gas industry plays a critical role in supplying energy in Australia, to residential and commercial customers, directly and through electricity generation. Gas powered electricity generation provides security, reliability, affordability to the electricity grid, and has half the emissions compared to coal.

In Australia, oil and gas are the largest and third largest fuel sources of energy consumption, together accounting for 62 per cent of all energy consumption in 2015-16 (oil – 37 per cent, gas – 25 per cent).

Oil is used mainly in the transport sector (71 per cent), manufacturing (10 per cent), mining (9.3 per cent), agriculture (4.5 per cent) and in commercial, services, electricity generation, residential and construction sectors.

Natural gas accounted for a quarter of all energy consumption in Australia in 2015-16. Natural gas is used in electricity generation (39 per cent), manufacturing (27 per cent), mining (18 per cent), residential use (11 per cent), in commercial services, transport and the construction sectors.¹¹

Natural gas is both a source of energy and an essential raw material for the manufacturing of everyday products like glass, ceramics, bricks, cement, plastic packaging for food and beverages, fertilisers, antifreeze, metals like aluminium, copper, zinc, tin and in processes of food preparation, fermentation and brewing. In most cases, there is no substitute for gas.

Australian manufacturing is a \$99 billion industry directly employing approximately 876,000 people. About 209,000 people work in manufacturing sectors that rely heavily on gas; another 450,000 people work in related industries that do business with these manufacturers.

Natural gas is also a critical fuel for electricity generation in Australia. It currently accounts for around 9 per cent of National Electricity Market (NEM) generation, but it is widely acknowledged that the path to lower emissions needs a lot more gas-fired generation.

The final report of the Independent Review into the Future Security of the National Electricity Market conducted by the Finkel panel, released in June 2017, stated that the gas and electricity markets in Australia are closely connected. It went on to say that as ageing coal plants retired, gas-fired generation could provide a low emissions substitute and also complement variable renewable generation.

The review highlighted the importance of natural gas to Australian households and industry.

“Access to a reliable and affordable gas supply is in the interest of all Australians for its direct use for heating, as a feedstock chemical for industrial processes and as a fuel for electricity generation. In the NEM, gas-fired generation can provide a reliable, low emissions substitute for ageing coal-fired generation, and can provide essential security services to complement variable renewable electricity (VRE) generation.”¹²

The review concluded that efficient gas markets have a central role to play in maintaining energy security and reliability as Australia reduces its emissions in line with international commitments.

¹¹ Department of the Environment and Energy, [Australian Energy Update 2017](#), September 2017, Table F.

¹² Finkel review panel, [Independent Review into the Future Security of the National Electricity Market, Blueprint for the future](#), June 2017, p. 105.

The review recommended that the government policy and regulatory settings should be such that they:

- Facilitate new investment and enable the development of Australia's gas resources.
- Address community concern about the environmental and social impacts associated with unconventional gas extraction.¹³

APPEA believes if Australia is to achieve its 2030 Paris agreement emissions targets in a cost-effective manner and ensure supply stability, by 2030, gas-fired generation would need to produce about half of Australia's electricity.

Global gas demand – the economic opportunity

According to the International Energy Agency (IEA), global gas demand is forecast to increase by 46 per cent to 2040 at an annual rate of 1.6 per cent.¹⁴ Gas share of global energy demand will increase to a quarter, overtaking coal to be the second largest fuel source after oil. By 2040, industrial use of gas is forecast to increase by 64 per cent.¹⁵

The IEA forecasts inter-regional gas trade is expected to increase by 75 per cent, totaling 1230 bcm by 2040. By 2040, 60 per cent of international gas trade is expected to be in the form of LNG, with LNG trade accounting for 90 per cent of the growth in the next 25 years. The Australian oil and gas industry is well placed to capitalize on the opportunity ahead with a significant investment in production capacity over the last decade. The IEA forecasts Australia to become the largest exporter of LNG in the world by 2020, overtaking Qatar albeit briefly before the US becomes the largest exporter later in the outlook period to 2040.

INDUSTRY CHALLENGES

The outlook for the Australian oil and gas sector is one with significant opportunities as well as significant challenges.

Low Prices

Global prices for oil and gas fell significantly over the last two years, but have recovered slightly in 2017. Despite the recovery, the prices for both oil and gas are half, as compared with the peaks in 2013 and 2012, respectively. The declining prices resulted in very challenging conditions for the sector. The industry responded to the steep decline in prices by taking action to lower costs across the board, introduce more innovative work practices and re-examine existing business models.

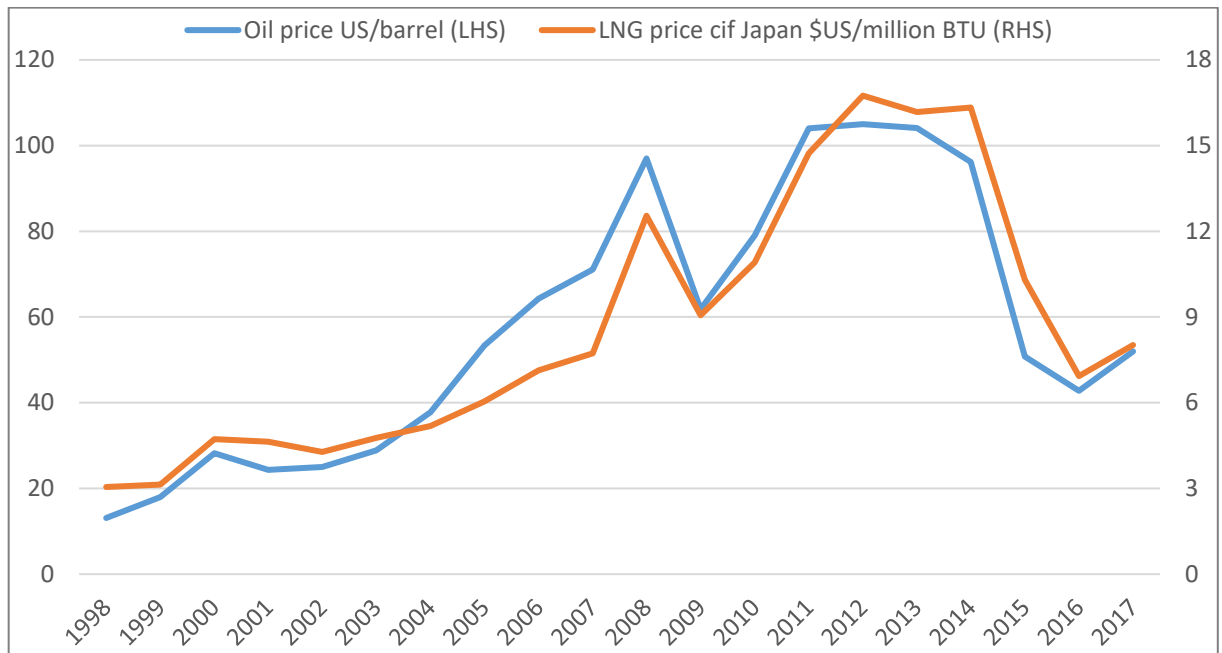
Exploration expenditure has been affected significantly. According to ABS data, total petroleum exploration expenditure (offshore and onshore) in 2016-17 was \$1.4 billion, down 23 per cent as compared with 2015-16 and at levels last seen over a decade ago.

¹³ Finkel review panel, [Independent Review into the Future Security of the National Electricity Market, Blueprint for the future](#), June 2017, p. 106.

¹⁴ International Energy Agency, [World Energy Outlook 2017](#), November 2017, p. 646, Paris.

¹⁵ International Energy Agency, [World Energy Outlook 2017](#), November 2017, p. 648, Paris.

Chart 3: Global oil and LNG price



Source: BP Statistical Review of World Energy, IndexMundi, World Bank

Industry Viability

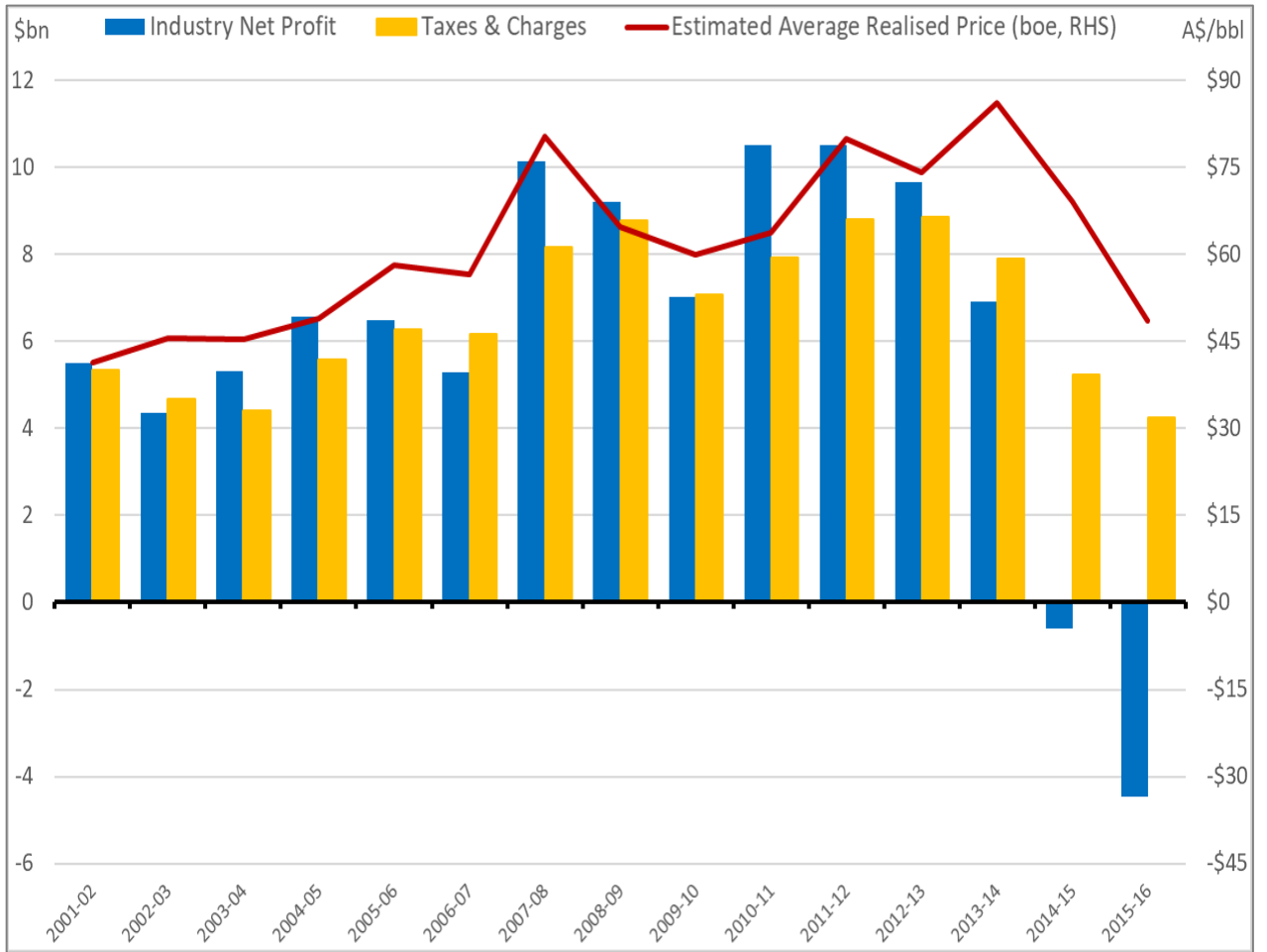
The Australian oil and gas industry is confronted with a variety of taxes, charges and fees in relation to petroleum activities. These include resource taxes (including the petroleum resource rent tax, petroleum royalties and production excise), company income tax and numerous other taxes, fees and charges ranging from import duties to state based licencing fees and duties.

Since its inception, the Australian oil and gas industry has contributed more than \$250 billion – in today’s dollars – to governments through resources charges and company tax.

APPEA’s 2015-16 financial survey results highlighted the challenging operating conditions confronting the oil and gas industry in Australia.¹⁶ The industry recorded a second year of net operating loss in 2015-16, recording a loss of \$4.5 billion (compared with a loss of \$0.6 billion in 2014-15). The average price received for the sale of oil and gas fell from \$A69 in 2014-15 to \$A49 on a barrel of oil equivalent basis in 2015-16. Despite the significant deterioration in the industry’s overall profit and loss position, the industry paid an estimated \$4.3 billion in total tax payments in 2015-16 (compared with \$5.2 billion in 2014-15) to governments – dispelling the myth that the industry is not paying its way.

¹⁶ [APPEA Financial Survey 2015-16](#)

Chart 4: Oil and Gas Industry: Profitability, Taxes Paid and Average Realised Prices



Source: APPEA Financial Survey