Australian Petroleum Production & Exploration Association

Submission: Senate Standing Committee on Economics (References) inquiry into Australia's oil and gas reserves

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Inquiry terms of reference

The Senate Standing Committee on Economics (References) has been tasked by the Senate with inquiring into Australia's oil and gas reserves. The terms of reference released on 19 September 2019 are:

- arrangements used by other countries to maximise the benefit to the public of national oil and gas reserves;

- arrangement that could be considered to maximise benefit to the public of Australia's national oil and gas resources, cognisant of:
    - sovereign risk,
    - existing property rights, and
    - federal and state jurisdictions; and

- any related matters.

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Executive summary

The Australian Petroleum Production & Exploration Association (APPEA) is the peak national body representing upstream oil and gas explorers and producers active in Australia. APPEA has 57 full member companies that account for an estimated 90 per cent of petroleum production in Australia. APPEA also has 135 associate member companies that provide a range of goods and services to the industry.

APPEA seeks to ensure that Australia can continue to develop the nation's oil and gas resources in a manner that aims to maximise the benefits of the industry to the Australian economy and community. The oil and gas industry is an integral part of the Australian economy and measuring the significant contribution to Australians cannot be solely measured through the lens of simplified taxation metrics.

It is the total contribution to the economy and community which must be taken into consideration, and in Australia this includes:

- the supply of reliable and competitively priced energy
- the investment of hundreds of billions of dollars of capital
- the payment of taxes and resources charges to State and Commonwealth Governments
- the direct and indirect employment of more than 80,000 Australians, and
- the significant contribution and generation of export earnings.

The industry is coming towards the end of an unprecedented capital investment into Australia with approximately $350 billion invested into the development of oil and gas projects. This is significant when considered in the context of the oil and gas industry being truly global, and where projects must compete against each other on a global scale when there is only a limited pool of funds for both exploration and production.

The industry supports the Australian economy through the payments of rents and taxes which have totaled $71.6 billion since 2007-08, and $144 billion since the mid 1980's. These payments reflect contributions made through the payments of Petroleum Resource Rent Tax (PRRT), Production Excise, Royalties and Fees, Corporate Income Taxes, and the payment of other taxes and fees.

Specific to the 2016-17 year, payments totaled $4.56 billion despite the industry returning an overall net loss of $7.56 billion – the largest operating loss the industry has returned since APPEA started collecting data 30 years ago. This is reflective of the fact that the industry has invested nearly three times more in capital compared with industry generated profits over the past decade.

However, to only look at the rents and taxes as a metric for the contribution of the industry to Australia would be a far too narrow lens. It is the total contribution of the investment made into Australia's economy that should be taken into consideration when evaluating the Government's return.

Australia exported $50 billion of LNG and $9.1 billion in oil products in 2018-19[1], and the industry supports the employment of approximately 30,000 jobs directly and thousands more indirectly. The industry also supports the development of a broader workforce through training and development, whilst continuing to grow and develop regional areas of Australia through sustained programs of community engagement, support and infrastructure development.

In totality, the industry demonstrates an already strong commitment to Australia with the greatest dividends coming once the upfront expenditure from the investment over the past decade is recovered. It also shows that once an investment decision is made, the industry is making a long-term commitment to build sustainable partnerships with the Australian community and Government, ensuring Australians receive an appropriate return over the whole life of the project.

Desktop comparisons between jurisdictions is unlikely to be of meaningful benefit to the Committee as they do not paint the complete picture. Comparisons need to be based on a complete understanding of the facts and use comparable measurables. There is, respectfully, more to a comparison than a simple calculation that involves revenues and taxes paid.

Australia's oil and gas industry operates in a high-cost environment with complex domestic regulatory framework. This is in addition to the high-risk nature of commercially developing oil and gas finds in the face of lower returns on investment than other jurisdictions. A study conducted by Wood Mackenzie shows that the Gorgon (offshore) project cost almost 10 times the amount of projects in Qatar with the Australia Pacific LNG (onshore) project costing twice as much as the PNG LNG project. This is in addition to the comparatively low returns on investment that ultimately impact on the returns to governments and investors.

Additionally, simple comparisons to taxes paid in Norway of effectively 78 per cent of profit do not take into consideration the significant Government incentives and risk absorption that occurs in that jurisdiction. The Government provides annual refunds up to the value of 78 per cent for exploration costs to lower investor risk and incentivise the exploration and development of oil and gas resources in the country. This is in addition to losses being able to be carried forward without limitation and where upstream activities cease, companies will receive a refund for the tax value of the losses accumulated to that point.

The recent successes of Australia's oil and gas industry have made Australia a world leader in energy supply. Yet, Australia's oil and gas industry is at a cross-road. The industry faces significant challenges, including increasing competition, rising costs, low commodity prices, changing social expectations, regulatory uncertainty and environmental concerns. With more jurisdictions being accessible and offering far greater returns on investment, lower cost alternatives and located more centrally to Australia's major trading partners, Australia needs to ensure that we do not miss the next wave of investment.

The future and prosperity of Australia's oil and gas industry will be built on expansions to existing infrastructure and developing underutilised resources to ensure that Australia can maximise the returns to the economy. This investment remains important as it will also allow the support of the

[1] Office of the Chief Economist, *'Resources and Energy Quarterly – September 2019'* <https://publications.industry.gov.au/publications/resourcesandenergyquarterlyseptember2019/documents/Resources-and-Energy-Quarterly-September-2019.pdf> (last accessed 30 October 2019)

use of gas domestically on both the east and west coasts, continuing to place downward pressure on gas prices through increasing supply. The continued growth and investment in the industry will be on the back of stable political, economic and tax policies will be a key driver of Australia's prosperity.

Importantly, continued investment should not be taken for granted. Exploration in Australia has been declining and some of Australia's major investors are reducing their exposure. Meanwhile, other regions are attracting developments which will compete against Australia for future market share. Most recently, Mozambique LNG, Calcasieu Pass in the United States of America and Arctic LNG-2 in Russia have all announced Final Investment Decisions (FID). Policymakers should not lose sight of the fact that global investment capital is scarce and will always go to the best commercial prospects.

Summary of previous reviews and inquiries into Australia's oil and gas industry

There have been numerous reviews and inquiries that have examined various aspects of the policy and technical settings Australia's oil and gas industry operate within. These reviews have included but are not limited to:

- The review into Petroleum Production Taxation (1990) which was underpinned by a comprehensive Federal Government review of the petroleum production taxation provisions which was undertaken by the Department of Primary Industries and Energy.
- The Federal Government Review into the Operation of the PRRT (1992).
- The Ministerial Council on Mineral and Petroleum Resources: Review of Australia's Fiscal Regime (2006)
- The Australian Bureau of Agriculture and Resource Economics Report into Non-Renewable Resource Taxation in Australia (2010)
- The Policy Transition Group Report – New Resource Taxation Arrangements (2010)
- The Callaghan Petroleum Resource Rent Tax Review (2016-17)
- The Senate Economics References Committee Inquiry into PRRT and Corporate Tax Avoidance and Minimisation (2017-18)

Australia's oil and gas projects

Project life cycle, economics and investment horizons

The development of an oil and gas resource into a project requires significant work and calculated risk-taking. This is because oil and gas projects have some of the longest time horizons for companies that require substantial upfront capital investment and a long-term commitment to developing the resource.

The risk associated with developing a resource is significant and requires passing through various stage-gates. Importantly the investment in each phase and the viability of an oil and gas project can vary depending on whether the resource is conventional or unconventional.

Conventional resources are resources that have structure, seal and reservoir components. Extraction of the oil and gas is done using the traditional methods of drilling down into a space and allowing the oil and gas to flow to the top of the wells. Due to the nature of these resources, conventional projects only need a few wells for effective field development.

Unconventional resources like Coal Seam Gas (CSG) commonly found in Queensland, have significant volumes however extracting the resource for a commercial purpose can often be complex. Unlike conventional projects, the resource found in unconventional projects typically span vast geographic areas and can require large numbers of wells across multiple tenements. Unconventional projects often require high well counts and the use of non-standard drilling techniques such as directional drilling for effective field development.

Broadly, the life cycle of a conventional oil and gas project has six phases. Whilst unconventional projects have similar activities conducted in each of the phases and similar milestones to meet, the phases of the project are more fluid and may have some crossover. The table below provides a high-level overview of the six phases generally required to find, develop and extract oil and gas:

Table 1: Indicative life cycle of an oil and gas project

Phase	Activities
1. Entering a new market *12-18 months, moderate expenditure, no revenue*	This phase requires the identification of under-explored basins or overlooked geological territories where petroleum may exist. As part of this process, the company will also assess the political environment, operating environment and the financial viability of operating in that area. For Australia, this is where continued political and fiscal stability is key to ensuring that Australia's oil and gas industry can continue to grow and prosper.
2. Exploration *1-5 years, increased expenditure, no revenue*	This phase can include seismic surveying, exploratory drilling as well as completing environmental and social impact assessments. Activities in this phase can vary depending on complexity of the exploration (i.e. offshore, onshore or unconventional). This process can take many years and the cost can be significant. A conventional offshore well can cost approximately $100 million whilst conventional onshore wells cost approximately $3 million. Unconventional exploratory wells cost approximately $1 million per well. Companies need to

	carefully select what projects will proceed further if oil and gas is found. Importantly, there will be instances where any amounts spent to this point will be foregone where companies do not find oil and gas.
3. Appraisal *2-5 years, increased expenditure, no revenues*	If exploration drilling suggests that promising amounts of oil and gas exist, the company may undertake further examinations to ensure that the risk with progressing to development and production are worth the returns on investment. This includes an assessment of the political environment, operating environment and the financial viability of operating in that area. This is a critical phase as the decision to proceed to development and production comes with a high degree of uncertainty attached to it, which may in turn impact on investment confidence. If investors do not have the necessary level of confidence to proceed to the next stage, a decision may be made not to proceed with the project at all.
4. Development *4-10 years, High expenditure, no revenue*	Once development has commenced, the company is committed. Materials, services and equipment are procured and installed, and production wells are drilled. After development drilling is complete, tests are run to verify that a stable production level can be achieved and production begins. Costs are generally in the billions and the time spent in this phase can vary depending on the infrastructure requirements - for example, the development of an oil platform can take place in as little as 18 months, while an LNG plant can take up to eight years to construct prior to the commencement of production. A key point to note is that for unconventional resources, exploration can continue for many years after an investment decision is taken.
5. Production *20-50 years, low expenditure, cost recovery, high revenues*	Production will commence with the extraction and transportation of oil and gas for processing and distribution. Once production commences, State royalties are typically payable from first gas, due to limits placed in most jurisdictions that ensure deductible costs do not exceed revenues. [2] Typically, both corporate income tax and PRRT are minimal in the early stages of project life, because initial investment costs must be recouped before any such tax is payable. Once costs are recovered, government revenue will steadily increase but may also vary depending on commodity extracted[3] or the price of the commodity. For CSG, production can vary depending on the number wells being drilled and exploration may continue to ensure a stable supply.

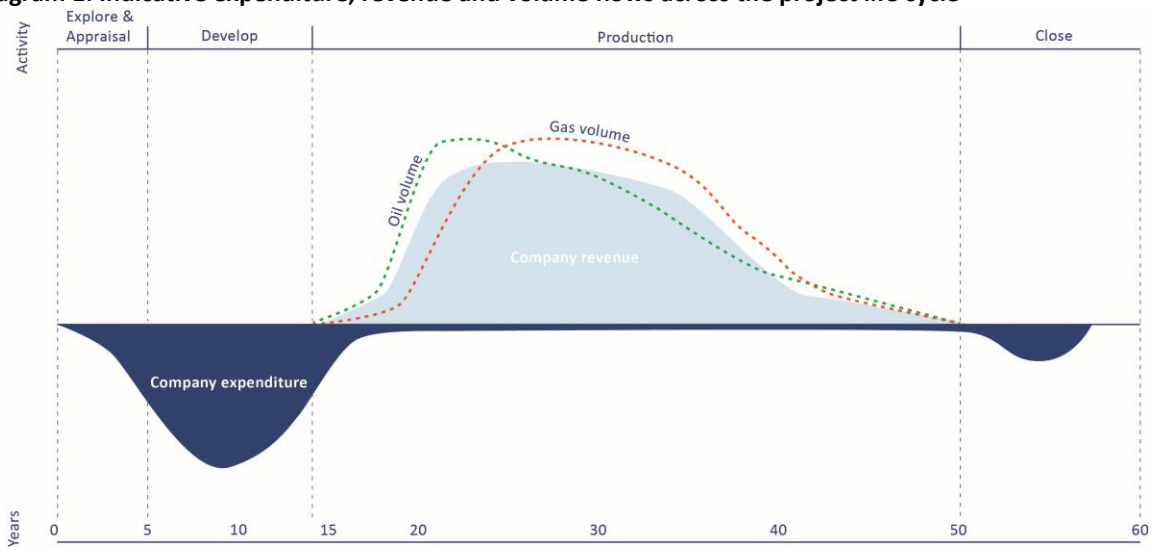
[2] Payment of royalties in Queensland may occur later as there is no cap on deductible costs.

[3] For example, oil tends to peak earlier in the production cycle and have a longer decline in reserves while gas production tends to have a more consistent production amount with fluctuations throughout this phase.

	Social and environmental performance is regularly reviewed for both types of projects. There is also a key need to ensure that project finance requirements for covering principles and interest repayments are covered.
6. Closing down and rehabilitation *2-10 years, increasing closure costs, lower revenues*	Once it is no longer cost-effective to extract remaining reserves, the site is decommissioned and the operating companies are typically responsible for returning the site to as close to original state as possible. Environmental monitoring is required during this phase.

The expenditure and revenues from the phases outlined in the above table is presented diagrammatically below:

Diagram 1: Indicative expenditure, revenue and volume flows across the project life cycle



It is important to note that unlike conventional projects that would have lower expenditure amounts during production than that which was incurred during earlier phases, an unconventional field may have numerous wells being drilled continuously throughout the production phase and costs during this period may be much higher and varied depending on drilling programs.

Access to land and property

In Australia, property rights are commonly referred to as land tenure which is a way of identifying who has the right to use and occupy the land. In Australia, land is broadly classified in two ways:

- Freehold land, including forms of freehold land tenure that are held by traditional owner groups including Aboriginal and Torres Strait Islander land, and
- Non-freehold land or Crown land, which may either be leased or licensed.[4]

[4] Australian Government, *Land Tenure – What is land tenure?* <https://www.austrade.gov.au/land-tenure/Land-tenure/about-land-tenure> (last accessed 30 October 2019)

Unlike some other jurisdictions, Australia has multiple interacting mechanisms that deal with land access and property rights. This is because the Crown owns the mineral resources and the State is responsible for allocating permits to explore and licences to produce for onshore acreage.

Before oil and gas companies seek access to properties to explore for Crown resources in onshore areas, they carry out extensive consultation with landholders and farmers. Companies bid for development rights and when producing, pay royalties and other taxes to governments which are used to improve the wealth of the local communities, the state and the nation.

The Australian Government's Multiple Land Use Framework (MLUF) is an established position between the Australian and State/Territory governments on co-existence and is supported by APPEA. The MLUF states that:

> *"rights of all land users and the potential of all regulated land uses should be acknowledged and respected, while ensuring that regulated land is not restricted to a sole use without considering the implications or consequences for other potential land uses, and the broader benefits to all Australians."*

APPEA strongly supports policies that foster coexistence. The approach of working together to establish a framework that supports ongoing development in both the agriculture and resources sectors, and of education and mutual understanding of the needs of all parties, has proven successful and will continue to be the most effective way to manage land access in Australia.

Experience shows that oil and gas companies have been able to successfully negotiate thousands of land access agreements and compensation arrangements with freehold landowners (e.g. the farming community). Over 4,700 landholder access agreements have been successfully negotiated in Queensland alone which has resulted in excess of $505 million in payments being made to land holders since 2011-12, demonstrating that land access is being successfully managed. [5]

The role of the Commonwealth is limited in its application to the environmental aspects and industry chemical regulation. The *Environmental Protection and Biodiversity Conversation Act 1999* regulates coal seam gas mining where it may have a significant impact on matters of national environmental significance. The Commonwealth works with states and territories through the Council of Australian Governments (COAG) Energy Council in order to collaborate on the development of an integrated and coherent national energy policy.

In many cases, the extra water and income provided to landholders has increased agricultural productivity. In Queensland the gas industry is also delivering infrastructure and investment to several rural and regional districts, providing new jobs and strengthening and diversifying regional economies.

[5] Lawrence Consulting, *Economic Impact of Queensland's Petroleum and Gas sector 2011-18 report* <https://www.appea.com.au/wp-content/uploads/2019/10/Economic-Impact-of-Queensland%E2%80%99s-Petroleum-and-Gas-sector-2011-18-Lawrence-Consulting-report.pdf> (last accessed 30 October 2019)

Economic contributions of Australia's oil and gas industry

Since the 1960s, the Australian oil and gas industry has contributed significantly to the Australian economy through tax payments, exports, jobs, and supporting the growth and development of regional Australia. The industry is also highly supportive of placing downward pressure on domestic gas prices for Australians.[6]

Coming towards the end of 2019, this contribution cannot be understated. The industry has seen investment into exploration and infrastructure development totaling more than $350 billion over the past decade. As projects become fully operational and capital investment costs being recovered, Australians will benefit through export revenues, increased tax payments and reliable domestic gas supply for decades to come.

Fiscal Contributions to the Australian Economy

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), corporate income tax and numerous other taxes, fees and charges ranging from import duties to state based licensing fees and duties.

Since its inception, the Australian oil and gas industry has contributed more than $250 billion[7] to Governments through resources charges and corporate income tax. This is in addition to the investment of billions of dollars into Australia's economy, local taxes, land access payments, taxes paid by third-party service providers and the payroll taxes of all employed in the broader industry.

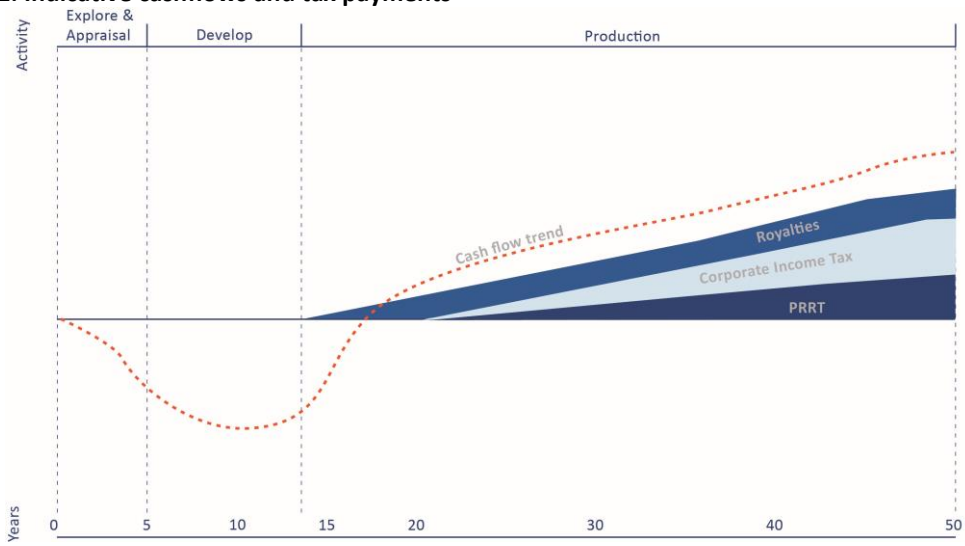
It is critically important to remember that tax payments are often reflective of the oil and gas project life cycle, commodity prices and change economic environments. The high levels of expenditure incurred during the exploration and development phases is recouped in the years once production has commenced. The result is that both corporate income tax and PRRT will be lower early in the production phase until all previous costs have been recovered.

[6] Australia's average gas prices are amongst the lowest in Asia, and globally, Australia's average wholesale price ranked 27th in a survey of 54 nations. The 2019 International Gas Union's *Wholesale Gas Price Survey* shows the average wholesale gas price in Australia last year ($US4.54/MMBTU) was about 40 per cent less than the average wholesale price for the Asia-Pacific region. The Australian price was also around one-third less than the average wholesale price in Asia.

[7] In today's dollars.

The below diagram provides a high-level overview of the cash flows and tax payments over the project life cycle.

Diagram 2: Indicative cashflows and tax payments



The level and mix of the total tax paid by individual oil and gas projects and companies will be determined by a range of factors. For example, the economics of gas projects are generally different to oil developments, with high capital and operating costs and flatter production profiles. Oil projects can see the bulk of reserves from a field or reservoir development earlier in the project life cycle. This impacts on project economics and the likely mix of tax payments between royalties, excise, PRRT and company tax.

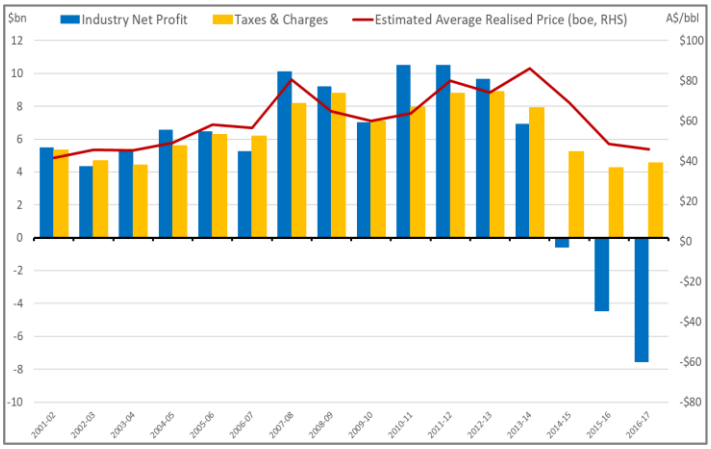
In 2007, APPEA released a detailed report that sought to identify the opportunities and challenges facing the industry with a view to promoting growth opportunities. The report was titled '*Platform for Prosperity – Australian Upstream Oil and Gas Industry Strategy*' and included long-term projections about the possible taxation contributions from LNG projects.

The conclusion of the modelling was that the vast bulk of tax that would be paid by such projects would be through corporate taxation (up to 90 per cent of the total tax take), in large part due to the profits based nature of the PRRT regime and the return profile of LNG projects. Such an outcome was not surprising and is generally recognised by the industry as the norm for gas projects. It also demonstrates the strength of PRRT, insomuch as the regime does not impede the timely development of gas resources.

Recent results obtained by APPEA through its financial survey highlights the challenging operating conditions confronting the oil and gas industry in Australia. The industry recorded a third consecutive year of net operating loss in 2016-17, recording a net operating loss of $7.6 billion (compared with a loss of $4.5 billion in 2015-16), reflecting low commodity prices and unprecedented spending on new projects.

The average price received for the sale of oil and gas fell from $A49 in 2015-16 to $A46 on a barrel of oil equivalent basis in 2016-17. Despite the significant deterioration in the industry's overall financial position, the industry paid an estimated $4.6 billion in total tax payments in 2016-17 (compared with $4.3 billion in 2015-16), dispelling the myth that the industry is not paying its fair share.[8]

Diagram 3: Oil and Gas Industry: Profitability, Taxes Paid and Average Realised Prices



Source: APPEA Financial Survey 2016-17

Additional indirect economic benefits

The totality of the economic benefits provided to Australia is not limited to export revenues and tax payments. Recent results from the APPEA financial survey (2016-17) indicates that Australia's oil and gas industry directly employed approximately 30,000 people which reflects a 10 per cent increase year on year and is more than double the employment from a decade ago. [9] The industry also indirectly supports a further 50,000 jobs which reflects the engagement of people who provide additional services to the development of these resources.

The potential benefits of the growth of Queensland's CSG sector were evaluated by ACIL Tasman in 2012. [10] It was estimated that the expansion of the gas industry has the potential to increase Gross State Product in Queensland by half a trillion dollars in the coming decades, boosting employment, wages, and the state's reputation as an economic powerhouse.

Queensland's CSG industry's activities will be responsible for more than 20,000 full-time equivalent jobs each year by 2035. The report also finds in the years 2015 to 2035, the expansion of the Queensland CSG industry will assist with placing downward pressure on wholesale electricity prices and pay a further $275 billion to governments in taxes and royalties.

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[8] APPEA, *Financial Survey 2016-17* <https://www.appea.com.au/industry-in-depth/industry-statistics/> (last accessed 30 October 2019)

[9] Australian Bureau of Statistics, catalogue number 6291.0.55.003 - *Labour Force, Australia, Detailed,* Quarterly, Nov 2018, table 06, released on 21 December 2018 <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6291.0.55.003Nov%202018?OpenDocument> (last accessed 30 October 2019)

[10] ACIL Tasman, 2012, *Economic significance of Coal Seam Gas in Queensland* <https://www.appea.com.au/wp-content/uploads/2013/05/120606_ACIL-qld-csg-final-report.pdf> (last accessed 31 October 2019)

Furthermore, under the terms of standard joint operating agreements (JOAs), charges to a joint venture are typically prohibited from being charged a markup – that is they must be "at cost" in keeping with the "no gain, no loss" principle of operatorship. Given the operators of many of Australia's oil and gas projects are headquartered outside Australia, this means Australia is effectively importing the know-how and intangible assets of these multinationals "at cost". If equivalent technology was to be sourced from an arm's length market, it is highly likely Australia would be paying a higher price for this valuable intellectual property.

Export perspectives and global demand

From an export perspective, the oil and gas industry collectively account for 22 per cent of mining exports with $50 billion of LNG and $9.1 billion of oil exported. The combined total of $59.1 billion being second only to iron ore which accounted for $77.2 billion in exports. [11] Specifically, the growth in Australia's export volumes has been driven by LNG with a 21 per cent of increase in volumes from 2017-18. This is only expected to grow as the capital investment over the past decade see new plants coming online and production increasing due to increased capacity. [12]

According to the International Energy Agency (IEA), global gas demand is forecast to increase by 43 per cent to 2040 at an annual rate of 1.6 per cent.[13] Gas share of global energy demand will increase to a 25 per cent, overtaking coal to be the second largest fuel source after oil. By 2040, industrial use of gas is forecast to increase by 66 per cent.[14]

The IEA forecasts inter-regional gas trade is expected to increase by 67 per cent, totaling 1289 bcm by 2040. By 2040, 59 per cent of international gas trade is expected to be in the form of LNG, with LNG trade accounting for 84 per cent of the growth to 2040.

The Australian oil and gas industry is extremely well placed to capitalise on the opportunity ahead with a significant investment in production capacity over the last decade, which will in turn deliver significant benefits to the Australian economy and community. This will be achieved through export revenue, royalties, income tax, PRRT, local government taxes, jobs into local communities and the substantial capital investment of the industry.

Domestic gas consumption and emissions targets

The Australian oil and gas industry plays a critical role in supplying energy in Australia, both to residential and commercial customers, directly and through electricity generation. Gas powered electricity generation provides security, reliability, and 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 more than 62 per cent of energy consumption in 2016-17 (oil – 38 per cent, gas – 25

[11] Office of the Chief Economist, at 1, p. 13.
[12] Ibid, p. 56.
[13] International Energy Agency, World Energy Outlook 2018, November 2018, p. 526, Paris.
[14] Ibid.

per cent).[15] Oil is used mainly in the transport sector (70 per cent), mining (10 per cent), manufacturing (9 per cent), agriculture (4.6 per cent) and in commercial, services, electricity generation, residential and construction sectors.

Natural gas accounted for almost a quarter of all energy consumption in Australia in 2016-17 up from 19 per cent in 2000-01. Natural gas is used in electricity generation (37 per cent), manufacturing (27 per cent), mining (21 per cent), residential use (12 per cent), in commercial services, transport and the construction sectors. [16] 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.

Natural gas is also a critical fuel for electricity generation in Australia. It currently accounts for around 10 per cent of National Electricity Market (NEM) generation and 21 per cent of Australian electricity generation. However, it is widely acknowledged that the path to lower emissions will require more gas-fired generation.

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.

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.

Globally, the Australian oil and gas industry is also playing its part in reducing CO_2 emissions. According to recent government estimates, Australian LNG exports are reducing emissions by up to 152 million tonnes in our customer nations equivalent to almost a quarter of Australia's emissions, demonstrating that Australian LNG is doing its bit in addressing the global problem of climate change. [17]

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[15] Department of the Environment and Energy, *Australian Energy Update 2018*, September 2018, Table C <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6291.0.55.003Nov%202018?OpenDocument> (last accessed 30 October 2019)

[16] Department of the Environment and Energy, *Australian Energy Update 2018*, September 2018, Table <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6291.0.55.003Nov%202018?OpenDocument> (last accessed 30 October 2019)

[17] The Hon Angus Taylor, Minister for Energy and Emissions Reduction, *Australia's National Greenhouse Gas Invetory March 2019 Quarterly Update released,* <https://minister.environment.gov.au/taylor/news/2019/australias-national-greenhouse-gas-inventory-march-2019-quarterly-update-releasedt>

A prosperous regional Australia

A 2013 study by KPMG[18] established that resources developments are not only making regions more prosperous, but also making their communities more stable and socially sustainable. The study compiles key standard-of-living measures and basic demographic profiles of Australia's nine main resources regions.

It is clear that resources developments are driving these regions' economies. KPMG found that in the five years to 2011, the number of people employed in the resources sector across the sampled regions grew by 13,810 – or 50 per cent. The number employed in all industries – including resources – grew by just 14 per cent. In that same period, the population of Australia's resources regions had grown at 1.5 per cent per year.

This was the same as the national average but greater than the 0.8 per cent for regional Australia more generally. Queensland's Surat Basin – the region with the most CSG industry activity – is an interesting example. In the Surat between 2006 and 2011:

- the population increased by 3.2 per cent
- the total number of dwellings increased by 8 per cent
- students finishing Year 12 increased by 4.3 per cent, and
- residents with tertiary degrees increased by 2 per cent.

A more recently completed study of the economic impact of the Queensland Petroleum and Gas sector for 2011 to 2018 by Lawrence Consulting further demonstrated the significant benefits the industry provides to regional areas of the country, like Queensland. The report further underlines the importance of the sector for jobs and economic wealth creation for the state, particularly in regional areas such as Gladstone, Toowoomba, Roma, Chinchilla and Dalby, whilst highlighting that Brisbane is the state's biggest gas town and relies on the industry for jobs and spending.

The report identified that approximately $54.4 billion of expenditure occurred directly in the Queensland economy with $4.9 billion paid to a direct workforce and $49.5 billion spent on goods and services from local community contributions and payments to local government that are in addition to royalties, stamp duty and tax.[19]

[18] Sal B. and Verwoert L 2013 Analysis of the Changing Resident Demographic Profile of Australia's Mining Communities. <http://www.appea.com.au/wp-content/uploads/2013/04/130204_APPEA-MCA-demographics-report.pdf> (last accessed 30 October 2019)

[19] Lawrence Consulting, at 6.

This strong commitment to a prosperous regional Australia is highlighted by the study completed by Lawrence Consulting on Queensland where it was identified that:[20]

- the average salary was $150,617
- the average direct workforce was 4,606 full time equivalent employees
- payments to Local Governments was estimated at $322 million
- State Government payments were estimated at $489 million
- $78 million was paid by the industry to landholders in 2018-19, and
- 66,000 mega litres of groundwater extracted by the industry is treated and beneficially reused.

Sovereign Risk and impact on the Australian Economy

A stable and well-balanced economic and taxation policy environment can ensure that Australia will be well positioned to capture the next wave of investment into the oil and gas industry. Australia has experienced 26 years of uninterrupted economic growth and it was the only country in the OECD that did not enter into a recession during the global financial crisis. It holds one of the highest growth rates of the developed world and is considered the world's 13th largest economy. This has been largely driven by the investment, development and operation of Australia's oil and gas industry.

However, instability created through persistent Government reform and inquiries is of little or no benefit to the Australian economy. With a new inquiry, more pressure is placed on companies to explain the uncertainty of positions being taken by the Australian Government which only impacts investment decisions of domestic and foreign investors, therefore lowering the attractiveness of Australia as a place to do business.

Further changes to economic and tax policies may have the unintended consequence of removing the attractiveness of investing in Australia. Decisions should not be made lightly as they could put at risk the prosperity of all Australians, many of whom have enjoyed the significant returns provided through tax and other economic contributions.

For example, no amount of reservation policies or price regulations will solve the domestic gas east coast pricing matters. Simple economics will provide that the best way to place downward pressure on natural gas prices is to increase production, and this should be the focus of governments and industry. In fact, price regulation and reservations policies may have the opposite effect by making the development of oil and gas fields becoming uneconomical. This may result in less investment and in turn, less supply, less government revenues and less jobs being provided to the Australian community.

Australia's reputation as a reliable supplier of LNG is a vital component of the industry's competitiveness and has been a key factor in the industry's ability, across Australia, to establish stable long-term relationships with customers and to attract investment into the industry in a globally competitive environment. Regulations under the Australian Domestic Gas Security Mechanism (ADGSM) threaten that reputation, and its application cannot be allowed to further damage a reputation the industry has spent a generation building. These policies have the ability to put at risk Australia's international reputation as a stable country with low sovereign risk, and

[20] Ibid.

whether the Regulations are used or not, investors must now consider the prospect of the Government intervening in the market to force a project to default on contracts.

The potential introduction of export controls is occurring at the same time as the Government is contemplating changes to the Petroleum Resource Rent Tax, and state governments undertaking reviews of royalty regimes. To date, Australia has succeeded in the global competition for investment by being a high cost but low risk country; we cannot succeed as a high cost, high risk country.

Case Study – North Sea: Adverse impacts of uncertainty and change

Highlighting the importance of operating in stable environments for Australia's ongoing long-term prosperity, the impacts of unstable operating environments and living in a constant state of change are evident from the changes made to tax and royalty regimes in the North Sea. Since 2002, oil and gas companies operating in the United Kingdom (UK) North Sea were subject to three separate profit-based taxes – corporate tax, petroleum revenue tax and a supplementary charge.

However, in 2011 the UK Chancellor of Exchequer increased the rate of the supplementary charge to 32 per cent (formerly 20 per cent) - the third increase in nine years - whilst also introducing a cap on tax relief for decommissioning activities. The effect of both changes meant that in essence, a far greater tax rate was actually applied across the life of the projects. During this time the corporate tax rate (30 per cent) and petroleum revenue tax rate (50 per cent) remained the same.

The results of these changes were dire and the UK is still in recovery. Immediately after the changes in 2011, the UK saw the largest declines in production and exploration with production declining 19 per cent and the number of wells falling by half to the lowest levels since the 1960s. Companies operating on the UK Continental shelf also suspended operations to ensure they could re-assess the viability of operating projects in the area.

In 2014 the Oil & Gas UK industry association reported that instead of the Government gaining additional tax receipts from the announced and implemented changes, Government revenue fell by around two-thirds. As a result, the Government had to act to ensure that investment in the economy was not lost as other jurisdictions fought for investment of scarce capital. The Government announced a series of cuts to the supplementary charge which resulted in the charge being cut from 32 per cent to 10 per cent. By 2016 the UK had also cut the petroleum revenue tax rate to 0 per cent and collectively recognised that the variable nature of oil and gas revenues is impacted by commodity prices.

What is clear is that fiscal instability between 2002 and 2011 caused significant issues for the UK economy. The changes discouraged investment and growth to a point that the UK economy may not recover from, or if it does may take decades to do so.

Commentators have observed that

> *"[w]hile geological risks begin to diminish after discovery, political and financial risks intensify…Once a resource project becomes commercial, bargaining power really begins to shift. The large investments for the development phase of petroleum operations start out as a source of strength for the*

contractor. By the time production commences, capital investment is a sunk cost, and facilities installed in a foreign country can represent a significant source of vulnerability to the contractor." [21]

This is an important reminder that the power of Government sovereignty is also accompanied by a responsibility to advance the prosperity of a nation by attracting investment, and not taking advantage of this power imbalance.

Since the late 1960's, oil and gas production has played a significant role in the Australian economy. The industry has been pivotal in the supply of energy to Australia and many of our key trading partners. The growth of the industry has provided many benefits to generations of Australians and will continue to do so for decades to come provided Australia does not miss out on the opportunity to capture the next wave of development in the sector.

Global growth has been driven by the rapid industrialisation of China and other large Asian economies, such as India. This has changed the dynamics of key international resource, product and capital markets. For Australia, this has translated into strong demand for our energy resources, particularly natural gas.

Further investment in the oil and gas sector is therefore within reach (including expansion of existing projects), but it is by no means assured. There are a number of federal and state areas of policy in which complacency or poor design may threaten Australia's attractiveness as a place to do business. The existing growth has been aided by Australia's position at the cusp of a major shift in the world's economic weight from west to east.

The economic advance of our region has been overwhelmingly positive for Australia. It plays to our comparative advantage as a secure and reliable energy exporter, our proximity to markets and being an open economy that encourages foreign investment.

However, the continued growth of the oil and gas industry cannot be taken for granted because we are a relatively high cost investment destination compared to other oil and gas producing countries. Looking forward, Australia faces intense competition from established and emerging low-cost producers in the global market, particularly the United States, which is expected to triple its LNG capacity by 2020 to total 70 million tonnes.

Continued growth and investment in the industry will only come on the back of stable political, economic and tax policies will be a key driver of Australia's prosperity. Policymakers should not lose sight of the fact that global investment capital is scarce and will always go to the best commercial prospects. This can be evidenced by ConocoPhillips' recent announcement that it would sell subsidiaries that hold its Australia-West assets and operations to Santos for $1.39 billion with a view to freeing up capital in order to be able to invest in other projects that will generate the highest longer-term value to ConocoPhillips. [22]

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[21] Daniel Johnston, International Petroleum Fiscal Systems and Production Sharing Contracts, (Tulsa, PennWell Books, 1994), p.142.

[22] ConocoPhillips Media Release, 13 October 2019, '*ConocoPhillips Announces Agreement to Sell Interests in Australia-West for $1.39 Billion.*
<http://www.conocophillips.com/news-media/story/conocophillips-announces-agreement-to-sell-interests-in-australia-west-for-1-39-billion/> (last accessed 30 October 2019)

Australia's Fiscal Regime in a Global Context

"Comparing Qatar and Australian LNG taxes, and concluding Australia is not getting as much as it could, is akin to comparing a Landcruiser and Ferrari and concluding the Landcruiser isn't going as fast as it could,"
Saul Kavonic, Wood Mackenzie – Australian Financial Review, 1 December 2016.

Australia's comparative advantages and disadvantages

Australia has a strong oil and gas industry with scope for continued growth, development and prosperity. The diversity of resource basins has seen the development of both conventional and unconventional resources such as the North West Shelf and the CSG fields of Queensland. This has allowed Australia to build several comparative advantages to other jurisdictions which we as a nation need to continue to exploit to ensure future opportunities are taken.

Australia's advantages are underpinned by sustainable oil and gas - both conventional and unconventional. Existing projects currently in operation have placed Australia at the forefront of world export markets with the pre-existing regulatory frameworks ensuring that Australia's industry is world leading in operational safety and maintenance. Australia is also home to many sector-focused research groups with scientific outputs that are among the best in the world, providing world class support to Australia's oil and gas industry.

There remain large basins where conventional oil and gas remains untapped. These reserves appear ready to meet future domestic and international market needs provided that projects are commercially viable. Adding to these reserves is the large volumes of unconventional prospective and contingent resources in the CSG format which if these can be proven and produced economically, will sure up Australia's position as a world leader. Geographically, Australia's proximity to Asian markets places it in the prime position to supply the increasing demand for oil and gas from developing Asian nations whilst continuing to support some of Asia's largest economies and population centers.

However, Australia also faces significant comparative challenges with many of these challenges once being strengths of Australia's oil and gas industry. The industry operates in a significantly higher cost environment than many projects that operate in other jurisdictions and which share the same risk and economic modelling characteristics.

Low prices and declining exploration and risk appetites are also starting to flow through into investment decisions with a number of projects being placed on hold, adding increased pressure to domestic gas supply and prices. It also will impact on Australia's competitive advantage of being a premier exporter for the longer-term.

Regulatory uncertainty is a challenge for the industry. In addition to tax reviews and seemingly constant senate inquiries, bans and moratoria on unconventional gas exploration and development, mixed greenhouse gas emissions policies and mechanisms that seek to limit exports are placing significant pressure on the economic viability and operational stability of Australia's oil and gas industry.

One size does not fit all

In comparing Australia's oil and gas industry with other jurisdictions, it is critical to understand that the complexities of the industry against the backdrop of macroeconomic settings and stability of political, financial monetary, and legal policies means that what works in one jurisdiction can not necessarily be used in another – that is, one size does not fit all. [23]

The oil and gas industry is a high risk industry that requires significant expenditure and risk taking before revenues can be generated. Generally, only one in four projects will succeed and the costs of the three failed projects will impact the company's profitability, risk appetite and investment decision making for future projects.

Different perspectives on the geographical and geological attractiveness, commodity price outlook and rate of returns all play an important part in determining the risk profile and whether a company will invest in developing oil and gas reserves. As a result, the investment split in different jurisdictions and the risk profile of projects will vary depending on the risk appetite of that Government, and their willingness to develop oil and gas resources.

In some jurisdictions, the government absorbs a significant amount of the risk by investing in projects or stimulating investment in project development. In doing so, both the country and the company win. The company can lower its project risk profile and would likely be willing to compensate the government through increased taxes once production commences.

A key example of this is the fiscal system in Norway where taxes are calculated independently of each other. Superficial examinations of the Norway taxation system will point to an effective tax rate of 78 per cent[24] however, what is often lost is the amount of risk that the Government absorbs through incentives and investment.

The government provides an annual cash refund up to the value of 78 per cent for exploration costs incurred which encourages exploration and development of oil and gas resources in the country. This cash refund is an alternative to carrying losses forward. Where a company elects not to receive an annual refund, any losses generated are carried forward without limitation to the utilisation. If losses remain where a company abandons its Norwegian offshore activities, the tax value (78 per cent) of any unused losses resulting from upstream activities will be refunded.

This risk reduction and intervention by the government significantly lowers the risk profiles of projects and promotes investment. The lower risk profiles create win-win situations for both the jurisdiction and the company which results in sustained Government revenues being returned over the life cycle of an oil and gas project. Ultimately, the decision of governments to take on risk and the ability of companies to invest comes back to being able to make a financial investment.

Where governments do not incentivise investment or take on the risk of projects, fiscal regimes should be stable and appropriately designed (like the PRRT) to ensure that investment can be made into the country. Regardless of the choices faced by government, what will assist with managing the

[23] United Nations Handbook, 2017, *Taxation of the Extractive Industries by Developing Countries* <https://www.un.org/esa/ffd/wp-content/uploads/2018/05/Extractives-Handbook_2017.pdf> (last accessed 30 October 2019)

[24] Ordinary petroleum tax of 27 per cent plus a special tax of 51 per cent

risk associated with the development of oil and gas resources is a stable and predictable fiscal regime geared positively towards achieving an appropriate return for governments and investors.

An additional interesting point of consideration as part of global fiscal comparisons is to look at how governments around the globe reacted to the significant fall of oil prices between 2014 and 2016. Some sought to make their fiscal regime as attractive as possible, while others sought to increase their share of the remaining profits from projects. In Europe, only Russia increased its government share; while in Asia, some governments lowered their share with a view to attracting increased investment, highlighting the importance of the oil and gas industry, and the investment it brings to an economy where resources are developed.

Comparisons with other jurisdictions

There continues to be considerable attention on Australia's fiscal regime in comparison to oil and gas projects in other jurisdictions. This is often based on simple or misleading calculations which disregard basic accounting and tax concepts whilst also not taking into consideration the broader economics of oil and gas projects, and the policy settings of the jurisdictions being compared. [25] Such methodology is fundamentally flawed, as it assumes turnover is a proxy for profitability or capacity to pay. APPEA firmly believes that comparisons need to be on a factual basis and ensure that comparisons are made for projects that share similar characteristics.[26]

These comparisons also disregard the fiscal benefits and overall contribution beyond taxes and royalties which include social infrastructure investments, employment and training, purchasing services and supplies from local communities, and the contributions made to decommissioning and assessing environmental impacts.

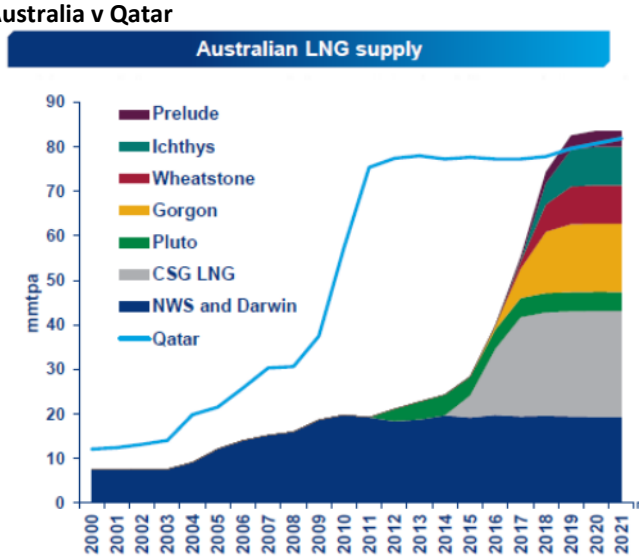
Many global projects have been producing for a number of years, while others are still under construction. The stage of the life cycle which each project is at will impact greatly on comparable assessments.

[25] For reference, a summary of Fiscal System Components across a number of jurisdictions can be found at **attachment A**.

[26] As part of the Callaghan review into the Petroleum Resource Rent Tax, APPEA sought input of Wood Mackenzie about key aspects of the fiscal framework that applies in Australia compared with other gas producing countries. A copy of this report can be found at **attachment B** of this submission.

For example, oil and gas projects in Qatar reached FID much earlier than recent FID in Australia. Consequently, oil and gas volumes on which tax is paid in Qatar have been much higher. In other words, Qatar's taxation base has been far greater than Australia's, making a like for like comparison impossible and irrelevant.

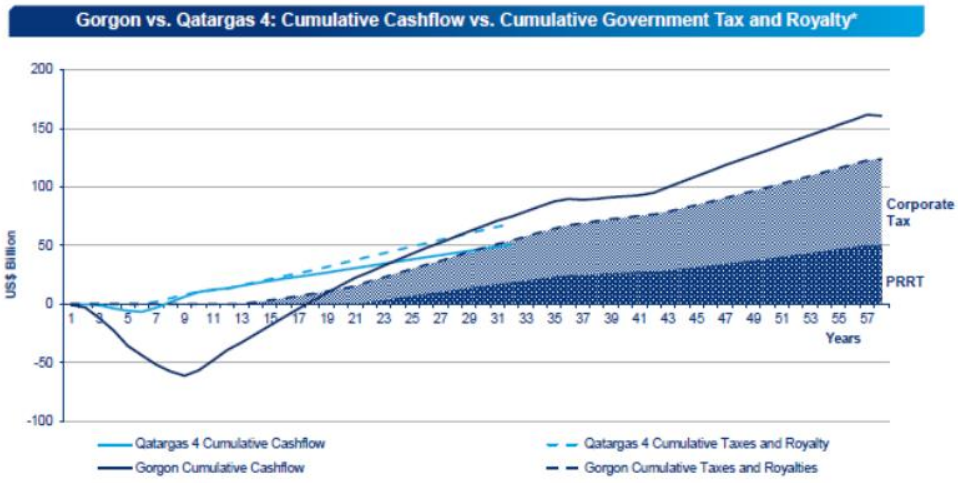
Diagram 4: LNG Supply" Australia v Qatar



Source: Wood Mackenzie 2016 APPEA presentation

Put simply, comparing revenues and taxes paid cannot be done at a single point in time and comparisons should be made over the entire project life cycle. The below diagram demonstrates that revenue should take into consideration cash flows, project life cycle and investment horizons and the costs incurred over the whole life of an oil and gas project.

Diagram 5: Cash flows and taxes over a project life cycle - Gorgon



Source: Wood Mackenzie 2017

The table below provides a summary comparing Australia's Gorgon project and Qatar's Qatargas 4 Project:

Table 2: Key facts comparison – Gorgon v Qatargas 4

	Gorgon (Australia)	Qatargas-4 (Qatar)
Internal Rate of Return (post-tax full cycle)	7.0%	32.5%
On-stream Date	2016	2011
Government Share of Profits	44%	58%
Government Share (including equity)	44%	87%
Total Lifetime Capex (2016 real)	$97bn	$7bn

Source: Wood Mackenzie 2017

What this table highlights is that in 2016 real terms, there was a $90 billion cost differential when it comes to total lifetime capital expenditure. This clearly demonstrates that the nature of Australia's high-cost operating environment results in a far greater period of time for costs to be recovered when you have comparable revenue streams. This high cost operating environment differential also significantly impacts internal rates of return on investment.

An additional comparison can be seen between Australia's APLNG project and PNG LNG. The table below shows that there were significant differentials between the internal rate of return on investment and the total lifetime capital expenditure in 2016 real terms:

Table 3: Key facts comparison – APLNG v PNG LNG

	APLNG (Australia)[27]	PNG LNG (PNG)
Internal Rate of Return (post-tax full cycle)	7.3%	12.6%
On-stream Date	2016	2014
Government Share of Profits	44%	33%
Government Share (including equity)	44%	47%
Total Lifetime Capex (2016 real)	$44bn	$25bn

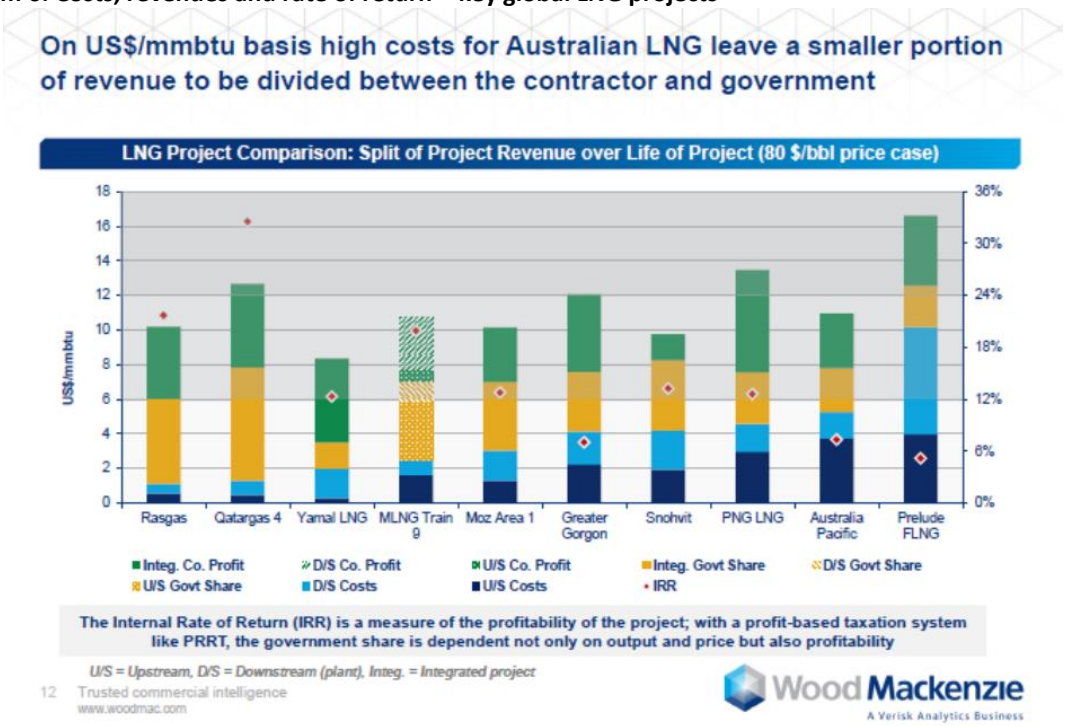
Source: Wood Mackenzie 2017

What these examples show is that the high-cost operating environment results in lower returns on investment which in due course result in lower profit margins, smaller government revenues and a reduced appetite to consider future investments in Australia. Ultimately, the economics of oil and gas projects (including company returns and government revenues) are dictated by the performance of several stages in the production chain, ranging from the recovery of petroleum resources, to liquefaction and transportation which are inherently impacted by various global economic factors that include trade agreements, commodity prices, supply and demand.

[27] This study was done prior to the Queensland Government raising the petroleum royalty rate to 12.5 per cent which will impact the costs associated with operated the project. It also does not take into account changes to exchange rates and commodity prices that have occurred since 2017 which may result in a lower internal rate of return.

Looking beyond Qatar and PNG, the below slide provides a snapshot of other comparable projects on a global scale. It highlights that Australia's fiscal environment provides the lowest returns on investment directly impacting taxes and rents payable to the State and Commonwealth Governments, as well as diminished post tax returns to investors.

Diagram 6: Costs, revenues and rate of return – key global LNG projects



Source: Wood Mackenzie 2017

Similarities can be drawn between Australia and Norway. Norway has faced many of the challenges the Australian oil and gas industry is now facing, and the Government attempted to address these challenges through the *Storting White Paper 28 (2010-2011) An industry for the future – Norway's petroleum activities.*

The White Paper recognised that the production of oil has declined while gas production has increased. It also recognised the cost level is substantially higher than other jurisdictions and technology continues to be developed with the Government opening the pathway for considerably more upstream companies to be involved in exploration and development opportunities.

Like Australia, Norway places a heavy reliance on profit-based government revenue settings. A study conducted by the U.S. Department of the Interior, Bureau of Ocean Energy Management, Regulation and Enforcement and Bureau of Land Management indicated that both Australia and Norway rely solely on profit as a driver for generating revenues with the average government take in Norway being 73 per cent compared to Australia's average Government take of 71 per cent. [28]

[28] IHS CERA, *2011 OCS Study – Comparative Assessment of the Federal Oil and Gas Fiscal System* <https://www.boem.gov/Oil-and-Gas-Energy-Program/Energy-Economics/Fair-Market-Value/CERA-Final-Report.aspx> (last accessed 30 October 2019)

This is despite Norway being more developed than major exporting countries like Australia. However, whilst Norway has quite a diversified economy, revenues from oil and gas make up 30 per cent of its GDP and 45 per cent of export earnings. The Government is also now looking for policy change to ensure that mature areas are rapidly developed to utilise existing infrastructure prior to the end of its useful life.

Norway has been able to sustain reasonable levels of activity on its share of the North Sea by providing a stable and attractive investment environment that yields a reasonable return on investments. Although it is often referred to as an example of high government take, the Norway fiscal system is still very attractive because it is based purely on taxation of profits rather than gross revenue.

Mexico also provides important insights. In December 2013, oil resources were solely owned by the Mexican Government and hydrocarbon activities were exclusively reserved to the state-owned company PEMEX. However, the Mexican energy sector was significantly reformed in 2013 as a clear recognition that outside investment and intellectual property is required to effectively and efficiently develop its resources.

Since the Mexican energy reform which provides a recognition of the benefit of outside investment into an economy, private companies are now able to participate in bidding procedures for awarding exploration and extraction contracts. Where private companies are awarded extraction contracts, the resources can be used based on the relevant contract plan.

The policy settings of the Mexican Government are now designed to encourage private parties to engage in the exploration and production of unconventional gas or oil through awarding contracts for those fields. Unconventional resources have therefore been included in exploration and extraction bidding contracts, which had been auctioned from 2015 to 2019. The terms and conditions for exploration and extraction of unconventional resources, including royalties and payments, will be defined based on the government contract plan.

In relation to tax and government payments, the relevant taxes, royalties, and other consideration are determined by a combination of the offer made in the bidding procedure, the rules set out in the Hydrocarbons Revenue Law, and the rules set out in bidding procedures. The contractual rates are effectively negotiated on a case-by-case basis and cannot be modified as they form an integral part of the contract.

Effectiveness of Australia's tax regimes

Petroleum Resource Rent Tax

The Petroleum Resource Rent Tax (PRRT) was introduced in the mid-1980's for new offshore projects and now applies to all offshore projects – that is, those projects under Commonwealth Jurisdiction. The PRRT has been independently reviewed on several different occasions dating back to 1990 and was also subject to the Corporate Tax Avoidance and Minimisation Inquiry that concluded on 30 May 2018.

The PRRT is a super profits tax that the Commonwealth Government uses to tax economic rent from oil and gas projects in Australia. Unlike petroleum royalties and production excise, PRRT is payable after a project has recovered all eligible outlays associated with the project (including after deducting eligible exploration expenditure transferred from other projects), with an allowance for a threshold rate of return. It is designed this way to encourage investment in and the development of Australia's substantial petroleum resources.

In November 2016, the Government announced an independent review of the PRRT, led by former senior Treasury official, Mike Callaghan. The review's report was released in April 2017. The review confirmed the findings of previous reviews, noting the PRRT achieves "a fair return to the community for the extraction of petroleum resources without discouraging investment". The review stressed:

> *"In considering the extent and timing of any changes to the PRRT, however, allowance has to be made for the very large recent investment in the Australian petroleum sector on the basis of long-standing taxation arrangements. The overall stability of the PRRT has contributed to this large investment. Given the range of uncertainties involved in large, long-term petroleum investments, stability in fiscal settings is an important factor influencing a country's investment attractiveness. Moreover any substantial change to the PRRT should be the outcome of a considered, comprehensive and consultative process."*

For petroleum resources to yield any return to the community, the fiscal conditions need to be conducive to bringing them to market. It is essential therefore that fiscal arrangements are sensitive to level of returns available for oil and gas investments and that certainty is provided as to how such investments are treated for tax purposes.

PRRT is levied at the rate of 40 per cent on the taxable profits derived from the petroleum project in a year of tax. Taxable profit is calculated as 'assessable receipts *less* deductible expenditure and transferred exploration expenditure' and is determined at the taxing point. Assessable receipts include receipts from the sale of petroleum, tolling receipts, exploration recovery receipts, property receipts and variety of other defined receipts. Deductible expenditure includes exploration expenditure, general project expenditure, resource tax expenditure, acquired exploration expenditure, starting base expenditure and closing-down expenditure.

The taxing point is a commonly referred to term that recognises the point at which petroleum, or other products produced from petroleum, become taxable for PRRT purposes. This is the point where PRRT is calculated and signifies the boundary between petroleum project operations which fall within and are subject to PRRT, and those operations which do not. For example, in the case of LNG, a marketable petroleum commodity is the gas that is sold or transferred prior to midstream or downstream activities such as liquefaction (conversion of gas to LNG form) and shipping is conducted. As such, the so-called project ring-fence is at a point before the majority of liquefaction

and shipping processes occur, therefore costs associated with these activities are generally not deductible for PRRT purposes

PRRT is levied in addition to, but calculated before corporate income tax. Any PRRT assessed and paid in a financial year is deductible for income tax purposes. Where amounts of PRRT are refunded in a financial year, that amount is included as assessable income for income tax purposes. When PRRT and company tax are combined, the tax rate can be up to 58 cents in every dollar.

Since APPEA started collecting financial data in 1987, the industry has paid approximately $35 billion PRRT to 2016-17. In 2018-19, the industry paid approximately $1.2 billion in PRRT and this amount is expected to steadily increase in the coming decade as projects reach maturity and become profitable.

Some critics of PRRT express concerns about its failure to collect revenue at all stages of the investment cycle. Such views do not recognise the intense global competition for investment, the economy-wide benefits of the industry, the risks undertaken by investors, the actual rent generated by projects, the timing of the investment cycle and more fundamentally, disregard important design features of the PRRT. As identified in the review of the PRRT review conducted in 2017, what is clear is that the PRRT is operating as intended and provides a fair return to Australia.

Administration of the PRRT, transparency and tax payments

The PRRT is administered by the Australian Taxation Office (ATO) with companies required to lodge PRRT returns where there is income or production from a project. Returns are subject to audit and review by the ATO, which issues rulings and provides guidance to taxpayers.

Recently, there has been greater public commentary and increased scrutiny on PRRT payments and the level of deductible expenditure accruing under the PRRT regime. Much of this commentary has been ill-informed and fails to acknowledge the significant costs incurred by the industry, the impact of the fall in commodity prices and what the data measures.

The ATO publishes taxation statistics covering many of the taxes that are administered by the agency. Included within this data published are details on assessable receipts and deductible expenditure for PRRT purposes. This tells us that it is not correct to suggest that the oil and gas industry and PRRT regime has 'limited transparency' or that it operates with 'inadequate oversight'.

Further, the ATO recently released the PRRT 'tax gap' for 2016-17 which was 2.1 per cent or $22 million, indicating that there is a high level of confidence that taxpayers are meeting their obligations under the PRRT legislation.

Corporate Income Tax

Generally, corporate tax is levied at 30 per cent on Australian resident companies on their world-wide income while non-resident companies are only taxed on income that is sourced in Australia. To determine how much tax is paid, an entity must first determine its taxable income which is calculated as *assessable income less deductible expenditure*. Taxable income is not equal to total exports, gross profit or net profit. Recent discussions and comparisons about tax being 30 percent of total revenues, accounting profit or total revenue are therefore misinformed.

Australia's tax consolidation rules allow for an Australian resident with wholly owned entities to form a tax consolidated group and be treated as a single entity. This means that the calculation of taxable income can be performed on a consolidated basis and there is no specific project ring fencing that applies when it comes to determining an entity's corporate income tax liability. That is, profits from one project can be aggregated with profits or losses from other projects or business functions within that same tax entity.

Most importantly and highly relevant to the oil and gas industry, income tax losses can be carried forward indefinitely with the utilisation of those losses subject to meeting detailed "continuity of ownership" requirements (broadly, continuity in more than 50 per cent of the voting, dividend and capital rights traced to ultimate shareholders) or "same business test" requirements. This has been a deliberate policy setting designed to encourage and incentivise investment in Australia. It means that the high levels of expenditure that were incurred during the exploration and development phases are recouped in the years once production is started, resulting in lower revenues until all costs are recovered for income tax purposes.

Corporate tax in Australia sits alongside other taxation regimes. As Australia operates on a progressive tax system, taxes like PRRT, State royalties or Commonwealth excise are levied in addition to, but before corporate income tax is calculated. Any payments assessed and paid in a financial year are therefore deductible for income tax purposes. Where amounts are refunded in a financial year, that amount is included as assessable income for income tax purposes.

Corporate tax compliance, payments and transparency

Like PRRT, the ATO is responsible for administering corporate taxes in Australia whilst Federal Treasury has policy responsibility. Companies are required to lodge company income tax returns and other approved forms with the ATO for the totality of their business. These returns and other approved forms are subject to review and audit by the ATO.

As stated above, some of the recent commentary and scrutiny on income tax payments by companies involved in oil and gas extraction (amongst other business operations) is misinformed as it can often include numerous business units and operations, or ignore the comparatively high-cost environment of Australia's oil and gas industry. A lot of this misunderstanding and misinterpretation of the information published occurs from the lack of context published as part of the ATO's tax transparency data.

Firstly, taxable income and assessable income can reflect the performance of an entity's other operations. Numerous historic comparisons can include highly profitable downstream or diversified business operations and not just oil and gas extraction which is a high-cost exercise. Secondly, to expect significant income tax to be reported in the early stages of production would be to ignore key elements of the life cycle. In particular, it ignores the fact that at the early stages of an offshore gas project, significant carry forward tax losses will typically be generated due to investment in exploration (deductible when incurred), construction and development (usually depreciable over time) and financing costs (deductible when incurred), with no offsetting income at that stage.

The projects only start earning assessable income once they move into the production phase. A project would typically not have taxable income until several years after commencement of production and until after carried forward losses of the earlier years are fully utilised.

Recent announcements by the ATO indicates that companies operating in the large market - many of which are oil and gas companies - are largely compliant with their tax obligations and paying their fair share of tax. This notion was supported when the ATO again confirmed that Australia has some of the best compliance by large corporations anywhere in the world and that corporate tax performance was approaching 96 per cent.

This indicates that there is just a 4 per cent gap between the tax that is theoretically paid by large corporates and what is actually paid (circa. $1.8 billion). For perspective, this is significantly less than the $8.7 billion tax gap in the individuals market adding further weight to the fact that at the current time, oil and gas companies and indeed much of corporate Australia are paying their fair share of tax.

Other taxes and levies

Since APPEA started collecting financial information in 1987, what has become evident is that considerable amounts of tax payments through royalties, levies, excise and other payments have been made. The table below provides a high-level overview of these payments:

Table 4: excise, royalties, levies and fees over the past 30 years

	1987-1997	1998-2008	2009-2017	Total
Production excise, royalties and fees	$8.15 billion	$13.714 billion	$17.687 billion	$39.542 billion
Other tax and fees	$538 million	$852 million	$1,906 million	$3,296 million

APPEA Financial Surveys: 1987 - 2017

State and Territory Royalties

In general, onshore mineral rights are vested with state and territory governments and the Commonwealth does not receive a share of royalty receipts in respect of those rights. A broadly similar methodology applies in determining royalties under state and territory jurisdictions however, the specific details vary on a state by state basis.

Royalty rates across the States and Territories is typically 10 per cent of wellhead value with the exception of Queensland, which increased petroleum royalties by 25 per cent, to the highest rate in Australia at 12.5 per cent of wellhead value from 1 July 2019. Changes to State based resource taxes such as the recent Queensland royalty increase, also contribute to sovereign risk and must be considered in the context of any proposed changes to federal taxation.

In addition to petroleum royalties, a mechanism was introduced in 1985 that provides state and territory governments with access to a profits-based regime (a resource rent royalty) to replace royalties and Commonwealth production excise for onshore petroleum production. The regime to date has been limited to the Barrow Island project under Western Australian jurisdiction, where future activity and production was potentially threatened by the continued imposition of then existing excise and royalty regimes.

The Resource Rent Royalty is broadly similar to PRRT, however exploration costs are not transferable to other projects and the uplift rate for general project costs has remained at the long-term bond rate plus 15 percentage points (as applied to PRRT prior to the 1990 changes).

Commonwealth Royalties and Excise

Under the Commonwealth's *Offshore Petroleum and Greenhouse Gas Storage Act 2006 and Offshore Petroleum (Royalty) Act 2006*, Commonwealth royalties are collected from certain offshore petroleum production. For the purpose of federal royalty collections, "offshore" refers to production licences derived from Exploration Permits WA-1-P and WA-28-P, otherwise known as the North West Shelf project.

Under provisions of the legislation, royalty revenues are shared by the Commonwealth with Western Australia, with the WA Government receiving approximately two-thirds of gross payments. The administration of the royalty regime is undertaken by the WA Government on behalf of the Commonwealth. The total level of Commonwealth royalty payments is not recorded as a separate line item in the Federal Budget.

The method for determining the wellhead value of petroleum produced is as agreed between the Designated Authority (the relevant WA Minister) and the producer, following directions from the Joint Authority (the relevant Commonwealth Minister and WA Minister). If the Designated Authority and the producer are unable to reach agreement, then the Designated Authority can determine a wellhead value.

The wellhead value is generally calculated by subtracting from the sales receipts, certain deductions for costs incurred in bringing the petroleum from the wellhead to the point of sale. Deductions include production excise, allowances for a return on post-wellhead capital assets and for depreciation on post-wellhead capital assets, and operating expenses such as processing and transportation costs. Pre-wellhead costs are not deductible for royalty purposes.

By making allowance for certain costs, royalty is determined on a different basis to production excise, however it does not allow for the deductibility of all costs associated with production activities. In addition, as capital costs are depreciated (not immediately and fully deducted), the regime is effectively a hybrid of profits based and excise type regimes. The rate of royalty payable is set by the Joint Authority under the provisions of the legislation.

Concluding remarks

The oil and gas industry is an integral part of the Australian economy. It is this total contribution over the entire project life cycle that needs to be taken into consideration when assessing the industry's contribution to the Australian community and Government, and this includes:

- the $350 billion invested into Australia's oil and gas projects
- the payment of $71.6 billion in tax payments and levies
- the exporting of $59.1 billion in LNG and oil in 2018-19
- payments to land holders in excess of $500 million since 2011
- the support of 80,000 jobs directly and indirectly
- the support provided to the farming and agricultural industry through the treatment and provision of 66,000 gigalitres of water
- helping Australia and other global economies reduce carbon emissions, and the generation of significant amounts of export earnings, and the delivery of infrastructure and investment to several rural and regional districts.

The Australian oil and gas industry is paying its fair share of tax. Comparisons commonly made with other countries ignore a range of significant factors that impact on project profitability. Australia remains a relatively high cost country resulting in longer payback periods and is still in the early stages of its development as a global energy producer whilst other jurisdictions offer more cost-effective incentives to operate projects.

It is evident that the industry is ending a decade of unprecedented capital investment, with further potential to capture more opportunities in growing global and domestic gas markets. Extending the operational lives of existing infrastructure (including LNG plants) will be dependent on commercialising discovered and undiscovered gas resources.

While the industry committed to the development of a number of large scale gas projects over the last decade, the next generation of investments (and extensions to existing and committed projects) will be heavily dependent on the terms of Australia's fiscal regime, as it has an important impact on project economics and investor returns.

Any changes that lead to increased tax burdens will damage the ability of Australia to attract investment and thereby diminish the capacity to create sustainable taxation revenue streams for future generations. Changes made to the tax since its introduction have been logical and have been mindful of the nation's broader energy policy objectives. Modifications have also been respectful of past investments and have attempted to ameliorate the retrospective impacts when it has been extended to new projects and areas.

The recent successes of Australia's oil and gas industry have made Australia a world leader in energy supply. Yet, Australia's oil and gas industry is at the cross-road. The industry faces significant challenges, including increasing competition, rising costs, low commodity prices, changing social expectations, regulatory uncertainty and environmental concerns.

With more jurisdictions being accessible and offering far greater returns on investment, lower cost alternatives and located more centrally to Australia's major trading partners, Australia needs to ensure that we do not miss the next wave of investment. But this can only be achieved with a stable and competitive tax regime, both state and federal.

Attachment A – Global comparisons of Fiscal System Components [29]

Fiscal System	Timing of Revenue					Sharing of Revenue and Cost Risk				
	Bonus	Ad Valorem	Cost Recovery Ceiling	Income Tax	Revenue Sharing	State Participation	Income Tax	Resource Rent Tax	Net Revenue-based Royalties	Profit Sharing
Algeria onshore	√	√	-	√	√	√	√	√	-	-
Angola offshore	√	-	√	√	√	√	√	-	-	√
Australia (Queensland) coalbed gas	-	√	-	√	-	-	√	-	-	-
Australia offshore	-	-	-	√	√	-	√	√	-	-
Brazil offshore	√	√	-	√	√	√	√	√	-	√
Canada (Alberta) conventional oil	√	√	-	√	-	-	√	-	-	-
Canada (Alberta) oil sands	√	√	-	√	-	-	√	-	√	-
Canada (British Columbia)	√	√	-	√	-	-	√	-	√	-
China offshore	√	√	√	√	√	√	√	√	-	√
Colombia onshore	-	√	-	√	√	-	√	√	-	-
Germany onshore	-	√	-	√	-	-	√	-	-	-
India offshore	-	√	-	√	√	-	√	-	-	√
Indonesia coalbed gas	√	-	√	√	√	-	√	-	-	√
Indonesia conventional gas offshore	√	-	√	√	√	-	√	-	-	√
Kazakhstan offshore	√	√	-	√	√	√	√	√	√	-
Libya onshore	√	-	√	√	√	√	√	-	-	√
Malaysia offshore	-	√	√	√	√	√	√	√	-	√
Norway offshore	-	-	-	√	√	-	√	√	-	-
Poland onshore	-	√	-	√	-	-	√	-	-	-
Russia onshore	√	√	-	√	-	√	√	-	-	-

Fiscal System	Timing of Revenue					Sharing of Revenue and Cost Risk				
	Bonus	Ad Valorem	Cost Recovery Ceiling	Income Tax	Revenue Sharing	State Participation	Income Tax	Resource Rent Tax	Net Revenue-based Royalties	Profit Sharing
United Kingdom offshore	-	-	-	√	√	-	√	√	-	-
U.S. Alaska onshore	√	√	-	√	√	-	√	√	-	-
U.S. GOM deepwater	√	√	-	√	-	-	√	-	-	-
U.S. GOM shelf	√	√	-	√	-	-	√	-	-	-
U.S. Louisiana onshore gas	√	√	-	√	-	-	√	-	-	-
U.S. Texas onshore	√	√	-	√	-	-	√	-	-	-
U.S. Wyoming gas	√	√	-	√	-	-	√	-	-	-
Venezuela conventional gas	√	√	-	√	-	√	√	-	-	-
Venezuela heavy oil	√	√	-	√	-	√	√	√	-	-

Source: IHS CERA

[29] IHS CERA, 2011 OCS Study – Comparative Assessment of the Federal Oil and Gas Fiscal System <https://www.boem.gov/Oil-and-Gas-Energy-Program/Energy-Economics/Fair-Market-Value/CERA-Final-Report.aspx> (last accessed 30 October 2019)

Attachment B: Wood Mackenzie 2017 Study