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Gas-fired robbery

Assessing the economic contribution of LNG to Western Australia

The LNG industry portrays itself as essential to WA's economy, a sentiment echoed by the WA Government. However, LNG industry contributes just 1% of the WA state budget and two thirds of Western Australia's gas is effectively given away by the Western Australian and Australian Governments with almost no royalties or tax being paid. The gas industry creates few jobs, with less than 1% of WA workers engaged in oil and gas extraction.

Report

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Summary

The WA Government and gas companies routinely declare the liquified natural gas (LNG) industry to be essential to the state's economic welfare. Yet the claims of job creation and revenue raising are rarely examined in detail.

LNG is big business in Western Australia. In 2019/20, 47 million tonnes were sold generating sales revenue of $27 billion for multinational corporations like Chevron, ExxonMobil, Shell and Woodside. Over 90 per cent of the state's gas production is for export.

However, returns to WA and Australia as a whole are minimal. Two thirds of the gas exported from WA is effectively given away with almost no return at all to Australian citizens (who own the resource).

Approximately $425 million in gas royalties was collected by the WA Government in 2020/21, making up just 1 percent of Western Australian Government revenue, less than half the amount collected from motor vehicle registration. 99 percent of this revenue was from North West Shelf Grants.

LNG projects other than the North West Shelf including Shell's Prelude FLNG, Chevron's Gorgon LNG and Wheatstone LNG and Woodside's Pluto LNG collectively make up around two thirds of Western Australia's gas production. These projects paid virtually no royalties to the Western Australian Government and no Petroleum Resource Rent Tax (PRRT) to the Australian Government. They have effectively been given the gas for free.

On top of that, the Australian and Western Australian governments continue to subsidise these companies. Taxpayers have long underwritten the development of the LNG industry. To 2010, the WA Treasury estimated the net cost to the state of subsidising LNG developments to be $8 billion. In 2019-20 the Western Australian Government spent $94 million of public money on subsidies to the gas industry.

There are five key LNG operations in WA and adjacent Commonwealth waters:

- The North West Shelf (NWS), located near Karratha. Operated by Woodside, with stakes owned by BHP, BP, Chevron, Shell and Japan Australia LNG.
- Pluto, which also processes gas near Karratha, drawing gas from fields around 180km offshore. 90 per cent owned by Woodside.
- Gorgon, situated on Barrow Island which lies around 50km off the Pilbara coast. Chevron is the largest stakeholder, along with ExxonMobil, Shell and other Japanese companies.
- Wheatstone, situated near Onslow, majority owned by Chevron.

- Prelude, a floating LNG plant located 475km north-east of Broome. Majority owned by Shell.

Three tax and royalty regimes cover (or fail to cover) these projects. The most important is the royalty applied to production at the North West Shelf. This accounts for 99 per cent of all LNG related revenue paid to the WA Government.

The revenue is collected by the Commonwealth, which in turn pays 68 per cent to the WA Government. This royalty is levied at 10 per cent to 12 per cent of the wellhead value of production, before the gas is liquified for ease of transport. NWS grants peaked in value at around $1.2 billion in 2013/14, 4.18 per cent of total WA government revenue. This has declined to $425 million – 1.06 per cent of revenue – in 2020/21.

Other royalty and tax arrangements raise little revenue for WA:

- There is limited transparency around Resource Rent Royalties from Barrow Island, including Gorgon, to the WA Government. Gorgon paid an estimated maximum of $26 million in 2019/20 to the Commonwealth and WA combined.
- The Petroleum Resource Rent Tax was only paid by BHP and Santos in 2018/19, and payments were unlikely to be primarily derived from their WA LNG operations. None of the other companies operating in WA paid any PRRT that year and some expect to never pay any.

If the North West Shelf royalty arrangements were extended to all LNG operations, approximately $1.6 billion could have been raised in 2019/20. This would see additional WA revenue of $1.06 billion and $500m to the Commonwealth. However the North West Shelf royalty arrangements are themselves are inadequate, representing a poor return to Australian citizens for the exploitation of our gas resources.

The LNG industry employs very few people in Western Australia, less than one per cent of the state's workforce. The gas industry shed over 10 per cent of its workforce in Australia from May 2020 to February 2021, highlighting the volatility and poor job creation potential of the industry. In fact, oil and gas extraction is the least job intensive industry in Australia, with every other industry creating more jobs per million dollars of sales income.

The LNG industry accounts for huge increases in WA's emissions, employs very few people, and returns negligible amounts in revenue, despite subsidies and sweetheart deals on land use. Policymakers engaging with the LNG industry should seek to craft policy that reduces WA's emissions and promotes industries that employ more West Australians.

Contents

Introduction

For an industry that provides so little to the people and government of Western Australia, the liquified natural gas (LNG) industry casts an oversized shadow across WA politics. Premier Mark McGowan said in 2019:[1]

> Western Australia is a world leader in LNG and one of my Government's key priorities is to grow our State into a global LNG hub, to unleash thousands of new jobs for Western Australians.

The Australian Petroleum Production and Exploration Association (APPEA), the oil and gas industry peak body, portrays LNG as essential to energy security and WA jobs, stating:[2]

> When COVID hit, Premier McGowan and his Government acted swiftly to keep the oil and gas industry running so we could protect Western Australian jobs and maintain critical energy supply to our State.

For their part, oil and gas companies have consistently pushed back against any proposals to increase the return that Australian governments receive. In a submission to the Commonwealth Government's review of the Petroleum Resource Rent Tax, Woodside stated:[3]

> Any change to the current fiscal settings that impact the NWS [North West Shelf] Project also has the potential to negatively impact on the Australian economy and could jeopardise future regional jobs related to the project.

Successive governments have gone to great lengths to accommodate LNG projects.

This has played out most starkly in the recent final investment decision on Woodside's Scarborough LNG project, which is facing a legal challenge in the Supreme Court from the Conservation Council of Western Australia.[4] When asked if his Government would change the law to ensure the project would go ahead should the project be stalled by the legal challenge, Premier McGowan said that the WA Government would "do what it has to do to

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[1] Prior (2019) *WA Premier Mark McGowan in LNG pitch for more jobs and investment,* https://thewest.com.au/business/oil-gas/wa-premier-mark-mcgowan-in-lng-pitch-for-more-jobs-and-investment-ng-b881211248z

[2] APPEA (2021) *APPEA congratulates Premier Mark McGowan*, https://www.appea.com.au/all_news/appea-congratulates-premier-mark-mcgowan/

[3] Woodside (2017) *North West Shelf – Submission to the PRRT Review,* https://treasury.gov.au/sites/default/files/2019-03/R2016-001_North-West-Shelf-Project.pdf

[4] CCWA (2020) *Conservation Council launches legal challenge to prevent billions of tons of pollution from Woodside's Burrup Hub,* https://www.ccwa.org.au/conservation_council_launches_legal_challenge

keep the state functioning."[5] This kind of legislative blank cheque from Government to an industry that offers so few jobs and revenue in return is symptomatic of the disproportionate influence of the LNG industry.

The LNG industry's impact on emissions is immense, with current and proposed LNG projects (including Browse, Scarborough and the Pluto expansion) on track to emit 41.6 million tonnes of CO_2 per annum in Scope 1 and 2 emissions.[6] These emissions are equivalent to nearly half (47 per cent) of Western Australia's total emissions each year.[7]

The WA Government has blocked even minimal regulation of emissions, pressing the Environmental Protection Agency to back down on its proposed plan to make heavy polluters like Chevron offset emissions.[8] Likewise, the WA Government has devoted considerable resources to promoting the LNG industry as an industry capable of creating many jobs for West Australians.[9]

Rarely is the job creating, revenue raising, or energy supplying capability of the LNG industry called into question. Rarely is the role that the LNG industry plays in Western Australian politics examined, and compared against the actual economic contribution of the industry. This report seeks to remedy that.

This report demonstrates the dramatically outsized role the LNG industry plays in WA politics compared to the scant jobs and revenue it provides to WA.

[5] Hastie (2021) *WA government could step in if Supreme Court finds Woodside environmental approval invalid,* https://www.brisbanetimes.com.au/national/wa-government-could-step-in-if-supreme-court-finds-woodside-environmental-approval-invalid-20211123-p59bis.html

[6] Clean State & CCWA (2019) *Runaway Train: The impact of WA's LNG industry on meeting our Paris targets and national efforts to tackle climate change*, https://www.cleanstate.org.au/runaway_train_lng_report

[7] Clean State & CCWA (2019) *Runaway Train: The impact of WA's LNG industry on meeting our Paris targets and national efforts to tackle climate change*, https://www.cleanstate.org.au/runaway_train_lng_report

[8] Hastie and Latimer (2019) *EPA buckles under pressure from WA government, oil and gas sector,* https://www.smh.com.au/business/the-economy/epa-buckles-under-pressure-from-wa-government-oil-and-gas-sector-20190314-p5144l.html

[9] McGowan (2020) *Premier unveils two-year LNG work plans to maximise local jobs,* https://www.mediastatements.wa.gov.au/Pages/McGowan/2020/03/Premier-unveils-two-year-LNG-work-plans-to-maximise-local-jobs.aspx

Overview of LNG in WA

LNG is big business in Australia. Nation-wide, the industry exported 79 million tonnes of LNG in 2019/20, the equivalent of two thirds of Australia's total energy consumption.[10] This earnt $48 billion in revenue,[11] which dropped to an estimated $32 billion in 2020/21 as relatively low oil-linked contract prices affected export earnings – although prices are expected to recover sharply.[12]

Western Australia accounts for 54 per cent of all Australian LNG exports, worth $27 billion in 2019/20.[13] The overwhelming majority of Western Australia's LNG exports are to Asia, with Japan (47 per cent), China (30 per cent), South Korea (9 per cent) and Taiwan (6 per cent) topping the list of customers in 2020, followed by Singapore which accounts for 4 per cent of exports, while India and Thailand each account for 2 per cent.[14]

In 2020 Chevron produced 14.6 million tonnes per annum (Mtpa) of LNG in WA, followed by Woodside (8.4 Mtpa), Shell (5.8 Mtpa), Exxon Mobil (3.1 Mtpa), BHP, BP and Japan Australia LNG (MIMI) each producing 2.6 Mtpa and all other producers including Tokyo Gas and Kansai Electric accounting for 4.2 Mtpa.[15]

The primary offshore basins that gas is sourced from in WA are the Carnarvon, Browse and Bonaparte basins off the Pilbara and Kimberley coasts.

The North West Shelf Joint Venture was the first LNG project in Australia, and remains the largest by production capacity at 16.9 million tonnes per annum of LNG. While this project marked the beginning of Australia's foray into LNG exports, it was far from a market and business-driven operation. The WA Government assisted the joint venture partners through project agreements, financial assistance and the provision of infrastructure including the Dampier to Bunbury pipeline, without which the project would likely have not gone ahead.[16]

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[10] Department of Industry, Science, Energy and Resources (2020) *Australian Energy Update 2020 – Table C9,* https://www.energy.gov.au/publications/australian-energy-update-2020

[11] Office of the Chief Economist (2021) *Resources and Energy Quarterly – March 2021*, p 77, https://publications.industry.gov.au/publications/resourcesandenergyquarterlymarch2021/documents/Resources-and-Energy-Quarterly-March-2021.pdf

[12] Office of the Chief Economist (2021) *Resources and Energy Quarterly – June 2021*, p 70-71

[13] DMIRS (2020) *Western Australian Mineral and Petroleum – Statistic Digest 2019-20,* https://www.dmp.wa.gov.au/Documents/About-Us-Careers/Stats_Digest_2019-20.pdf

[14] Department of Jobs, Tourism, Science and Innovation (2021) *Western Australia LNG Profile – May 2021,* https://www.wa.gov.au/government/publications/western-australias-economy-and-international-trade

[15] Department of Jobs, Tourism, Science and Innovation (2021) *Western Australia LNG Profile – May 2021*

[16] Government of Western Australia (2011) *GST Distribution Review – WA Submission,* p 13, https://treasury.gov.au/sites/default/files/2019-03/wa_gov.pdf

> Western Australian Treasury calculated that in 2010 net present value terms, the estimated cost of its commitments to assist the North West Shelf project (e.g. payment of subsidies to the State's power utility to help cover the losses it initially incurred under crucial 'take or pay' gas contracts) is estimated to be around $8 billion.

The above quote, made by the WA Government in 2011,[17] shows the impact of the LNG industry on the Government's budget. As previously discussed, the revenue benefit derived from LNG in WA is miniscule compared to other sources of revenue and is only undermined further by subsidies.

Gas use in WA: Domestic vs Exports

It is important to note the distinction between gas that is consumed domestically in Western Australia, and gas that is exported to overseas markets. WA is by far the largest consumer of natural gas, accounting for 42 per cent of Australian consumption, at 668.7 petajoules (PJ) in 2018/19.[18] As mentioned, WA has invested significantly in establishing a domestic pipeline network including the Dampier-Bunbury pipeline, and the mining and manufacturing industries have established themselves around this domestic gas market.

WA is unique in having a domestic gas reservation policy, which requires LNG producers to reserve the equivalent of 15 per cent of production for domestic use.[19] This policy, introduced by the Carpenter Government,[20] has ensured lower gas prices for Western Australians and is a policy worth adopting to cover the east coast market.[21]

However, most domestically consumed gas in Western Australia is consumed not by households or small and medium size businesses, but by the manufacturing and mining sectors.

The vast majority of gas in Western Australia is exported, and of the amount consumed in WA, 53 per cent is used for the purposes of mining and manufacturing. Manufacturing in

[17] WA Treasury (2017) *Western Australia's Submission to the Productivity Commission's Inquiry into Horizontal Fiscal Equalisation*, https://www.wa.gov.au/sites/default/files/2020-02/western-australias-submission-to-the-productivity-commissions-inquiry-into-horizontal-fiscal-equalisation.pdf

[18] Department of Industry, Science, Energy and Resources (2020) *Australian Energy Statistics – Table F,* https://www.energy.gov.au/publications/australian-energy-update-2020

[19] WA Government (n.d.) *WA Domestic Gas Policy*, https://www.wa.gov.au/government/publications/wa-domestic-gas-policy

[20] Carpenter (2006) *State Government's domestic gas reservation policy released,* https://www.mediastatements.wa.gov.au/Pages/Carpenter/2006/10/State-Government%27s-domestic-gas-reservation-policy-released.aspx

[21] Murray and Campbell (2018) *Volatile gas: Economics and gas in Western Australia,* https://australiainstitute.org.au/wp-content/uploads/2020/12/P563-Volatile-gas-Gas-and-WA-economy-WEB.pdf

this context is primarily comprised of capital intensive processes such as production of alumina and aluminium.

90.2 per cent of total WA gas demand is exported as LNG or used for processing LNG, with domestic gas demand making up just 9.8 per cent.[22]

CURRENT PROJECTS

Western Australia currently has five operating LNG projects, all in the state's Northwest Pilbara and Kimberley regions, or in the case of Shell's floating LNG facility (FLNG), offshore from the Kimberley.

Table 1 provides an overview of current LNG operations in Western Australia. Only two of these projects are subject to royalty obligations: North West Shelf and Gorgon, both of which are shared between the Commonwealth and WA governments. All projects are subject to the Petroleum Resource Rent Tax, though PRRT is rarely paid, as discussed subsequently.

North West Shelf: Woodside-operated North West Shelf is the longest operating LNG project in Australia. The project began in the 1970s with the discovery of gas off the coast of Karratha in Commonwealth waters, beginning shipments in 1989. It pipes gas from 135km offshore back to Karratha for processing. It is the only LNG project in Western Australia subject to a comprehensive royalty scheme.

Gorgon: Chevron's Gorgon project is situated on Barrow Island which lies around 50km off the Pilbara coast. The Barrow Island agreement applies to oil and gas production on, and surrounding, the island. One of the conditions of operation for Gorgon between the WA Government and Chevron was that 80 per cent of its fugitive emissions must be sequestered over a five year period – a condition that has been repeatedly breached.[23] It is subject to the PRRT, as well as the Resource Rent Royalty applied to Barrow Island projects.

Wheatstone: The Chevron-operated Wheatstone project is situated near Onslow in the Ashburton North Strategic Industrial Area, drawing gas from the Wheatstone and Iago fields over 200km offshore.[24] It is subject to the PRRT, but has no royalty requirements.

[22] AEMO (2020) *2020 Western Australia Gas Statement of Opportunities,* p 76-77, https://aemo.com.au/-/media/files/gas/national_planning_and_forecasting/wa_gsoo/2020/2020-wa-gsoo-report.pdf?la=en

[23] Browne (2018) *Sunk costs: Carbon capture and storage will miss every target set for it,* https://australiainstitute.org.au/wp-content/uploads/2020/12/P546-Sunk-costs-WEB.pdf

[24] Chevron (n.d.) *Wheatstone*, https://www.chevron.com/projects/wheatstone

Pluto: Also based on the Burrup Hub, Woodside's Pluto project draws gas from the Pluto and Xena gas fields around 180km offshore from the processing facility near Karratha.[25] It is subject to the PRRT, but has no royalty requirements.

Prelude: Shell's offshore floating LNG plant, Prelude, sits above the Browse basin 475km north-east of Broome. It is a 488m long vessel designed to be moored at sea and extract and process gas into LNG.[26]

[25] Woodside (n.d.) *Pluto,* https://www.woodside.com.au/what-we-do/australian-operations/pluto-lng

[26] Shell (n.d.) *Prelude FLNG Facility,* https://www.shell.com.au/about-us/projects-and-locations/prelude-flng-facility.html

Table 1: Current LNG projects in Western Australia

Project	First LNG production	Owners	Location	Production capacity (Mtpa)	Gas charging arrangements
North West Shelf	1989	**Woodside** (16.67%) BHP (16.67%) BP (16.67%) Chevron (16.67%) Japan Australia LNG (16.67%) Shell (16.67%)	Burrup Strategic Industrial Area	16.9	PRRT (since 2012); Commonwealth royalties (returned as NWS Grants)
Pluto	2012	**Woodside** (90%), Kansai Electric (5%), Tokyo Gas (5%)	Burrup Strategic Industrial Area	4.9	PRRT
Gorgon	2016	**Chevron** (47.3%), ExxonMobil (25%), Shell (25%), Osaka Gas (1.25%), Tokyo Gas (1%), JERA (0.417%)	Barrow Island	15.6	PRRT; Resource Rent Royalty
Wheatstone	2017	**Chevron** (64.14%), KUFPEC (13.4%), Woodside (13%), PE Wheatstone (8%), Kyushu Electric (1.46%)	Ashburton North Strategic Industrial Area	8.9	PRRT
Prelude FLNG	2019	**Shell** (67.5%), Inpex (17.5%), KOGAS (10%), CPC (5%)	Browse Basin	3.6	PRRT

Sources: Department of Jobs, Tourism, Science and Innovation (2021) *Western Australia LNG Profile – May 2021*, https://www.wa.gov.au/government/publications/western-australias-economy-and-international-trade; Australian Treasury (2017) *Petroleum Resource Rent Tax Review – Final Report,* https://treasury.gov.au/sites/default/files/2019-03/R2016-001_PRRT_final_report.pdf

There are also several other operations of relevance to WA, as well as planned expansions, backfills or new projects under consideration. Ichthys LNG is a facility in Darwin, in the Northern Territory (NT), that pipes gas nearly 900km from the Browse basin off WA back to Darwin for processing. It is majority owned and operated by INPEX, which holds a 66.25 per cent share in the project. INPEX considered piping gas to WA but eventually chose to pipe gas to the Northern Territory after strong lobbying from the NT Government.[27]

Also under development are Gorgon Stage 2, Julimar-Brunello Phase 2 (additional gas for the Wheatstone project), Greater Western Flank Phase 3 (North West Shelf), Lambert Deep (North West Shelf) and Waitsia Stage 2, a new onshore project at the Perth Basin under development by Mitsui E&P and Beach Energy with agreements to potentially export as LNG through North West Shelf facilities.[28]

Other new developments include the Browse Basin Project, a Woodside joint venture with Shell, BP, Japan Australia LNG and PetroChina that would add 12 Mtpa to the NWS project.[29] Woodside also announced a final investment decision on the Scarborough extension of their Pluto project in November 2021, which would add an additional 8 Mtpa capacity to the project.[30]

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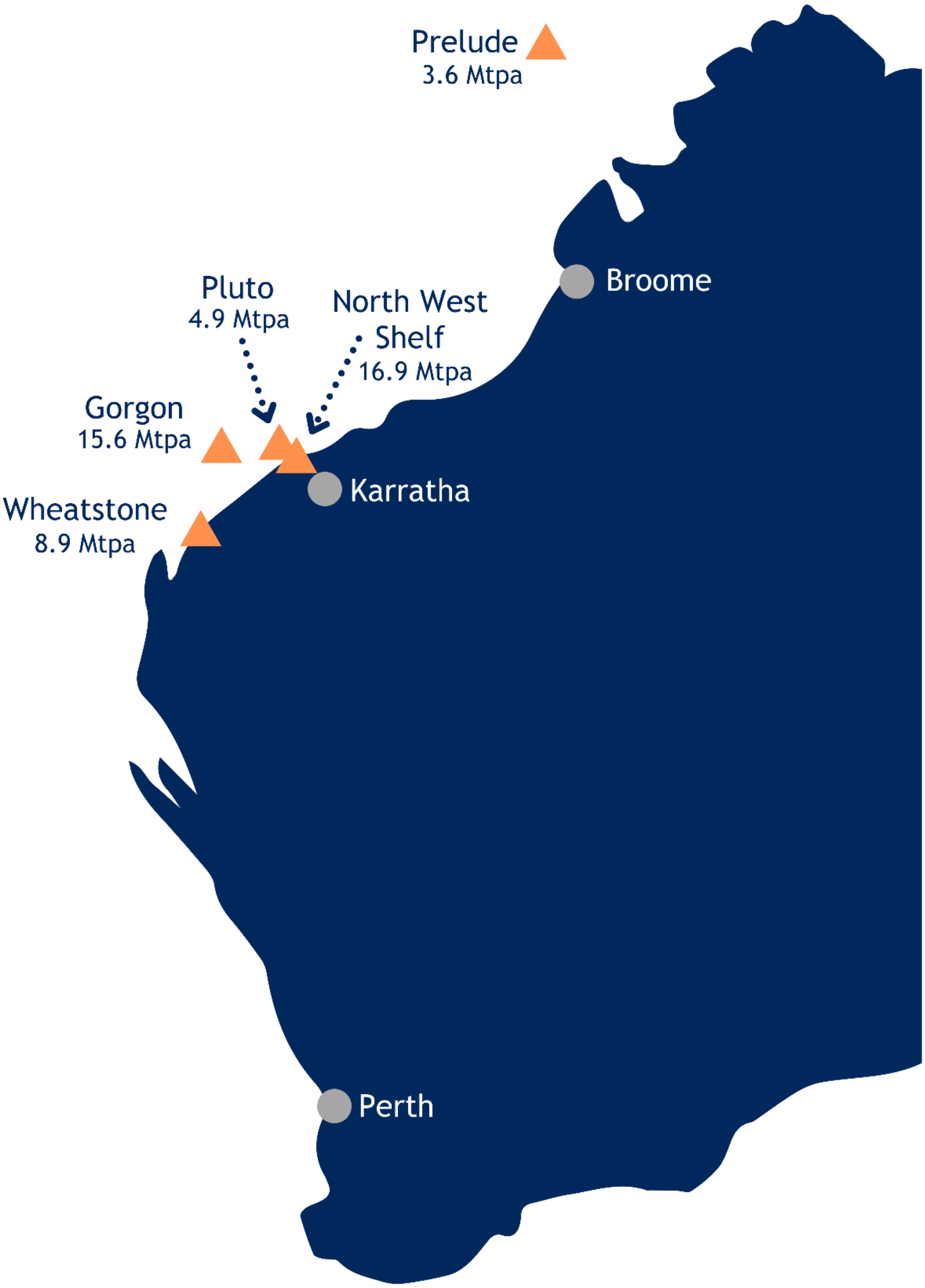
[27] NT Department of the Chief Minister (2009) *Annual Report 2008-09, p 45,* https://dcm.nt.gov.au/__data/assets/pdf_file/0005/252194/2008-2009-annual-report.pdf; Chambers (2008) *Western Australia could forgo LNG terminal,* https://www.theaustralian.com.au/business/mining-energy/darwin-firms-as-japanese-lng-hub/news-story/beb68beaf900763779fd82345b5b4935

[28] Department of Jobs, Tourism, Science and Innovation (2021) *Western Australia LNG Profile – May 2021,* https://www.wa.gov.au/government/publications/western-australias-economy-and-international-trade

[29] Woodside (n.d.) *Browse,* https://www.woodside.com.au/what-we-do/australian-growth-projects/browse

[30] Woodside (2021) *ASX Announcement – Scarborough and Pluto Train 2 developments approved,* https://files.woodside/docs/default-source/asx-announcements/2021-asx/060.-scarborough-and-pluto-train-2-developments-approved.pdf?sfvrsn=88f50e4d_5

Figure 1: Map of LNG facilities in Western Australia



Note: This map is for representation purposes only and is not an accurate depiction of the exact location and size of each LNG facility.

Revenue from WA LNG Projects

LNG accounts for around one percent of all revenue in the WA Government 2020/21 Budget.

The WA government collects royalties from onshore oil and gas projects, while royalties from offshore projects are shared between the Commonwealth and WA governments in line with various agreements and legislation.

The exceptions to that rule are Barrow Island, which is an onshore jurisdiction but splits royalties between the Commonwealth and WA Governments, and the North West Shelf project, which is not in WA waters, with royalties collected by the Commonwealth and distributed to the WA government in the form of North West Shelf grants.

Royalties collected from the North West Shelf project are by far the largest source of LNG royalties in Western Australia, accounting for 99 per cent of all LNG royalties.[31] This means that the remaining four LNG projects that make up around two thirds LNG exports from Western Australia contribute virtually nothing Western Australia's budget.

Three methods are used to collect revenue from petroleum extraction in Western Australia. They are wellhead royalties, resource rent royalties, and Petroleum Resource Rent Tax (PRRT). Only wellhead royalties and the resource rent royalties contribute directly to WA revenue, while the PRRT is a federally collected tax, with no set arrangements for redistribution to states.

NORTH WEST SHELF GRANTS

North West Shelf Grants, which make up around 99 per cent of all LNG related revenue paid to WA,[32] are a small proportion of WA's total revenue. In 2020/21 NWS grants accounted for around one percent of all WA revenue, having never reached more than 5 per cent of total government revenue in the last two decades.

NWS royalties are collected by the Commonwealth, but around two thirds (68 per cent) is returned to the WA Government in the form of NWS Grants, in accordance with the

[31] Department of Mines, Industry, Regulation and Safety (2020) *Statistics Digest 2019-20,* p. 15, http://www.dmp.wa.gov.au/About-Us-Careers/Statistics-Digest-3962.aspx

[32] Department of Mines, Industry, Regulation and Safety (2020) *Statistics Digest 2019-20,* p. 15, http://www.dmp.wa.gov.au/About-Us-Careers/Statistics-Digest-3962.aspx

revenue sharing arrangement outlined in section 75 of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth).[33]

Wellhead royalties are royalties that are applied at a rate of between 10 per cent and 12 per cent of the wellhead value, which is defined as the net value of gas passing through a valuation point in production, with the rate varying depending on whether they apply to a primary or secondary production license.[34] The exact location of wellheads and the method for calculating wellhead value are usually included in a royalty schedule specific to each producer.[35] Wellhead royalties are collected by the state government for onshore projects, whereas the federal government collects royalties for offshore projects. This includes the North West Shelf (NWS) which is responsible for nearly all of the gas royalties paid to WA.

LNG royalties being returned to WA in the form of North West Shelf grants have declined since the relative highs of around a decade ago. NWS Grants peaked in value at around $1.2 billion in 2013/14, 4.18 per cent of state revenue. This has declined to $629 million – 1.96 per cent of state revenue – in 2019/20, sinking even further to $425 million – 1.06 per cent of state revenue – in 2020/21.

By way of contrast, royalties from iron ore in WA generated $7.8 billion towards the state budget in 2019/20.[36]

[33] Commonwealth of Australia (2006) *Offshore Petroleum and Greenhouse Gas Storage Act 2006,* s. 75, *https://www.legislation.gov.au/Details/C2017C00051*

[34] Department of Mines, Industry, Regulation and Safety (2018) *Petroleum Royalties,* http://www.dmp.wa.gov.au/Petroleum/Royalties-1578.aspx

[35] Department of Mines, Industry, Regulation and Safety (2018) *Petroleum Royalties*

[36] Department of Mines, Industry, Regulation and Safety (2020) *Statistics Digest 2019-20,* p. 16, http://www.dmp.wa.gov.au/About-Us-Careers/Statistics-Digest-3962.aspx

Table 2: North West Shelf Grants

Year	Monetary value	NWS Grants as % of total WA Revenue
2000/01	$473,500,000	4.47%
2001/02	$370,000,000	3.35%
2002/03	$435,000,000	3.70%
2003/04	$363,000,000	2.85%
2004/05	$506,000,000	3.56%
2005/06	$610,000,000	3.76%
2006/07	$657,000,000	3.74%
2007/08	$870,000,000	4.50%
2008/09	$867,000,000	4.46%
2009/10	$948,000,000	4.30%
2010/11	$994,000,000	4.16%
2011/12	$1,000,000,000	3.97%
2012/13	$1,093,000,000	4.25%
2013/14	$1,169,000,000	4.18%
2014/15	$913,000,000	3.33%
2015/16	$645,000,000	2.44%
2016/17	$640,000,000	2.38%
2017/18	$723,000,000	2.63%
2018/19	$972,000,000	3.25%
2019/20	$629,000,000	1.96%
2020/21	$425,000,000	1.06%
2021/22	$664,000,000	1.73%
2022/23	$611,000,000	1.75%
2023/24	$531,000,000	1.47%
2024/25	$408,000,000	1.15%

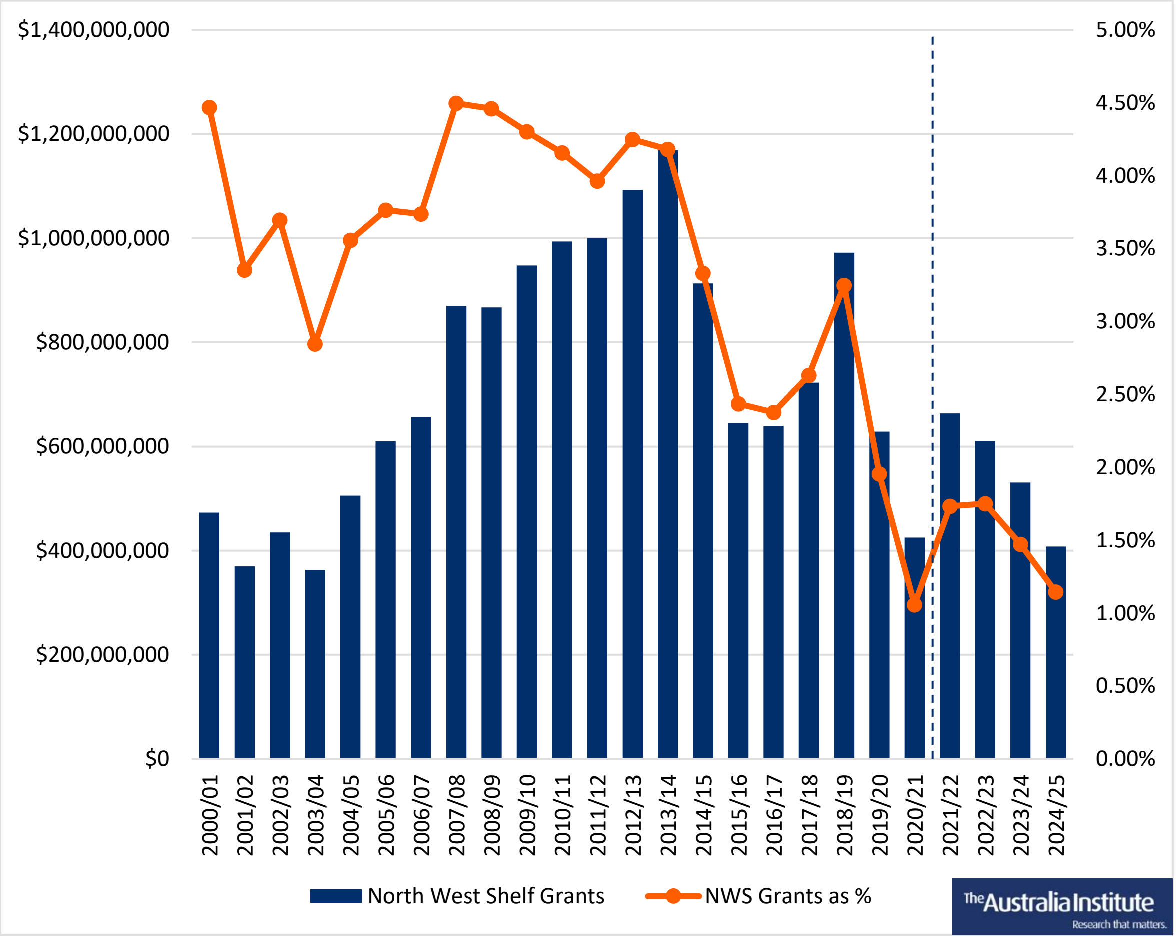
Source: WA Budget Papers, 2002/03 through 2021/22; WA Government (2021) *Annual Report on State Finances 2020-21*, p. 168, https://www.wa.gov.au/sites/default/files/2021-09/2020-21-annual-report-on-state-finances.pdf (for 2019/20 and 2020/21 data)

To put this in context, in 2020/21 the WA Government received $425 million in revenue from North West Shelf grants. That same year the Government received over $1 billion from motor vehicle registrations alone.[37]

The Government's own budget papers show that LNG contributes a very small amount to state revenue. Given the LNG industry's centrality to economic debate in Western Australia, it is important to put its contribution to the budget bottom line in perspective. Figures 1 and 2 provide a clear picture of the contribution of LNG revenue to Western Australia's budget.

[37] WA Government (2021) *Annual Report on State Finances 2020-21*, p 168. https://www.wa.gov.au/sites/default/files/2021-09/2020-21-annual-report-on-state-finances.pdf

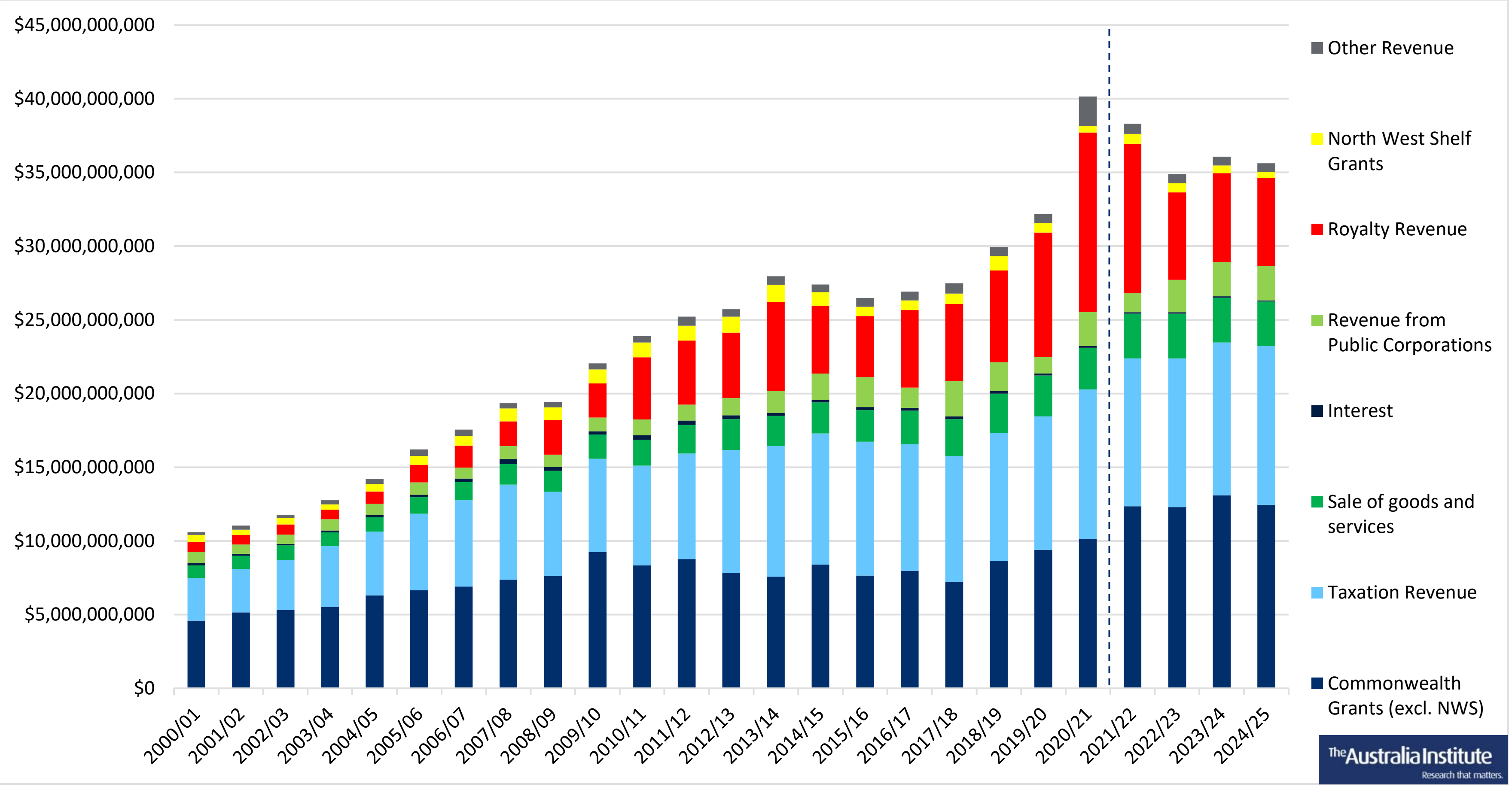
Figure 2: North West Shelf Grants dollar amounts, and as proportion of total WA Government revenue



Source: WA Budget Paper No. 3: Economic and Fiscal Outlook – Budgets 2002/03 through 2021/22, https://www.ourstatebudget.wa.gov.au/previous-budgets.html; WA Government (2021) *Annual Report on State Finances 2020-21*, https://www.wa.gov.au/sites/default/files/2021-09/2020-21-annual-report-on-state-finances.pdf (for 2019/20 and 2020/21 data)

As shown in Figure 2, North West Shelf grants make up a very small proportion of total WA government revenue. Even as the total revenue base has expanded, the size, in both relative and actual terms, of NWS grants has decreased, down to just 1.06 per cent in 2020/21. In other words, 99 per cent of services provided by the Western Australian government do not rely on revenue from LNG projects.

Figure 3: Sources of WA Revenue, over time



Sources: WA Budget Paper No. 3: Economic and Fiscal Outlook – Budgets 2002/03 through 2021/22, https://www.ourstatebudget.wa.gov.au/previous-budgets.html; WA Government (2021) *Annual Report on State Finances 2020-21,* https://www.wa.gov.au/sites/default/files/2021-09/2020-21-annual-report-on-state-finances.pdf (for 2019/20 and 2020/21 data)

RESOURCE RENT ROYALTY

Resource rent royalty applies to wells on Barrow Island under the *Barrow Island Royalty Variation Agreement Act 1985* (WA) which replaces wellhead royalties for Barrow Island and splits revenue between the Commonwealth and WA Governments 75 per cent and 25 per cent respectively.[38] The Act was introduced to replace agreements undertaken historically with oil producers operating on Barrow Island, a centre for WA oil production since discovery in 1964.[39]

Resource Rent Royalty applies to Chevron's Gorgon LNG project and also to separate oil production projects operated by Chevron and Santos. The WA Department of Mines, Industry, Regulation and Safety does not provide project level information on royalties paid under the Resource Rent Royalty scheme, making it difficult to attribute royalties solely to Gorgon.

The royalty payments from Gorgon are not transparent. The WA Government considers them to be commercial-in-confidence. However, in a submission by the WA Government to the Commonwealth Treasury's review of the PRRT it is revealed that in 2015/16 Western Australia collected around $4.6 million combined in royalties from coastal waters and Barrow Island operations.[40]

Budget documents show that the Department of Mines, Industry, Regulation and Safety administered $7.97 million worth of petroleum royalties in 2018/19 and $6.65m in 2019/20, with revenue dropping to around $2.2 million over the forward estimates.[41] Petroleum royalties listed in the budget include all petroleum royalty receipts collected under state onshore and offshore legislation and includes the Barrow Island royalty payment. It excludes NWS royalties, which are collected under Commonwealth legislation. Even if the $6.65 million in petroleum royalties collected in 2019/20 were solely from the Gorgon project, and therefore was 25 per cent of the total royalty amount, that would indicate that the total royalties raised from Gorgon amounted to $26.6 million. With Chevron's projects having the

[38] Department of Mines, Industry, Regulation and Safety (2018) *Petroleum Royalties,* http://www.dmp.wa.gov.au/Petroleum/Royalties-1578.aspx

[39] Australian Academy of Technological Sciences and Engineering (1988) *Technology in Australia 1788-1988: North West Shelf,* https://www.austehc.unimelb.edu.au/tia/773.html#3073

[40] WA Government (2016) *Western Australia's Submission to the Review of the Petroleum Resource Rent Tax,* https://treasury.gov.au/sites/default/files/2019-03/R2016-001_Western-Australian-Government.pdf

[41] WA Government (2020) *Budget Paper No. 2 – Volume 2, p 264,* https://www.ourstatebudget.wa.gov.au/2020-21/budget-papers/bp2/2020-21-wa-state-budget-bp2-vol1.pdf?

potential to make $32.8 million in revenue each day under certain conditions,[42] Gorgon's meek royalty results make for particularly grim reading.

From this, the Resource Rent Royalty applied to Gorgon appears to account for less than one per cent of all Western Australia's LNG royalties.

PETROLEUM RESOURCE RENT TAX

The Petroleum Resource Rent Tax (PRRT) is a profits-based tax payable to the Commonwealth. While some may be redistributed to WA, there are no set arrangements and the tax does not directly affect WA's revenue.

Many gas companies manage to avoid paying any PRRT at all due to generous deduction rules,[43] a fact worthy of consideration when examining revenue from projects at a state or federal level. Many large oil and gas companies, including the owners and operators of major LNG projects in Western Australia, pay no company tax or PRRT, as shown in Table 2.

The two LNG producing companies that did pay PRRT may not have done so based solely upon their WA operations. To reduce the risk of excluding PRRT paid, BHP's petroleum subsidiaries and Santos' subsidiaries have been combined. Both of these companies' oil and gas operations are primarily based outside of Western Australia – so the PRRT paid is unlikely to be derived primarily from WA LNG projects.

The PRRT regime is established in such a way that PRRT is not paid until companies have exhausted their deductable expenditures. The rules for deductible expenditures are so generous that many projects are unlikely to ever pay PRRT. Shell, which operates Prelude FLNG and has a 25 percent stake in Gorgon LNG has publicly admitted that it does not expect to ever pay PRRT. [44] [45]

[42] Milne (2018) *Chevron LNG projects Gorgon and Wheatstone earning $32 million a day,* https://thewest.com.au/business/oil-gas/chevron-lng-projects-gorgon-and-wheatstone-earning-32-million-a-day-ng-b88734044z

[43] Richardson & Campbell (2017) *Review of the Petroleum Resource Rent Tax – Submission*, https://australiainstitute.org.au/report/review-of-the-petroleum-resource-rent-tax/

[44] Milne (2021) *Shell predicts free gas forever for Gorgon and Prelude LNG*, https://www.boilingcold.com.au/shell-predicts-free-gas-forever-for-gorgon-and-prelude-lng/

[45] Ward (2019) Tax Justice Network – Australia (TJN-Aus) Submission to Treasury Review of the PRRT Gas Transfer Pricing arrangements, https://treasury.gov.au/sites/default/files/2019-07/c2019-t364690-tax_justice_network-_australia.pdf

Table 3: Tax and PRRT paid by WA LNG producers 2019/20

LNG Producer	Total Income	Taxable Income	Tax Paid	PRRT Paid
BHP Companies*	$45,913,880,813	$18,734,259,496	$4,565,135,269	$448,065,314
BP Regional Australasia Holdings Pty Ltd	$23,244,137,525	$1,189,575,541	$352,074,726	$0
ExxonMobil Australia Pty Ltd	$15,550,170,727		$0	$0
Chevron Australia Holdings Pty Ltd	$12,196,173,675	$169,426,647	$0	$0
Woodside Petroleum Ltd	$8,229,114,684	$2,167,431,832	$176,790,531	$0
Shell Energy Holdings Australia Ltd	$5,323,800,890		$0	$0
Santos Companies*	$5,013,931,702	$29,023,941	$0	$125,833,006
Inpex Companies*	$4,609,624,921	$136,147	$0	$0
CNOOC Companies*	$2,166,177,440	$106,802,757	$32,040,827	$0
ConocoPhillips Australia Gas Holdings Pty Ltd	$1,850,149,843	$115,304,314	$0	$0
Japan Australia LNG (MIMI)	$1,825,569,343	$818,935,466	$242,996,062	$0
KUFPEC Australia Pty Ltd	$1,287,463,063		$0	$0
Kogas Australia Pty Ltd	$914,288,026		$0	$0
PE Wheatstone	$692,552,436		$0	$0
Sinopec Oil and Gas Australia Pty Ltd	$573,743,064		$0	$0
Tokyo Gas	$565,495,976	$85,126,109	$0	$0
Kansai Electric Power Holdings Pty Ltd	$287,982,127	$82,963,425	$0	$0
Osaka Gas Australia Pty Ltd	$231,475,123		$0	$0
Kyushu Electric Australia Pty Ltd**	$133,259,277	$4,783,353	$0	$0

Source: ATO (2021) *2019-20 Report of Entity Tax Information*, https://data.gov.au/data/dataset/2019-20_report_of_entity_tax_information

*Note: BHP Companies refers to BHP Billiton Petroleum's Australia, Bass Strait and Victoria subsidiaries (for the PRRT component) and BHP Group Ltd for other tax and income information; Santos Companies refers to Santos WA Northwest Pty Ltd and Santos WA PVG Pty Ltd (for the PRRT component) and Santos Limited for other tax and income information; CNOOC Companies refers to CNOOC Australia Energy Capital Management Pty Ltd and CNOOC Gas and Power (Aus) Investment Pty Ltd, Inpex Companies refers to Inpex Alpha Ltd, Inpex Australia Pty Ltd, Inpex Holdings Australia Pty Ltd and Inpex Sahul Ltd.

**Note: No data on Kyushu Electric Australia was released in the 2019/20 Corporate Tax Transparency register. Figures for Kyushu displayed are drawn from the 2018/19 register.

HOW MUCH IS WA MISSING OUT ON?

The tax and royalty arrangements described above see large amounts of gas effectively given away for free to multinational oil and gas companies, the obvious question is how much money could be raised if WA's gas was subject to an effective royalty regime.

If a North West Shelf-style royalty system had applied to all WA offshore projects in 2019/20, the WA state government and the Commonwealth would have gained revenue of $1.6 billion, as estimated in Table 4 below:

Table 4: Estimate of foregone royalties based on 2019/20 NWS payments

NWS production - Woodside share (16.67%)	30.8 Mboe
Total North West Shelf production	184.76 Mboe
Total North West Shelf production	27,714 Mm^3
NWS royalties to WA Government	$ 629,000,000
NWS royalty rate per Mm3	$ 22,696/Mm^3
Total WA gas production	76,724 Mm^3
WA gas production less NWS production	49,010 Mm^3
WA production sourced from offshore fields	95%
Royalty foregone (WA share)	**$1,056,692,291**
Royalty foregone (Cth share)	**$497,266,947**
Total royalty foregone	**$1,553,959,208**

Sources: Woodside (2021) *2020 Annual Report*; Department of Mines, Industry Regulation and Safety (2021) *Statistics Digest 2019/20*; WA Government (2021) *Annual Report on State Finances 2020-21*, https://www.wa.gov.au/sites/default/files/2021-09/2020-21-annual-report-on-state-finances.pdf

The calculation in Table 4 begins by estimating total NWS production, based on Woodside's share of production, reported as 30.8 million barrels of oil equivalent (Mboe) in its 2020 annual report.[46] Woodside's share of total NWS production is 16.67 per cent, suggesting total production of 184.76 Mboe, or 27,714 million cubic metres of LNG (Mm^3).[47] WA's total onshore and offshore natural gas production in 2019/20 was 76,724 Mm^3.[48] Western Australia's total gas production outside of the North West Shelf project, is therefore approximately 49,010 Mm^3, 95 per cent of which is sourced from fields in offshore Commonwealth areas, according to the WA Department of Mines, Industry Regulation and Safety.[49]

Actual royalties paid to Western Australia as part of the NWS scheme in 2019/20 - $629 million – gives a rate of $22,696 per million cubic metres. Applying this rate to the offshore gas production outside of the North West Shelf gives a total of $1.55 billion. Under the

[46] Woodside (2021) *2020 Annual Report,* p 27, https://files.woodside/docs/default-source/investor-documents/major-reports-(static-pdfs)/2020-full-year-results-and-annual-report/2020-woodside-annual-report.pdf?sfvrsn=11372a48_4;

[47] Note: Conversion rate for Mboe to billon cubic metres of LNG is 0.15, Qatar Petroleum (2020) *Conversion factors,* https://www.qp.com.qa/en/Pages/ConversionFactor.aspx

[48] Department of Mines, Industry Regulation and Safety (2021) *Statistics Digest 2019-20,* p 43, https://www.dmp.wa.gov.au/Documents/About-Us-Careers/Stats_Digest_2019-20.pdf. Note that this volume appears to exclude Inpex's Ichthys project, which pipes gas to Darwin in the NT, see note on p 41. Based on this note the production figure appears to also excludes ENI's Blacktip project, which pipes to Wadeye, NT.

[49] Department of Mines, Industry Regulation and Safety (2021) *Statistics Digest 2019-20,* p 37, https://www.dmp.wa.gov.au/Documents/About-Us-Careers/Stats_Digest_2019-20.pdf

North West Shelf arrangements around $1.06 billion of this would accrue to the WA Government and $500 million to the Commonwealth.

This estimate is broadly in line with research conducted by resource taxation expert Dr Diane Kraal. Dr Kraal modelled several taxation and royalty scenarios to Chevron's Gorgon project in 2017. By applying the same North West Shelf royalty system to Gorgon, Dr Kraal found that an estimated USD 4.847 billion would be raised between 2016 and 2030.[50] This equates to AUD 6.183 billion, or an average of at least $300 million each year to the WA Government.[51]

Economic forecasting for resource projects is difficult and fraught. Costs fluctuate, as do prices and production levels. But what is clear is that Western Australia could receive additional royalty revenue in the hundreds of millions, if not billions each year from LNG producers, who currently export natural resources with little to no returned benefit for Australians.

However the North West Shelf royalty arrangements are themselves are inadequate, representing a poor return to Australian citizens for the exploitation of finite gas resources.

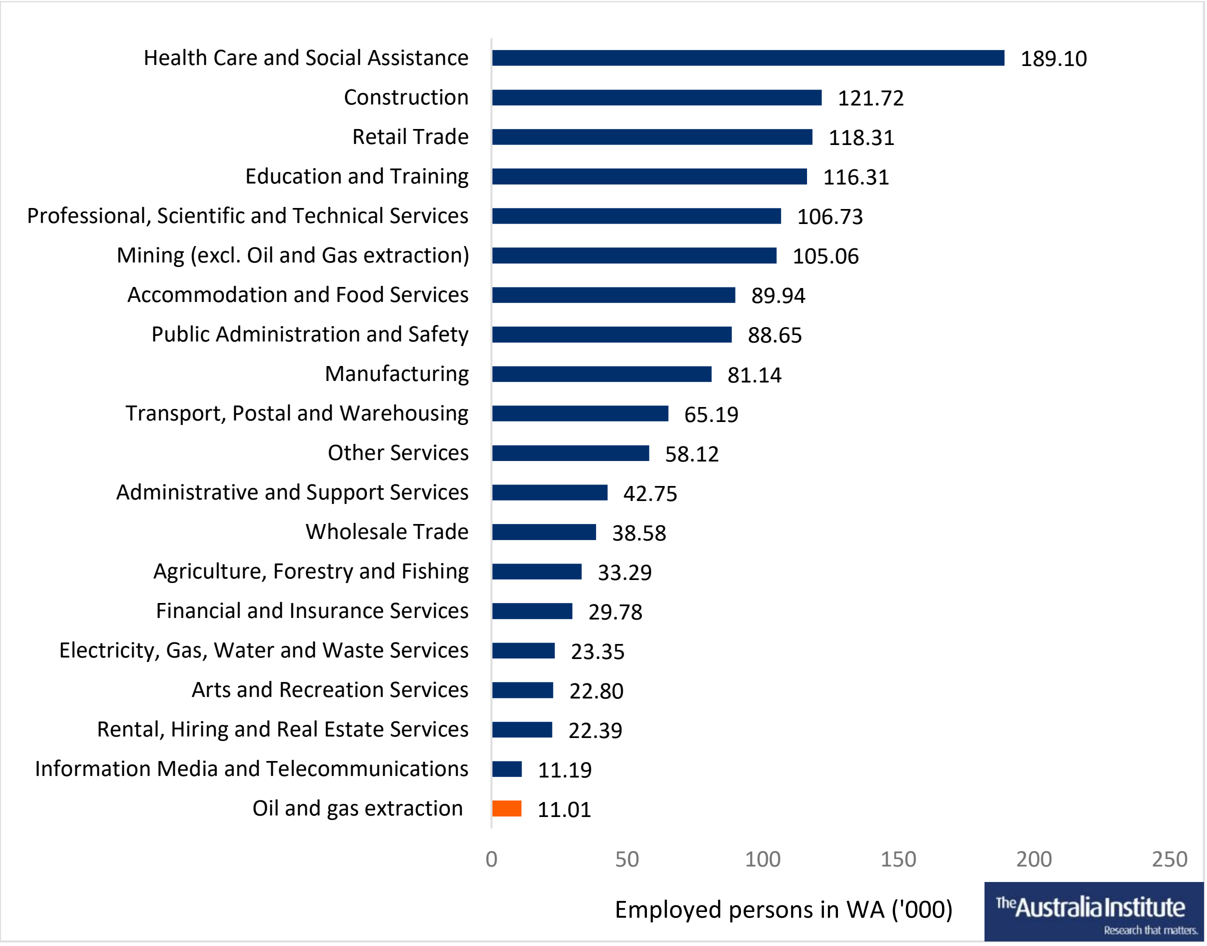
[50] Kraal (2017) *Review of Australia's Petroleum Resource Rent Tax: Implications from a case study of the Gorgon gas project,* https://ssrn.com/abstract=3042967

[51] Note: Dr. Kraal's estimate was published in September 2017. This conversion to AUD was conducted using the AUD/USD exchange rate of 0.7839 as published by the Reserve Bank of Australia - https://rba.gov.au/statistics/historical-data.html#exchange-rates

Employment in WA LNG Projects

The LNG industry employs very few people in Western Australia. Like the rest of Australia, WA's workforce is primarily service-based, with healthcare, retail, education and professional services among the highest employing industries in WA. Oil and gas extraction employs less than one percent of the workforce, as shown in Figure 3 below.

Figure 4: WA employment by industry, average across four quarters to May 2021



Source: ABS (2021) *6291.0.55.001 – EQ06 – Employed persons by Industry group of main job (ANZSIC), Sex, State and Territory, November 1984 onwards*, https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release

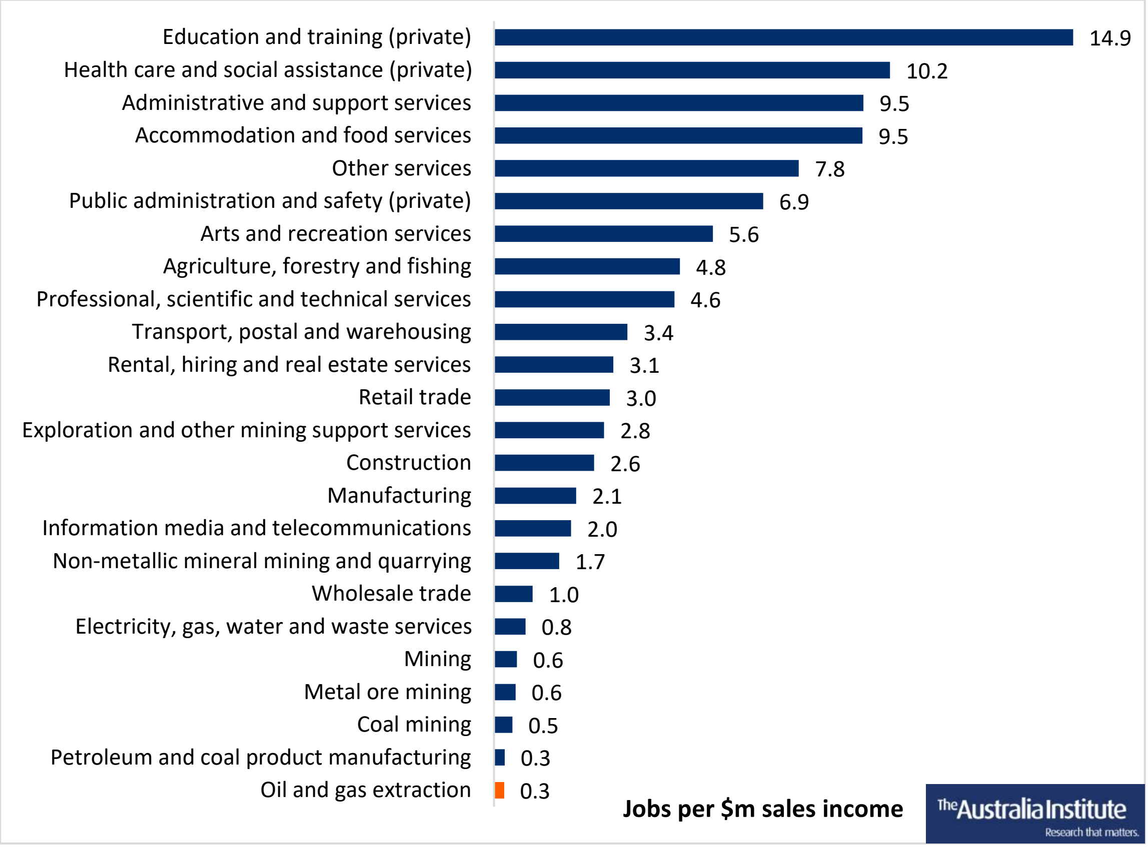
Despite the small number of jobs in the gas industry, the McGowan Government's LNG Jobs Taskforce was established to 'maximise local jobs' in partnership with the LNG industry.[52]

[52] WA Government (n.d.) *LNG Jobs Taskforce*, https://www.wa.gov.au/organisation/department-of-jobs-tourism-science-and-innovation/western-australias-lng-jobs-taskforce

Oil and gas extraction creates fewer jobs relative to sales than any other industry. As shown in Figure 4, education and training as an industry creates almost 15 jobs for every one million dollars in sales income. At the very bottom of the list are the highly capital intensive industries. Mining, including iron ore mining, creates 0.6 of a job for every one million dollars in income, but oil and gas extraction performs even more poorly with just 0.3 of one job. This is the lowest job intensity of any industry division, however other industry subdivisions (e.g. specific types of manufacturing, agriculture etc.) may perform more or less poorly than oil and gas extraction.

LNG is extremely capital intensive – it substitutes labour for machinery and other capital equipment in production. If the WA Government is seeking to create jobs for West Australians, it is better off supporting any other industry ahead of oil and gas extraction.

Figure 5: Job intensity of selected industries



Source: ABS (2021) *81550 Australian Industry 2018/19*, https://www.abs.gov.au/statistics/industry/industry-overview/australian-industry/latest-release#data-download

Oil and gas extraction is also a highly volatile employer for the few people it does provide jobs for. The oil and gas sector in Western Australia has been marred by sharp fluctuations in employment.

While this fluctuation is a feature of the industry more broadly, it was particularly apparent throughout the COVID-19 pandemic. From May 2020 to February 2021, as Australia's economy was recovering from the initial shock of pandemic-related shutdowns, the gas industry shed 10.5 per cent of its workers, the largest fall in employment of any industry.[53] This loss was offset across the labour force easily, as the gas industry is a very small employer and some other industries saw strong employment growth during the same period. While Australian employment increased overall, the oil and gas industry shed jobs.

The Australia Institute conducted a nationally representative survey of Australians on their views on various subjects related to climate and fossil fuels as part of its landmark annual Climate of the Nation report. Respondents were asked in 2021 what percentage of the Australian workforce was comprised of gas mining and exploration. On average, Australians believe that gas mining and exploration makes up 9.2 per cent of the total Australian workforce – when in reality it makes up around 0.2 per cent.[54] Australians overestimate the employment created by the gas industry by a factor of 46. This divergence of perception and reality assists the LNG industry, which seeks to exaggerate its role as a job creator and extract further support from government.

[53] Saunders & Denniss (2021) *Too little too late: Gas in the COVID recovery,* https://australiainstitute.org.au/report/too-little-too-late/

[54] Quicke (2021) *Climate of the Nation 2021: Tracking Australia's attitudes towards climate change and energy, p. 20,* https://australiainstitute.org.au/report/climate-of-the-nation-2021/

Fossil fuel subsidies

Australia is a world leader in producing and exporting fossil fuels, recently rising to the rank of the largest LNG exporter.[55] The wealth and political power of the fossil fuel industry has allowed it to pressure governments for large subsidies at both a state and federal level. The WA Government has been very kind to oil and gas extractors, reflecting the importance of the industry to gross state product (mining, including gas mining, accounted for 43 per cent of WA's Gross State Product in 2019/20).[56]

A recent report by The Australia Institute into fossil fuel subsidies in Australia classified government subsidies as either wholly, primarily or partly dedicated to supporting the fossil fuel industries.[57] The report, which in order to remain conservative and accurate only takes into account budget measures rather than accrued costs such as health and air quality, found that WA is subsidising the oil and gas industry, nearly all of which is made up by gas, to the tune of $94 million in 2020/21.

Table 2 shows that the Government will spend a total of $658 million on assisting fossil fuel industries, with $135 million budgeted for 2020/21. WA spent around $94 million on subsidies for the gas industry in 2020/21, which includes support for joint oil and gas projects (which are primarily focussed on gas production despite some production of oil).[58]

Table 5: Government of Western Australia 2020/21 fossil fuel subsidies

WA budget fossil fuel assistance	Total/capital value	2020-21 expenditure
Gas	$321,435,000	$57,565,000
Gas/Oil	$117,963,000	$36,544,000
Oil	N/A	$200,000
Coal	$216,670,000	$21,023,000
Various	$1,860,000	$20,076,000
Total	**$657,928,000**	**$135,408,000**

Source: Campbell, Littleton & Armistead (2021) *Fossil fuel subsidies in Australia,* https://australiainstitute.org.au/report/fossil-fuel-subsidies-in-australia/, originally drawn from Government of Western Australia (2020) *Budget Papers 2020-21*

[55] Department of Jobs, Tourism, Science and Innovation (2021) *Western Australia LNG Profile – May 2021,* https://www.wa.gov.au/government/publications/western-australias-economy-and-international-trade

[56] Department of Jobs, Tourism, Science and Innovation (2021) *WA Economic Profile May 2021,* https://www.wa.gov.au/sites/default/files/2021-06/WA%20Economic%20Profile%20-%20May%202021.docx

[57] Note: Methodology is available in Campbell, Littleton & Armistead (2021) *Fossil fuel subsidies in Australia: Federal and state government assistance to fossil fuel producers and major users 2020-21,* p. 7, https://australiainstitute.org.au/report/fossil-fuel-subsidies-in-australia/

[58] Campbell, Littleton & Armistead (2021) *Fossil fuel subsidies in Australia,* p. 38, https://australiainstitute.org.au/report/fossil-fuel-subsidies-in-australia/

Conclusion

The LNG industry's contribution to WA government revenue is meagre, as is its contribution to overall employment in Western Australia. Further, the industry receives significant subsidies from both the WA and Commonwealth governments.

The LNG industry does not contribute meaningfully to the economic wellbeing of Western Australia. Despite this, the LNG industry receives favourable treatment from the WA government, and seeks to portray itself as a core part of job creation and economic wellbeing.

Oil and gas extraction is one of the least job intensive industries, and if the WA Government is seeking to create jobs for West Australians, it is better off supporting any other industry ahead of oil and gas extraction.

LNG royalties in the form of North West Shelf Grants make up a small proportion of WA government revenue, with motor vehicle registration currently raising more money each year. NWS Grants are falling, both in monetary terms and as a proportion of total revenue, and a projected to fall below 1 per cent of revenue over the forward projections.

In the case of some LNG projects including Gorgon, Wheatstone and Prelude, Western Australia's natural resources are quite literally being given away for free, meaning that WA is losing out on potentially $1.06 billion per year in royalty payments.

The LNG industry does not meaningfully contribute to revenue or job creation in Western Australia, and the WA government would be better off supporting alternative industries to support jobs, generate revenue and reduce fossil fuel emissions.