

Gorgon Project - Carbon Dioxide Injection Project
Low Emissions Technology Demonstration Fund, Annual Report - 1 July 2020 – 30 June 2021
Chevron Australia Pty Ltd – 30 September 2021
Document Number ABU210902432

CONTROLLED DOCUMENT

Gorgon Project
Carbon Dioxide Injection Project
Low Emissions Technology Demonstration Fund
Annual Report
1 July 2020 – 30 June 2021

Chevron Australia Pty Ltd
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1 Executive summary

This is the twelfth annual report submitted by Chevron Australia Pty Ltd (Chevron) to the Department of Industry, Science, Energy and Resources (the Department) in accordance with Section 14 and Section 15.3 (Schedule 6) of the Low Emissions Technology Demonstration Fund, Funding Agreement dated 15 October 2008.

This report covers activities related to the Gorgon Carbon Dioxide Injection Project for the period 1 July 2020 to 30 June 2021.

Reservoir carbon dioxide (CO₂) injection operations commenced in the last reporting period and by mid cycle was injecting at full injection rates. Throughout the current period, the CO₂ system has been injecting carbon dioxide downhole, with a total of 2.26 million tonnes of CO₂ injected.

In late 2020, the Department of Mines, Industry Regulation and Safety (DMIRS) imposed an injection limit on the Asset which reduced the injection rate to 70 MMscfd due to issues with starting up the pressure management sites. This was initially flagged in the 2020 annual report. A de-sanding project was initiated to remediate the issue through an upgrade of the surface facilities to remove sand from the process stream and was successfully started up at both drill centres by the end of the reporting period. Chevron is working closely with the regulatory body on this issue and remains on track to meet the requirements of the conditional consent to operate by 30 November 2021.

In addition to the de-sanding project, the compressor capacity increase project was progressed to increase the discharge pressure of the carbon dioxide compressors, the objective of which was to enable sustained injection rates as pressure in the reservoir increases.

From a well and reservoir management perspective:

No degradation of CO₂ injectivity performance was observed during the reporting period.

The integrated monitoring programme incorporating multiple surface and well-based technologies is being used to inform operational and reservoir management decisions. There have been no reported anomalies.

Management activities focused on the interpretation and integration of monitoring and surveillance data in reservoir models and developing forecasts to inform short term operational decisions as well as the long-term CO₂ injection strategy.

To refine and improve reservoir forecasts and predictions various models were updated with the latest reservoir performance data

The expenditure statements from the reporting period are attached as appendixes to this report and contain information on operating expenditure in addition to the historically reported capital expenditure.

During the reporting period the project capital budget was revised from \$3,092 million to \$3,147 million to reflect an increase in expenditure on several facilities related line items. There have been no significant changes to the Project Plan, the Commercialisation Pathway Plan or the Intellectual Property Plan during the reporting period.

2 Project progress

2.1 General Gorgon project activities

The Gorgon Project is now operating in steady state mode.

As part of steady state operations major plant “turnarounds” are scheduled in accordance with the Asset management strategy where an individual LNG train is taken offline so that inspections, equipment maintenance/replacement and process upgrades can be performed. All three LNG processing trains have now undergone a turnaround event.

The Gorgon Joint Venture focus remains on ensuring process safety and improving the reliability and operability of the facility. Work continues to identify and implement further opportunities for process improvements and efficiency gains and undertaking additional field development activities to ensure the supply of gas to the facilities located on Barrow Island.

Through the Gorgon Stage 2 and Jansz-Lo Compression projects, , additional wells and subsea infrastructure will be added to the Gorgon and Jansz-Lo gas fields to maintain future gas supply to the three existing LNG trains and domestic gas plant. Additional information on the Gorgon Project can be found on the Chevron Australia web site at: <https://australia.chevron.com/our-businesses/gorgon-project>.

2.2 Carbon dioxide disposal management plan

The project authorisations obtained under the *Barrow Island Act 2003 (WA)* require injection operations be undertaken in accordance with an approved Carbon Dioxide Disposal Management Plan. These authorisations require the Plan to be regularly reviewed to ensure the plan remains up-to-date and consistent with current industry best practice for carbon dioxide injection and management. During the reporting period the Disposal Management Plan was reviewed and proposed revisions are being considered by the Department of Jobs Tourism Science and Innovation.

Figure 1 to Figure 4 show several images taken on and around injection drill centre A.



Figure 1: View looking over injection drill centre A.

The above shows the manifold and the injection wells (extreme right of image) and the gas processing plant in the background.



Figure 2: View of injection drill centre A.

The above shows the gas processing plant in the background.



Figure 3: Workers on the manifold at injection drill centre A.

The valves in the left of the image are used to isolate the flow of reservoir carbon dioxide into the individual injection wells.



Figure 4: Three of the wells (surface trees) at injection drill centre A.

The two wells closest to the reader are injection wells, the well closest to the worker is reservoir surveillance well A-SR-1.

2.3 CO₂ system remediation works

During the reporting year, two key projects were kicked off to support long term system reliability and availability. The first was a project to increase the discharge pressure of the carbon dioxide compressors with the objective of enabling injection rates to be sustained as reservoir pressure increases. All hardware has been installed with the project expected to start up in early 2022.

The second project is the surface facility upgrades at the two pressure management sites (Drill Centres D and E) undertaken during the reporting period. The project consists of installing sand management equipment at drill centres D and E to alleviate the observed high sand production from the producing wells. Equipment was installed and started up during the reporting period. Full production is expected to occur in second half of 2021.

2.4 CO₂ Injection Performance

The CO₂ system injected 2.26 million tonnes of CO₂ throughout the reporting period.

During the first half of the reporting period, injection rates matched the CO₂ volume extracted from the feed gas, essentially meeting its functional objective. Due to issues with starting up the pressure management sites in 2020, DMIRS imposed an injection limit on the Asset which reduced the injection rate to 70 MMscfd. Chevron is working closely with the regulator to satisfy the requirements and is on track to successfully complete this in Q4 2021.

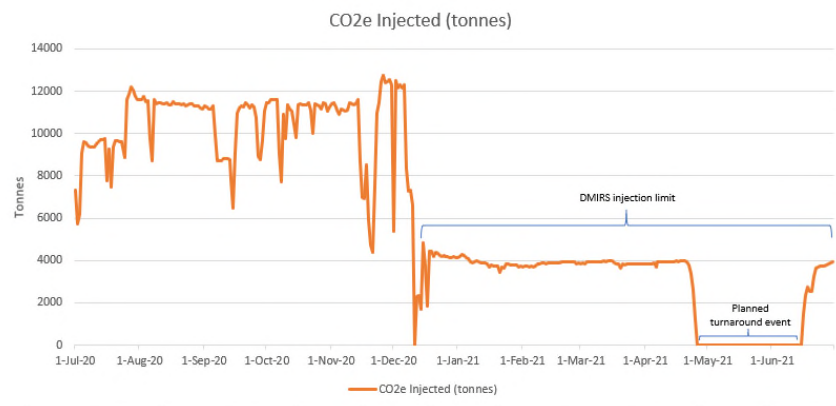


Figure 5: Provisional daily injection rates during the reporting period

2.5 Well related activities

2.5.1 Carbon dioxide injection wells

The CO₂ injection system was operational throughout the reporting period, except during the scheduled Gorgon Gas Plant turnaround (25 April – 16 June 2021).

No degradation of CO₂ injectivity performance was observed during the reporting period. Continuous monitoring of well conditions via subsurface and surface pressure and temperature gauges was recorded with no reported anomalies.

There were no well intervention activities on the CO₂ injection wells during the reporting period.

2.5.2 Pressure management wells

The 2020 annual report flagged issues with starting up the pressure management sites and identified a potential need for surface facility changes to remediate. A project has successfully commenced to upgrade the surface facilities to remove sand from the process stream. This consisted of engineering, procuring, installing and commissioning major sand removal equipment (hydrocyclones, filters, piping) on a brownfield site.

The key achievements and learnings to date are outlined below

The engineering, procurement, installation and commissioning of the required sand removal equipment was completed successfully during the time period with no recordable safety incidents.

Simultaneous operation of the three DC-E wells (two producers and one injector) was achieved in June 2021. Steady rate maintained and being monitored.

Simultaneous operation of the three DC-D wells is on track to be achieved in August 2021 after successful commissioning of each of the individual producers and the injector.

The solids removal facility is working effectively.

At the end of the reporting period, the team is well on track to meeting the required operational milestone and progressing optimisation opportunities for sustained, reliable and safe long-term operation.

The following well intervention activities were completed on the pressure management wells during the reporting period.

A workover was successfully completed in December 2020 to replace a failed electrical submersible pump (ESP) in water production well D-WP2.

A workover was successfully completed in February 2021 to perforate water injection well E-WI2 to remediate suspected near wellbore damage.

2.6 Subsurface studies

During the reporting period subsurface studies were focused on monitoring of reservoir performance, and construction of an updated reservoir model suite (Gen11).

2.6.1 Reservoir management

Management activities focused on the interpretation and integration of monitoring and surveillance data in reservoir models and developing forecasts to inform short term operational decisions as well as the long-term CO₂ injection strategy.

In December 2020 DMIRS imposed a CO₂ injection rate limit of 43 Kg/sec while the pressure management system was unavailable. Subsequent monitoring of downhole pressure in idle CO₂ injection wells showed a general decline in reservoir pressure in the vicinity of CO₂ injection throughout the first half of 2021.

During the reporting period activities were undertaken to improve performance of the pressure management system including installation of surface filtration equipment and well remediation (refer to Section 2.5.2). The pressure management system is designed to moderate rising reservoir pressure in Dupuy Formation, thereby maintaining long-term CO₂ injection capacity.

To refine and improve reservoir forecasts and predictions various models were updated with the latest reservoir performance data. Reservoir models, mechanical earth models, and flow simulation models were updated based on bottomhole pressure data from the wells during early injection & production, and with InSAR satellite data.

2.6.2 Gen11 reservoir modelling

During the reporting period, the updated Gen 11 static reservoir model suite was completed. These models incorporate the latest Dupuy Formation subsurface characterization (interpretation, seismic, well tops, well data, core) and were history matched with early injection/production data to selected representative P10, P50 and P90 models. These models will be used for operational decisions, plume forecasting, risk assessment, long term monitoring and identification of low side mitigation strategies.

Additionally, a Gen 11 3D Mechanical Earth Model (MEM) was generated using the new Gen 11 static model. In addition to rock flow properties, pressures and fluid saturations, mechanical earth models include detailed information regarding the mechanical properties of the rock and stresses in the reservoir, overburden, and side burden allowing geomechanical predictions to be made. The MEM incorporates 1D MEM data from 21 wells which have been calibrated with mechanical property data from 4 core wells and stress data from 8 wells, mostly from the Dupuy Formation. The 1D MEMs are further validated with formation micro image data from 15 wells. The bulk response of the 3D MEM is calibrated with InSAR data. The 3D MEM calibration exercise with InSAR data and updated Intersect history matching will be ongoing in 2021.

2.7 Monitoring program

An integrated monitoring programme has been developed incorporating multiple surface and well-based technologies and is being used to inform operational and reservoir management decisions.

During the reporting period, operational monitoring data was collected.

2.7.1 3D seismic

Plans have progressed for the first repeat seismic survey since commencement of CO₂ injection; the survey is scheduled for acquisition in late Q3 2021. The work plan includes reprocessing of the baseline 2017 GLCN survey data to be used for comparison with the 2021 GLCN survey data.

2.7.2 Cased hole logging

During the reporting period, cased hole saturation logging surveys were performed using the Halliburton TMD-3D tool in Reservoir Surveillance wells A-RS1 and C-RS2 in August 2020. Analysis of the results confirmed that the injected CO₂ had not swept this area of the Dupuy Formation at the time of the survey. The next saturation logging surveys are scheduled to be completed in late 2021.

Planning has continued for the acquisition of baseline production logging tool surveys in the injection wells. These surveys will involve running production logging tools in each of the nine carbon dioxide injection wells while they are actively injecting reservoir carbon dioxide. This will provide data on the injection profile across the Dupuy Formation in each well.

2.7.3 Micro-seismic data

The micro-seismic system passively monitors the northern portion of Barrow Island for very small seismic events (micro-seismicity) without the need to deploy an energy source such as those used on conventional seismic surveys. The monitoring network consists of an array of near surface and downhole seismic receivers and covers an area of 5 kms radius around the CO₂ injection and pressure management wells. The array can detect all events within the monitoring area greater than 0 M_w.

In February 2021 the micro-seismic array was expanded with additional near surface receivers and in June 2021 autonomous nodes were installed to the west to provide additional coverage near the pressure management drill centres.

Anytime fluids are injected or extracted from underground it is common to observe micro-seismic activity in response to the changes in pore pressure. Micro-seismic activity has been detected since the commencement of injection operations. All events are extremely low in magnitude, approximately 100 times lower than events that could be felt at surface.

2.7.4 Above zone pressure detection

The CO₂ Data Well has a permanent down-hole pressure gauge installed inside the production casing above the Basal Barrow Group Shale (BBGS). This is designed to measure the reservoir pressure in the lower Malouet Formation, the geological formation above the Dupuy Formation.

Data from that gauge showed pressure had stabilised over the reporting period. Wellhead pressure measurements and the down hole temperature gauge show no indications of reservoir carbon dioxide having entered the CO₂ Data Well.

2.7.5 InSAR

InSAR is a satellite-based geophysical technique where the primary objective is to infer the distribution of pressure away from CO₂ injectors and better understand stress changes in the reservoir by measuring small-scale changes in surface elevation.

Processed monitoring data is completed every 6-months, including September 2020 and March 2021. Observed surface uplift was 10% less than the expected (modelled) uplift. Models have been recalibrated to better predict surface elevation changes.

2.7.6 Groundwater and soil gas monitoring

Soil gas and groundwater monitoring was undertaken at three monthly intervals in all twelve monitoring locations. The soil gas and groundwater results were generally consistent with the baseline conditions prior to the commencement of injection operations.

2.7.7 Remote sensing imagery

During the reporting period, pre- and post-CO₂ injection high resolution satellite imagery was purchased in May-July 2019, June 2020 & June 2021. A review of this data is planned for 2021.

3 Project plan

There have been no significant changes to the Project plan during the reporting period. A copy of the Project Plan is provided in appendix "a" for reference only.

3.1 Project milestones

Table 3-1 sets out the project milestones and the milestone completion dates for the project. The project has now delivered on all the project milestones required under the Funding Agreement and as amended over the course of the funding agreement.

Table 3-1: Project milestones and progress

| Project milestone number | Description of milestone | Milestone completion date |
|--------------------------|---|---|
| 1 | Place orders for the carbon dioxide compressors | 21 October 2009 |
| 2 | Commence drilling of injection project wells | 28 September 2013 |
| 3 | Carbon dioxide pipeline installation complete | 25 November 2014 |
| 4 | Progress payment 1 \$20 million Delivery on Barrow Island of the first carbon dioxide injection compressor module | 19 June 2014 Payment claim submitted to the Department on 13 June 2014 |
| 5 | Delivery on Barrow Island of the second carbon dioxide injection compressor module | 4 February 2015 |
| 6 | Delivery on Barrow Island of the third carbon dioxide compressor module | 13 January 2016 |
| 7 | Nine injection wells drilled and ready for perforation and installation of well completions | 9 March 2015 |
| 8 | Progress Payment 2 \$20 million LNG Train 2 ready for start up | 7 September 2016 Payment claim submitted to the Department on 13 September 2016 |
| 9 | Progress Payment 3 \$20 million Ready for start-up of the first carbon dioxide compressor | 14 April 2017 Payment claim submitted to the Department on 11 May 2017 |
| 10 | Commencement of carbon dioxide injection operations | 6 August 2019 |

| Project milestone number | Description of milestone | Milestone completion date |
|--------------------------|--|---------------------------|
| 11 | LNG train 3 operational and injection project having injected one million tonnes of reservoir carbon dioxide | 15 January 2020 |

3.2 Joint venture structure

There have been no changes to the structure of the Gorgon Joint Venture during the reporting period. For reference only the Joint Venture structure is set out in appendix "b".

3.3 Authorisations

During the reporting period the Gorgon Joint Venture sought amendments to existing regulatory approvals to support the ongoing remediation and commissioning of the pressure management system; these mainly relate to approvals granted under the Petroleum Pipelines Act 1969 (WA), e.g. PL93 Consent to Operate extension; minor amendments to Environment Plan

3.4 Key personnel

Table 3-2 lists the key personnel engaged with the inject project as at the end of the reporting period.

Table 3-2: Key personnel

| Name of key personnel | Position |
|-----------------------|--|
| s 22 | Director, Operations Chevron Australia Pty Ltd |
| | Gorgon Deputy Operations manager Chevron Australia Pty Ltd |
| | Subsurface Producing Assets Manager Chevron Australia Pty Ltd |
| | Commercial Manager Base Business Chevron Australia Pty Ltd |
| | Business Planning Manager Chevron Australia Pty Ltd |

All formal notices under Clause 28 of the LETDF Deed should be forwarded to:

s 22
Business Planning Manager
Chevron Australia Pty Ltd
GPO Box S1580
Perth WA 6845

3.5 Approved subcontractors

During the reporting, period the list of approved contractors in Table 3-3 has been updated to reflect only those primary contractors that continue to be engaged on the Carbon Dioxide Injection Project.

Table 3-3 has been updated to reflect only those primary contractors that continue to be engaged on the Carbon Dioxide Injection Project.

Table 3-3: Subcontractors engaged in the carbon dioxide injection project

| Name of subcontractor | Work to be subcontracted |
|-----------------------|---|
| Eastern Well Services | Work over rig services |
| Expro | Well testing, well clean-up, pressure management site operation and associated services |
| UGL | Turnaround planning and field execution support |
| CCC | CO2 Anti-surge Compressor Engineering Support |
| Global Spill Control | provision of spill management products |
| Halliburton | Wire-line and logging services |
| Schlumberger | Wire-line and logging services Electric submersible pumps, Down hole pressure gauges |
| Baker Hughes | Carbon dioxide compressor engineering support Liner hangers, packers and sub-assemblies Well clean up tools and chemicals Fishing services |
| Weatherford | Tubular running and fishing services |
| TechnipFMC | wellhead and surface tree maintenance services |
| Worley | Engineering services and support |
| Oilfield Technologies | provision of laboratory and analysis services |
| E2O | Pressure Management site operations support |
| Contract Resources | Pressure Management site operations support |

3.6 Project branding

In accordance with Clause 26.1 of the Funding Deed, a Joint Branding Protocol was agreed with the Department on 30 August 2010. This Protocol sets out the procedures by which the Gorgon Joint Venture will recognise the Federal Government's funding contribution in external communications dealing with the Carbon Dioxide Injection Project.

4 Commercialisation and intellectual property

4.1 Commercialisation pathway Plan

There have been no changes to the Commercialisation Pathway Plan during the reporting period. A copy of the Commercialisation Pathway Plan is provided in appendix "c" for reference only.

Chevron continued to provide briefings and project updates to Federal and State Government regulators during the reporting period.

During the reporting period, the following project overviews and updates were provided:

s22, Director of Operations to the AOG Conference Opening Session, March 2021

s22, Developing the world's largest CO2 Injection System – a history of the Gorgon Carbon Dioxide Injection System, 15th Greenhouse Gas Control Technologies Conference, March 2021

s22, Overview of CCS in Australia to Women in Subsea Engineering, March 2021

4.2 Intellectual property plan

No changes have been made to the Intellectual Property Plan during the reporting period. A copy of the plan is provided in appendix d:for reference only.

No specific technologies have been developed by the Gorgon Joint Ventures that might constitute intellectual property that could be protected by patent.

4.3 Eligible expenditure and project budget

Chevron continues to review the project budget in line with progress made to date. During the reporting period the project capital budget was revised from \$3,092 million to \$3,147 million to reflect an increase in expenditure on several facilities related line items. Appendix "e" to this report provides a Project Expenditure Statement for the periods:

14 September 2009 to 30 June 2021
1 July 2020 to 30 June 2021
14 September 2009 to 30 June 2020.

As the injection project has now moved into operations, operating costs have been incurred. Appendix "f" to this report provides an Operations Expenditure Statement for the year 1 July 2020 to 30 June 2021.

Both the Project Expenditure Statement and the Operations Expenditure Statement include a series of notes that outline the basis of the compilation of the expenditure statements. These notes are integral to and should be read in conjunction with the accompanying expenditure statement.

Chevron's financial systems do not allow the differentiation of expenditure items as either 'eligible' or 'non-eligible' as defined in the Low Emissions Technology Demonstration Fund – Guide to Managing Your Grant. The expenditure statements

identify 'Eligible Expenditure' and 'Unclassified Expenditure'. 'Eligible Expenditure' is expenditure that meets the definitions in the Funding Deed and can be readily identified as expenditure solely for the injection project. Expenditure which cannot be readily differentiated as either 'eligible' or 'non-eligible' or that require an apportionment from larger project expenditures, is shown as 'Unclassified Expenditure'.

Despite the qualifications above, reported Eligible Expenditure has exceeded the two for one funding obligation underpinning the Low Emissions Technology Demonstration Fund program.

Appendix "g" to "i" to this report contains audit and review opinion and certification of other matters from Chevron Australia's independent auditors with respect to the expenditure statement included in appendix e:

| | |
|--------------|---|
| Appendix "g" | Review opinion – Project expenditure statement |
| Appendix "h" | Review opinion – Operations expenditure statement |
| Appendix "i" | Certification of other matters |

4.4 Additional funding

Since the commencement date of the Low Emissions Technology Demonstration Fund Deed for the Gorgon Carbon Dioxide Injection Project, no additional funds have been invested in the Project over and above that provided by the Gorgon Joint Venture participants and the LETDF grant funds.

4.5 Certification

I, s 22 being a Director of Chevron Australia Pty Ltd hereby certify that the information listed in this report is correct.

I further certify that the expenditure data included in this report as 'eligible expenditure' are understood by Chevron Australia Pty Ltd to include only expenditure eligible for the grant in accordance with Project No 03954.

s 22

Signature

Date:

appendix a: Project plan

Project aims

The primary aim for the Gorgon Carbon Dioxide Injection Project is the successful compression, transportation and underground injection of reservoir carbon dioxide extracted from the feed gas during gas processing operations on Barrow Island and the permanent containment of the injected reservoir carbon dioxide in the Dupuy Formation. The annual volume of reservoir carbon dioxide injected will vary over the operational life of the facility due to the natural variability of the carbon dioxide content and the production profiles of the Gorgon and Jansz fields supplying the gas processing facility on Barrow Island.

Gorgon project description

The Gorgon Joint Venturers are developing a 15.6 million tonne per annum Liquefied Natural Gas (LNG) plant and a domestic gas plant with 300 TJ/day capacity on Barrow Island, supplied with gas from both the Gorgon and Jansz gas fields.

The Gorgon Project consists of a subsea development for the production and transport of gas from the offshore gas fields to Barrow Island, and a gas processing facility located at Town Point on Barrow Island. LNG and condensate produced at the gas processing facility will be shipped directly to buyers from Barrow Island. Domestic gas will be supplied via a dedicated pipeline to the existing Western Australian natural gas pipeline grid.

It is proposed that reservoir carbon dioxide, which occurs naturally in the gas contained in the gas fields and is removed during a normal part of gas processing operations, will be compressed and transported via pipeline to three injection drill centres where it will be injected into the Dupuy Formation over 2km beneath Barrow Island. In addition, a range of associated infrastructure will be required on the Island to assist in reservoir management and in order to monitor the performance of the injected reservoir carbon dioxide.

The main components of the Gorgon Project are:

- the Jansz and Gorgon gas field wells and subsea facilities
- a feed gas pipeline from each of the Gorgon and Jansz fields to the gas processing facility on Barrow Island
- utility pipelines and umbilicals from Barrow Island to the Gorgon and Jansz gas fields required to operate the subsea production system
- a gas processing facility on Barrow Island (including three LNG processing trains, a domestic gas plant and condensate stabilisation facilities)
- port/marine facilities at Barrow Island
- water supply and disposal
- construction village and associated facilities
- facilities to compress, transport, and inject the reservoir carbon dioxide into the Dupuy Formation
- a mainland supply base
- other associated infrastructure such as upgrades to the airport, roads
- associated utilities.

Gorgon carbon dioxide injection project description

The Gorgon Carbon Dioxide Injection Project is a commercial-scale demonstration project with four main components:

- compression and dewatering of the reservoir carbon dioxide and transportation by pipeline to the injection well sites
- Injection into the Dupuy Formation reservoir

active reservoir pressure management of the Dupuy Formation
monitoring of the injected reservoir carbon dioxide.

The Gorgon Joint Venturers have undertaken a detailed study to identify the optimum location for the injection of reservoir carbon dioxide. These studies commenced in 1998 and considered possible injection locations within 300km of the Greater Gorgon area. These studies identified the Dupuy Formation below Barrow Island as the preferred injection location. A detailed site appraisal program was then undertaken which considered seven different injection scenarios associated with the Dupuy Formation before the final injection location was selected.

Issues considered in the selection of the preferred location include:

- maximising the distance of the injection wells from the major faults thereby reducing the risk of unpredicted migration;
- minimising the area of land disturbance required for the facilities on Barrow Island and ensuring any areas to be cleared are of lower environmental sensitivity when compared to other proposed locations on Barrow Island.
- identifying sites where the Dupuy Formation reservoir is at, or near, its maximum thickness.
- minimising the number of existing wells that will be intersected by the migrating carbon dioxide plume; and
- a preference for areas of better seismic data quality to assist in the monitoring of the carbon dioxide plume.

The reservoir carbon dioxide (containing minor quantities of hydrogen sulphide, methane and other hydrocarbons including traces of benzene, toluene, ethylbenzene, and xylene) will be sourced from the regeneration column in the carbon dioxide removal plant and piped to the carbon dioxide injection compressors. Six electrical driven multi-stage compressors will compress the carbon dioxide stream from approximately atmospheric pressure to the required injection pressure.

Dewatering of the reservoir carbon dioxide gas stream will be accomplished through the compressor inter-stage liquid knock-out facilities, assisted by high pressure gas recycle through the Dexpro Joule Thompson valve. After the reservoir carbon dioxide is compressed, it will be transported via a buried pipeline to the injection wellheads.

Nine injection wells have been drilled from three surface locations using directional drilling technology. The use of directional or deviated drilling from a limited number of surface locations has been chosen to minimize the environmental impact by limiting land use disturbance.

Figure 6 shows the layout of the injection wells and pressure management wells on Barrow Island and in relation to the location of the gas processing plant.

The reference case development concept includes the drilling of four pressure management wells outside the limits of the carbon dioxide plume. These wells will be used to extract water from the Dupuy Formation during the injection period, reducing pressure within the formation and ensuring reservoir pressure limits are not exceeded. The formation water produced from these pressure management wells will be injected via two wells into the overlying Barrow Group, which shows regional pressure depletion due to the oil production operations surrounding Barrow Island. The location of the pressure management wells are shown on Figure 6.

Service utilities such as electrical power, inert gas, instrument air, fuel gas system, freshwater system, fire water, accommodation and other supporting infrastructure will be required to support the Carbon Dioxide Injection Project. Most the utilities will be shared with the gas processing facility.

The Gorgon Carbon Dioxide Injection Project incorporates the monitoring of injected carbon dioxide. The data obtained from the monitoring program will provide invaluable information to researchers and other proponents of greenhouse gas storage.

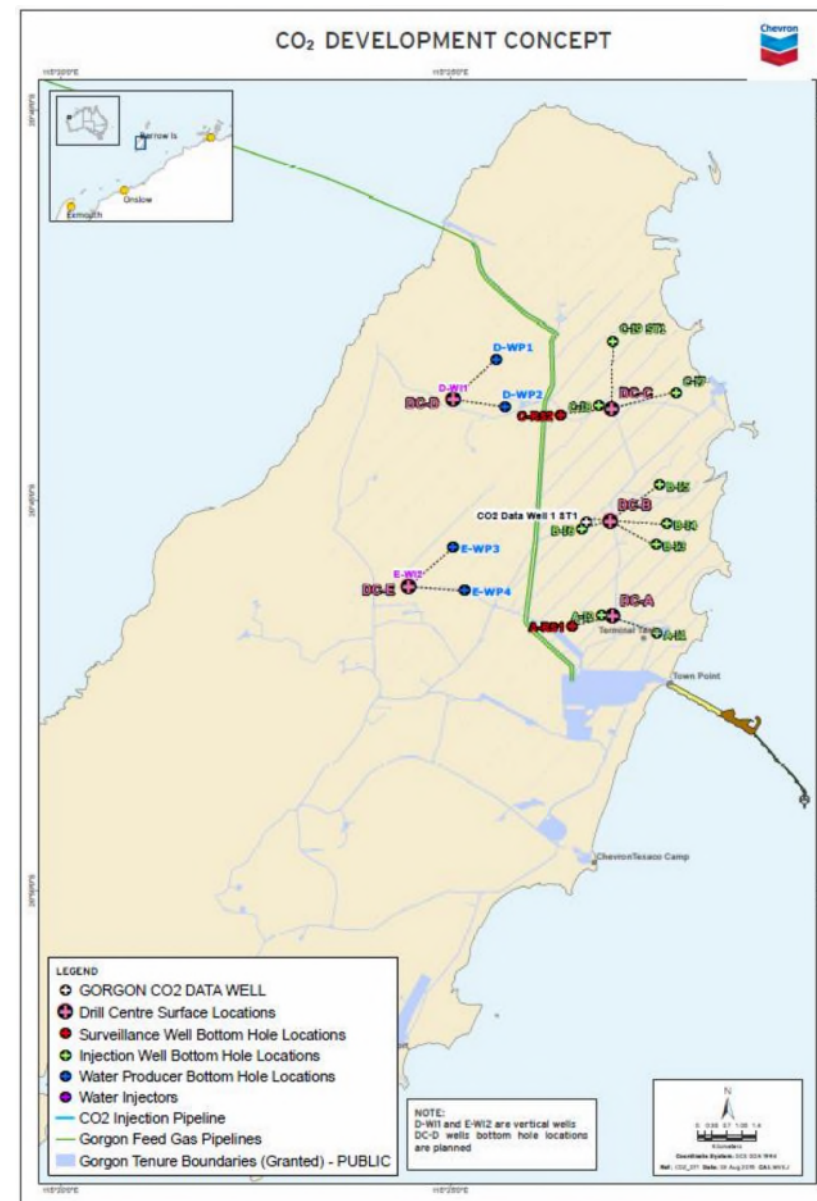


Figure 6: Carbon dioxide injection project – development concept

appendix b: Joint venture structure

Chevron Australia Pty Ltd is the operator of the Gorgon Project on behalf of several Joint Ventures, collectively referred to as the Gorgon Joint Venture. The gas processing operations on Barrow Island including those activities associated with the Carbon Dioxide Injection Project fall under the coverage of the Barrow Island Gas Processing joint venture agreement.

For information, only, the Gorgon Joint Venture participants with an interest in the Gorgon Carbon Dioxide Injection Project are shown in Table B-1.

Table B-1: Gorgon joint venture participants²

| Participant | Participating Interest/ Role |
|---|---|
| Chevron Australia Pty Ltd (ABN 29 086 189 757) | Project Operator and LETDF Recipient (no equity participation) |
| Chevron (TAPL) Pty Ltd (ABN 18 081 647 047) | 47.3330% Equity Participant |
| Mobil Australia Resources Company Pty Ltd (ABN 38 000 113 217) | 25.0000% Equity Participant |
| Shell Development (Australia) Pty Ltd (ABN 14 009 663 576) | 25.0000% Equity Participant |
| Osaka Gas Gorgon Pty Ltd (ABN 13 139 074 847) | 1.2500% Equity Participant |
| Tokyo Gas Gorgon Pty Ltd (ABN 16 138 592 042) | 1.0000% Equity Participant |
| JERA Gorgon Pty Ltd (ABN 94 140 107 464) | 0.4170% Equity Participant |

Both Chevron Australia Pty Ltd (ABN 29 086 189 757) and Chevron (TAPL) Pty Ltd (ABN 18 081 647 047) are wholly owned subsidiaries of Chevron Australia Holdings Pty Ltd (ABN 60 098 079 344) which is in turn ultimately a wholly owned subsidiary of Chevron Corporation of the USA.

Mobil Australia Resources Company Pty Ltd (ABN 38 000 113 217) is a wholly owned subsidiary of Mobil Exploration & Producing Australia Pty Ltd (ABN 81 004 588 827) which is a wholly owned subsidiary of ExxonMobil Australia Pty Ltd (ABN 48 091 561 198) which is in turn ultimately a wholly owned subsidiary of ExxonMobil Corporation of the USA.

Shell Development (Australia) Pty Ltd (ABN 14 009 663 576) is a wholly owned subsidiary of Shell Energy Holdings Australia Limited (ABN 69 054 260 776) which is in turn ultimately a wholly owned subsidiary of Royal Dutch Shell PLC of England.

The movement of carbon dioxide within the Dupuy Formation will be monitored to determine if it is behaving as predicted. The monitoring program will continue to be developed in line with improvements in monitoring technologies. As such, the following description should be considered as the reference case.

The reference case monitoring program involves a combination of surveillance wells and repeat seismic data acquisition. The Gorgon Project incorporates extensive management and monitoring of environmental factors. Included in this program is groundwater monitoring and the measurement of carbon dioxide flux rates in the surface that will be used to verify any surface leakage of the injected carbon dioxide.

Injection operations will be regulated in accordance with the approved Carbon Dioxide Disposal Management Plan¹. The primary objective of the Disposal Management Plan is to maximise the volume of reservoir carbon dioxide injected whilst ensuring that the injection does not pose a health or safety risk to people, an environmental risk to the conservation values of Barrow Island, or a risk to other assets such as oil or gas field operations around Barrow Island. The Disposal Management Plan will be regularly updated, ensuring it remains up-to-date and consistent with current industry best practice for carbon dioxide injection and management of injected carbon dioxide.

¹ The Carbon Dioxide Disposal Management Plan forms part of the project authorizations granted on September 14, 2009 in accordance with Section 13 of the *Barrow Island Act 2003 (WA)*.

² Joint Venture participants under the Barrow Island Gas Processing Agreement.

Osaka Gas Gorgon Pty Ltd (ABN 13 139 074 847) is a wholly owned subsidiary of Osaka Gas Australia Pty Ltd (ABN 49 093 246 381) which is in turn ultimately a wholly owned subsidiary of Osaka Gas Co., Ltd. of Japan.

Tokyo Gas Gorgon Pty Ltd (ABN 16 138 592 042) is a wholly owned subsidiary of Tokyo Gas Australia Pty Ltd (ABN 46 102 349 557) which is in turn ultimately a wholly owned subsidiary of Tokyo Gas Co., Ltd. of Japan.

JERA Gorgon Pty Ltd (ABN 94 140 107 464) is a wholly owned subsidiary of JERA Australia Pty Ltd (ABN 68 140 147 048) which is in turn ultimately a wholly owned subsidiary of JERA Co., Inc. of Japan.

appendix c: Commercialisation pathway plan

The aim of the Gorgon Carbon Dioxide Injection Project Commercialisation Pathway Plan is to contribute to the knowledge of carbon dioxide injection technology and manage the release of this knowledge to the marketplace. This Plan is not intended to outline a path for the commercialisation of greenhouse gas storage technology across a range of industry applications.

The aim of the Gorgon Joint Venturers are to:

- provide ongoing release of data to the public regarding the monitoring of carbon dioxide injection
- collaborate on an ongoing basis with research institutions and other interested proponents of this technology
- provide ongoing information to the market place regarding the benefits of carbon dioxide injection.

The objective of sharing the Intellectual Property regarding carbon dioxide injection and monitoring technology is to contribute significantly to the information base available to the community, government, researchers and other proponents of this technology and to keep the market place informed of carbon dioxide monitoring activities at the Gorgon Carbon Dioxide Injection Project on Barrow Island.

The availability of such information should facilitate Australia emerging as a centre of excellence in greenhouse gas storage technology and application.

In accordance with project authorisations under the *Barrow Island Act 2003 (WA)*, a Draft Carbon Dioxide Injection Data Retention Plan was submitted to the Barrow Island Act Minister on 13 September 2010.

Process for commercialisation

The process for developing the commercialisation of carbon dioxide injection and monitoring technology is to:

Research

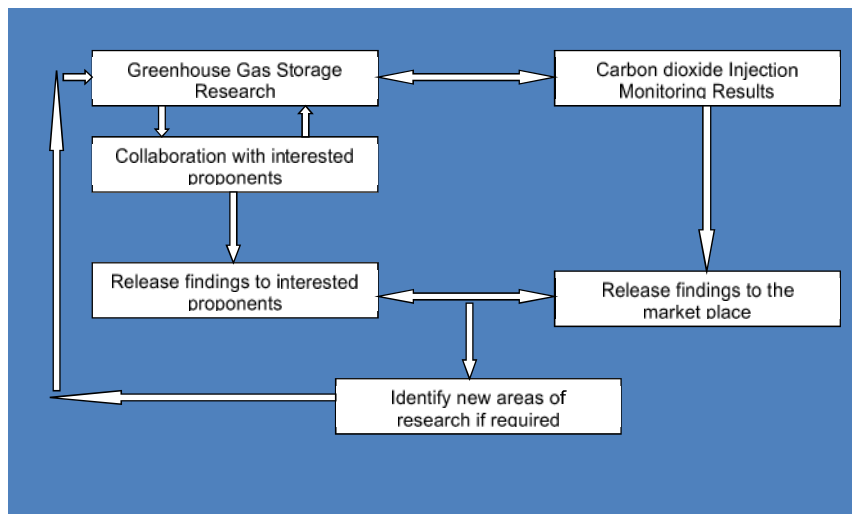
- Collaborate with researchers and other interested proponents of carbon dioxide injection technology to increase the knowledge surrounding this technology particularly as it relates to monitoring of carbon dioxide injection and storage;
- Release the findings of this research to government, researchers and other interested proponents of this technology;
- Release the findings of this research to the market place; and
- Commission additional research regarding carbon dioxide injection and monitoring where necessary.

Monitoring

- Release the findings of this research to government, researchers and other interested proponents of this technology in accordance with the Data Retention Plan; and
- Release the findings of the monitoring activities to the market place.

A summary of this commercialisation pathway is presented in the following figure.

Summary of the Gorgon Carbon Dioxide Injection Project Commercialisation Pathway



appendix d: Intellectual property plan

The Gorgon Carbon Dioxide Injection Project will use technology that is currently being used by the oil and gas industry worldwide:

- the capture of carbon dioxide from reservoir gas is a standard part of gas processing for LNG production

- the compression and transport of carbon dioxide by pipeline is well understood with over 4 000 kilometres of carbon dioxide pipelines in service in the USA, Canada, Turkey and Trinidad and Tobago with a total estimated capacity to transport 45 MTPA of carbon dioxide to producing fields to enhance oil recovery in a process known as Enhanced Oil Recovery (EOR)

- the drilling and operating of injection wells is occurring at, for example, EOR projects including approximately 20 to 30 MTPA of carbon dioxide being injected in the USA for EOR. Demonstration greenhouse gas storage projects occur around the world e.g. 1 MTPA being injected at both the Sleipner Project and the Snohvit Project in project in Norway

- techniques such as seismic surveys and downhole sensing (e.g. wireline logging; pressure/flow tests) which may be applied to the monitoring of injected carbon dioxide are common oil field practices.

It is not expected at this stage that new intellectual property will be generated in the capture, pipeline and injection of carbon dioxide as both the hardware and software (including management procedures) of the processes are current industry practice.

The monitoring and verification of carbon dioxide behavior following injection will build on existing worldwide knowledge of carbon dioxide behavior in the subsurface and in doing so could generate new intellectual property regarding long term geologic storage of carbon dioxide.

The areas of intellectual property that may have relevance to the Gorgon Carbon Dioxide Injection Project are:

- patents to protect inventions as new or improved products and processes
- copyright to protect computer programs and engineering drawings (this protection applies automatically as the work is created).

To date no specific technologies have been developed by the Gorgon Joint Venturers that might constitute intellectual property that could be protected by patent. This in part arises from the observation that while carbon dioxide injection as a greenhouse gas emissions mitigation tool is new, the underlying technologies are well established in the oil and gas industry. In addition, large numbers of researchers are also working in the field.

Areas where technology development has occurred as a result of the Gorgon Carbon Dioxide Injection Project include:

- development of computer code dealing with carbon dioxide behavior for the purposes of reservoir simulation - similar coding has been developed and is now included in the commercially available reservoir simulators
- carbon dioxide flood samples on core data - there is no identifiable published information on this type of core analysis, but the techniques are somewhat similar to those widely used for analysis of core data in the petroleum industry.

Areas where future technology development could result in intellectual property include:

improved seismic imaging technology - however, it is difficult to foresee the development of new acquisition technologies or processing algorithms without significant investment outside the Carbon Dioxide Injection Project innovative monitoring techniques such as soil gas flux metering - it is unclear if these would involve patentable technologies.

appendix e: Project operations expenditure statement and notes

Commitment to make monitoring data available

The Joint Venturers have committed to publicly release information from the ongoing carbon dioxide injection monitoring program. A decision as to the processes for making this data publicly available will be determined closer to the time injection operations are to commence.

The Gorgon Project will be one of the world's largest carbon dioxide injection projects. It will have benefits for both the Western Australian and Commonwealth Governments. This value stems from the potential for the Gorgon Carbon Dioxide Injection Project to add to the scientific and engineering knowledge around the commercial scale deployment of greenhouse gas storage, facilitating the wider uptake of the technology.

The existing undertaking to make data on the monitoring activities publicly available enables government to have confidence that this project will contribute significantly to the information base available to government, researchers and other proponents of this technology. The availability of such information should facilitate Australia emerging as a centre of excellence in greenhouse gas storage technology and its application. It will also assist in the public acceptance of greenhouse gas storage as a viable and safe option for the abatement of greenhouse gas emissions.

Options for the public release of data

While the Gorgon Joint Venturers are yet to determine a process for making monitoring data available to the public, It's likely that appropriate data submitted to the Western Australian Department of Mines, Industry Regulation and Safety (DMIRS), may be made available to the public by DMIRS through their Western Australian Petroleum and Geothermal Information Management System (WAPIMS) data base. The actual release of data through this process will be timed to allow the Gorgon Joint Venture sufficient time to process, interpret and analyse the results and integrate the monitoring data into the project management plans before the information is made publicly available.

Ownership of intellectual property

The Gorgon Carbon Dioxide Injection Project involves researchers, the Gorgon Joint Venture participants and subcontractors working together to design, construct and operate the project.

Intellectual property owned by contractors working on the Gorgon Project will be extensively utilised but not transferred to the Gorgon Joint Venturers. The intellectual property retained by contractors is likely to be made available to others seeking to utilise the services of these contractors.

Intellectual property generated as a result of the Gorgon Carbon Dioxide Injection Project could either be retained and made commercially available by the individual Gorgon Joint Venture participants or shared at no cost through the commitments previously made by the Gorgon Joint Venturers.

| CO2 Project Expenditure Statement For the Period 14 September 2009 to 30 June 2021 | | | | | | CO2 Project Expenditure Statement For the Period 1 July 2020 to 30 June 2021 | | | | | | CO2 Project Expenditure Statement For the Period 14 September 2009 to 30 June 2020 | | | | | |
|---|---|--------------------------------|----------------------------------|---|---|---|---|---|---|----------|---|---|---|----------|---|---|---|
| Comprised of: | | | | | | Comprised of: | | | | | | Comprised of: | | | | | |
| Ref | Item | Previous Budget (A\$ Millions) | Budget Last Updated 30 June 2021 | Total Actual Expenditure to Date (\$A Millions) | Eligible Expenditure to Date (A\$ Millions) | Unclassified Expenditure (A\$ Millions) | Total Actual Expenditure to Date (\$A Millions) | Eligible Expenditure to Date (A\$ Millions) | Unclassified Expenditure (A\$ Millions) | Reviewed | Total Actual Expenditure to Date (\$A Millions) | Eligible Expenditure to Date (\$A Millions) | Unclassified Expenditure to Date (\$A Millions) | Reviewed | Total Actual Expenditure to Date (\$A Millions) | Eligible Expenditure to Date (\$A Millions) | Unclassified Expenditure (A\$ Millions) |
| a | Carbon dioxide injection compressors (three compressor trains each consisting of two electric drive multi stage compressors) | \$ 760.2 | \$ 760.2 | \$ 758.7 | \$ 230.6 | \$ 528.1 | \$ 2.9 | \$ - | \$ 2.9 | | \$ 756.8 | \$ 230.6 | \$ 526.2 | | \$ 756.8 | \$ 230.6 | \$ 526.2 |
| b | Electrical power generation costs (to power the injection compressors) | \$ 157.4 | \$ 157.4 | \$ 157.9 | \$ - | \$ 157.9 | \$ 0.5 | \$ - | \$ 0.5 | | \$ 157.4 | \$ - | \$ 157.4 | | \$ 157.4 | \$ - | \$ 157.4 |
| c | Carbon Dioxide Pipeline (including pig launchers and receivers) | \$ 102.4 | \$ 102.4 | \$ 102.4 | \$ 81.8 | \$ 20.5 | \$ 0.0 | \$ - | \$ 0.0 | | \$ 102.4 | \$ 81.8 | \$ 20.5 | | \$ 102.4 | \$ 81.8 | \$ 20.5 |
| d | Facilities related indirect costs (detailed engineering, construction management, project management, special logistics including quarantine, camp costs and commissioning) | \$ 1,062.0 | \$ 1,062.0 | \$ 1,090.0 | \$ 122.8 | \$ 967.3 | \$ 2.1 | \$ - | \$ 2.1 | | \$ 1,087.9 | \$ 122.8 | \$ 965.1 | | \$ 1,087.9 | \$ 122.8 | \$ 965.1 |
| e | Downstream contingency | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | | \$ - | \$ - | \$ - | | \$ - | \$ - | \$ - |
| f | Downstream Owners costs | \$ 134.3 | \$ 134.3 | \$ 105.0 | \$ - | \$ 105.0 | \$ 0.2 | \$ - | \$ 0.2 | | \$ 104.9 | \$ - | \$ 104.9 | | \$ 104.9 | \$ - | \$ 104.9 |
| g | Drill Centre facilities (facilities at each of three drill centres, including site works, manifolds and well control systems) | \$ 115.0 | \$ 115.0 | \$ 114.9 | \$ 56.7 | \$ 58.2 | \$ 0.7 | \$ - | \$ 0.7 | | \$ 114.1 | \$ 56.7 | \$ 57.5 | | \$ 114.1 | \$ 56.7 | \$ 57.5 |
| h | Drill and complete nine injection wells | \$ 235.9 | \$ 235.9 | \$ 235.9 | \$ 151.3 | \$ 84.6 | \$ - | \$ - | \$ - | | \$ 235.9 | \$ 151.3 | \$ 84.6 | | \$ 235.9 | \$ 151.3 | \$ 84.6 |
| i | Drill and equip four reservoir surveillance wells (two wells to be drilled at commencement of project) | \$ 41.9 | \$ 41.9 | \$ 41.2 | \$ 28.2 | \$ 13.0 | \$ - | \$ - | \$ - | | \$ 41.2 | \$ 28.2 | \$ 13.0 | | \$ 41.2 | \$ 28.2 | \$ 13.0 |
| j | Pressure management facilities (facilities at each of the four pressure management wells sites including site works, manifolds, control systems, electrical supply and pumps) | \$ 6.0 | \$ 6.0 | \$ 6.0 | \$ - | \$ 6.0 | \$ - | \$ - | \$ - | | \$ 6.0 | \$ - | \$ 6.0 | | \$ 6.0 | \$ - | \$ 6.0 |
| k | Drill and complete four water production wells | \$ 73.0 | \$ 73.0 | \$ 74.1 | \$ 50.7 | \$ 23.4 | \$ - | \$ - | \$ - | | \$ 74.1 | \$ 50.7 | \$ 23.4 | | \$ 74.1 | \$ 50.7 | \$ 23.4 |
| l | Drill and complete two water injection wells | \$ 38.2 | \$ 41.0 | \$ 46.5 | \$ 22.3 | \$ 24.3 | \$ 6.7 | \$ - | \$ 6.7 | | \$ 38.8 | \$ 22.3 | \$ 17.6 | | \$ 38.8 | \$ 22.3 | \$ 17.6 |
| m | Remediate three existing well penetrations so as to ensure fit for service | \$ 5.3 | \$ 5.3 | \$ 4.3 | \$ 3.7 | \$ 0.6 | \$ - | \$ - | \$ - | | \$ 4.3 | \$ 3.7 | \$ 0.6 | | \$ 4.3 | \$ 3.7 | \$ 0.6 |
| n | Remediation of existing CO2 data well at year 3 | \$ 9.7 | \$ 9.7 | \$ 9.6 | \$ 8.6 | \$ 1.0 | \$ - | \$ - | \$ - | | \$ 9.6 | \$ 8.6 | \$ 1.0 | | \$ 9.6 | \$ 8.6 | \$ 1.0 |
| o | Drilling related engineering, supervision and management costs (including allowance for contingency and cyclone related down time) | \$ 97.0 | \$ 97.0 | \$ 89.9 | \$ 133.2 | \$ 43.3 | \$ - | \$ - | \$ - | | \$ 89.9 | \$ 133.2 | \$ 43.3 | | \$ 89.9 | \$ 133.2 | \$ 43.3 |
| p | Subsurface Seismic Baseline | \$ 20.9 | \$ 20.9 | \$ 21.0 | \$ 20.0 | \$ 1.0 | \$ - | \$ - | \$ - | | \$ 21.0 | \$ 20.0 | \$ 1.0 | | \$ 21.0 | \$ 20.0 | \$ 1.0 |
| q | CO2 Management | \$ 22.6 | \$ 22.6 | \$ 22.6 | \$ 1.3 | \$ 21.3 | \$ - | \$ - | \$ - | | \$ 22.6 | \$ 1.3 | \$ 21.3 | | \$ 22.6 | \$ 1.3 | \$ 21.3 |
| r | CO2 Injection Subsurface Owners Team | \$ 78.9 | \$ 78.9 | \$ 78.3 | \$ 5.3 | \$ 73.0 | \$ - | \$ - | \$ - | | \$ 78.3 | \$ 5.3 | \$ 73.0 | | \$ 78.3 | \$ 5.3 | \$ 73.0 |
| s | CO2 Injection Drilling Team | \$ 127.4 | \$ 127.4 | \$ 127.4 | \$ 3.7 | \$ 123.7 | \$ - | \$ - | \$ - | | \$ 127.4 | \$ 3.7 | \$ 123.7 | | \$ 127.4 | \$ 3.7 | \$ 123.7 |
| t | CO2 Capacity Increase Project | \$ 3.7 | \$ 28.4 | \$ 14.5 | \$ 0.3 | \$ 14.3 | \$ 12.0 | \$ - | \$ 12.0 | | \$ 2.5 | \$ 0.3 | \$ 2.2 | | \$ 2.5 | \$ 0.3 | \$ 2.2 |
| u | CO2 Pressure Management | \$ - | \$ 27.3 | \$ 19.9 | \$ - | \$ 19.9 | \$ 19.9 | \$ - | \$ 19.9 | | \$ - | \$ - | \$ - | | \$ - | \$ - | \$ - |
| Total Expenditure | | \$ 3,091.9 | \$ 3,146.7 | \$ 3,121.2 | \$ 920.4 | \$ 2,200.8 | \$ 45.1 | \$ - | \$ 45.1 | | \$ 3,076.2 | \$ 920.4 | \$ 2,155.8 | | \$ 3,076.2 | \$ 920.4 | \$ 2,155.8 |
| Funding under the LETDF | | \$ 60.0 | \$ 60.0 | \$ 60.0 | \$ 60.0 | \$ - | \$ - | \$ - | \$ - | | \$ 60.0 | \$ 60.0 | \$ - | | \$ 60.0 | \$ 60.0 | \$ - |
| GRAND TOTAL | | \$ 3,031.9 | \$ 3,086.7 | \$ 3,061.2 | \$ 860.4 | \$ 2,200.8 | \$ 45.1 | \$ - | \$ 45.1 | | \$ 3,016.2 | \$ 880.4 | \$ 2,155.8 | | \$ 3,016.2 | \$ 880.4 | \$ 2,155.8 |

Notes

- The capital budget excludes historical costs associated with the exploration and appraisal of the injection site and front end engineering costs incurred prior to the Project's Final Investment Decision on 14 September 2008.
- Unclassified expenditure includes all expenditure incurred in relation to the CO2 Project that may not be classified as Eligible Expenditure, including but not limited to:
 - Requisitioned quantities of CO2 bulks and tagged equipment based on estimated percentage allocations.
 - CO2 Project's share of Downstream Facilities indirect costs based on estimated percentage allocations.
 - CO2 Project's share of Gorgon Downstream Owners costs based on estimated percentage allocations.
 - CO2 Project team Timewrite charges.
 - Other General & Administrative (G&A) and Chevron Supply Chain allocations.



Chevron Australia Pty Ltd
Notes to the CO2 Project Expenditure Statement
For the period 14 September 2009 to 30 June 2021

Note 1 Basis of Accounting

This Expenditure Statement has been prepared to meet the requirements of the Low Emissions Technology Demonstration Fund Deed dated 15 October 2008 (the Deed) between Chevron Australia Pty Ltd and the Commonwealth of Australia. Significant accounting policies applied in the compilation of the report include:

(a) Eligible Income and Expenditure

Income as reported in the CO2 Project Expenditure Statement (the Statement) as eligible income includes, where applicable:

- Funding received under the Deed from the Commonwealth for the reporting period to be applied to eligible expenditure
- Proceeds from borrowings raised for the reporting period to be applied to eligible expenditure
- Proceeds from equity raised for the reporting period to be applied to eligible expenditure

Expenditure as reported in the Statement only includes expenditure that is defined as eligible in the Deed and the *Low Emissions Technology Demonstration Fund Customer Information Guide* (LETDF Guide) and reflects only cash spending on the project without accrual.

Consistent with the definition of eligible expenditure in the Deed, relevant Project expenditure is only classified as eligible up to the achievement of the final Project Milestone 11 which was achieved on 15 January 2020. All Project expenditure incurred after this date has been reported as unclassified consistent with the disclosure below.

(b) Unclassified Project Income and Expenditure

Income as reported in the Statement as Unclassified Project Income includes, where applicable, all income received in relation to the project that may not be considered eligible income as defined in Note 1 (a).

Expenditure as reported in the Statement as Unclassified Project Expenditure includes all expenditure incurred in relation to the project that may not be considered eligible as defined in Note 1 (a).

Note 2 Related Parties

The following summarises the entities that are considered related parties to Chevron Australia Pty Ltd in accordance with Clause 32.1 of the Deed; the nature of the relationship and the value and nature of transactions that have flowed between Chevron Australia Pty Ltd and the related party in relation to this project for the reporting period 1 July 2020 to 30 June 2021.

| Related party | Nature of relationship | Eligible expenditure paid to / (by) related party | Unclassified project expenditure paid to / (by) related party |
|---------------------------------------|------------------------|---|---|
| Chevron Energy and Technology Company | Chevron Group Company | \$nil | AUD \$72K |

Chevron Australia Pty Ltd has complied with the requirements of the LETDF Customer Information Guide in relation to the above transactions.

Note 3 Update to Budget Numbers

As required by the Deed, budget numbers have been updated. Overall, the 1.8% increase in the budget from 2020 is mainly related to the Constraints, Threats and Opportunities (CTO) initiative relating to the CO2 System – Operability and Integrity. This initiative has been framed to develop and assess short and long-term strategies to manage dew point concerns that will allow safe start-up, ongoing operation and safe shutdown of the CO2 pipeline system. A detailed commentary on the changes is provided here:

Comments on Significant Changes to Project Budget

| Item | Previous Budget as of 30 June 2020 (A\$ Millions) | Updated Budget as of 30 June 2021 (A\$ Millions) | Movement (A\$ Millions) | Comment |
|---|---|--|-------------------------|---------|
| Carbon dioxide injection compressors (three compressor trains each consisting of two electric drive multi stage compressors) | \$ 760.2 | \$ 760.2 | \$ 0.0 | |
| Electrical power generation costs (to power the injection compressors) | \$ 157.4 | \$ 157.4 | \$ 0.0 | |
| Carbon Dioxide Pipeline (including pig launchers and receivers) | \$ 102.4 | \$ 102.4 | \$ 0.0 | |
| Facilities related indirect costs (detailed engineering, construction management, project management, special logistics including quarantine, camp costs and commissioning) | \$ 1,062.0 | \$ 1,062.0 | \$ 0.0 | |
| Downstream Owners costs | \$ 134.3 | \$ 134.3 | \$ 0.0 | |
| Drill Centre facilities (facilities at each of three drill centres, including site works, manifolds and well control systems) | \$ 115.0 | \$ 115.0 | \$ 0.0 | |
| Drill and complete nine injection wells | \$ 235.9 | \$ 235.9 | \$ 0.0 | |
| Drill and equip four reservoir surveillance wells (two wells to be drilled at commencement of project) | \$ 41.9 | \$ 41.9 | \$ 0.0 | |

| Item | Previous Budget as of 30 June 2020 (A\$ Millions) | Updated Budget as of 30 June 2021 (A\$ Millions) | Movement (A\$ Millions) | Comment |
|---|---|--|-------------------------|--|
| Pressure management facilities (facilities at each of the four pressure management wells sites including site works, manifolds, control systems, electrical supply and pumps) | \$ 6.0 | \$ 6.0 | \$ 0.0 | |
| Drill and complete four water production wells | \$ 73.0 | \$ 73.0 | \$ 0.0 | |
| Drill and complete four water injection wells | \$ 38.2 | \$ 41.0 | \$ 2.8 | Remediation scopes on pressure management wells. |
| Remediate three existing well penetrations so as to ensure fit for service | \$ 5.3 | \$ 5.3 | \$ 0.0 | |
| Remediation of existing CO2 data well at year 3 | \$ 9.7 | \$ 9.7 | \$ 0.0 | |
| Drilling related engineering, supervision and management costs (including allowance for contingency and cyclone related down time) | \$ 97.0 | \$ 97.0 | \$ 0.0 | |
| Subsurface Seismic Baseline | \$ 20.9 | \$ 20.9 | \$ 0.0 | |
| CO2 Management | \$ 22.6 | \$ 22.6 | \$ 0.0 | |
| CO2 Injection Subsurface Owners Team | \$ 78.9 | \$ 78.9 | \$ 0.0 | |
| CO2 Injection Drilling Team | \$ 127.4 | \$ 127.4 | \$ 0.0 | |
| CO2 Capacity Increase Project | \$ 3.7 | \$ 28.4 | \$ 24.7 | Engineering costs related to CO2 capacity increase. |
| CO2 Pressure Management | \$ 0.0 | \$ 27.3 | \$ 27.3 | Costs relating to pressure management at CO2 sites and to assess solutions |
| Total | \$ 3,091.9 | \$ 3,146.7 | \$ 54.8 | |

Note 4 Unclassified Expenditure for Requisitioned Quantities of Bulks and Tagged Equipment

Consistent with previous LETDF submissions, Chevron Australia Pty Ltd has included unclassified CO2 project expenditure relating to tagged and bulk equipment. The following ITD expenditure has been included in the 1 July 2020 to 30 June 2021 reporting period to maintain consistency with previously unclassified expenditure as detailed in the previous years' reports. Please see below the breakdown of expenditure for the current and prior reporting periods.

| Tagged Equipment (AUD Millions) | FID - June 20 | 1 July 20 – 30 June 21 | Total ITD |
|---|-----------------|------------------------|-----------------|
| Carbon dioxide injection compressors (three compressor trains each consisting of two electric drive multi stage compressors) | \$ 37.4 | \$ 0.0 | \$ 37.4 |
| Electrical power generation costs (to power the injection compressors) | \$ 73.3 | \$ 0.0 | \$ 73.3 |
| Carbon Dioxide Pipeline (including pig launchers and receivers) | \$ 1.7 | \$ 0.0 | \$ 1.7 |
| Drill Centre facilities (facilities at each of three drill centres, including site works, manifolds and well control systems) | \$ 7.0 | \$ 0.0 | \$ 7.0 |
| Pressure management facilities (facilities at each of the four pressure management wells sites including site works, manifolds, control systems, electrical supply and pumps) | \$ 2.6 | \$ 0.0 | \$ 2.6 |
| Grand Total | \$ 122.0 | \$ 0.0 | \$ 122.0 |

| Bulk Equipment (AUD Millions) | FID - June 20 | 1 July 20 – 30 June 21 | Total ITD |
|---|----------------|------------------------|----------------|
| Carbon dioxide injection compressors (three compressor trains each consisting of two electric drive multi stage compressors) | \$ 56.7 | \$ 0.0 | \$ 56.7 |
| Electrical power generation costs (to power the injection compressors) | \$ 5.7 | \$ 0.0 | \$ 5.7 |
| Carbon Dioxide Pipeline (including pig launchers and receivers) | \$ 3.5 | \$ 0.0 | \$ 3.5 |
| Drill Centre facilities (facilities at each of three drill centres, including site works, manifolds and well control systems) | \$ 12.7 | \$ 0.0 | \$ 12.7 |
| Pressure management facilities (facilities at each of the four pressure management wells sites including site works, manifolds, control systems, electrical supply and pumps) | \$ 3.5 | \$ 0.0 | \$ 3.5 |
| Grand Total | \$ 82.1 | \$ 0.0 | \$ 82.1 |

appendix f: Operations expenditure statement and notes

| CO2 Operations Expenditure Statement For the Period 1 July 2020 to 30 June 2021 | | | |
|--|---|---|--|
| Comprised of: | | | |
| Item | Total Actual Expenditure to Date (\$A Millions) | Eligible Expenditure to Date (\$A Millions) | Unclassified Expenditure (\$A Millions)- Reviewed |
| CO2 Reservoir Management | \$ 13.2 | \$ - | \$ 13.2 |
| CO2 Equipment Maintenance | \$ 2.4 | \$ - | \$ 2.4 |
| CO2 Wells Maintenance | \$ 3.2 | \$ - | \$ 3.2 |
| CO2 Labour | \$ 5.6 | \$ - | \$ 5.6 |
| CO2 Other Operational Expenditure | \$ 1.2 | \$ - | \$ 1.2 |
| GRAND TOTAL | \$ 25.6 | \$ - | \$ 25.6 |

Note:

Other Operational Expenditure relates to Lab Co2 testing, CO2 Fees & Licenses and third party HES Safety Case Risk

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BWI Finance Manager
 Chevron Australia Pty Ltd

24th September 2021



Chevron Australia Pty Ltd
Notes to the CO2 Operations Expenditure Statement
For the period 1 July 2020 to 30 June 2021

Note 1 Basis of Accounting

This CO2 Operations Expenditure Statement has been prepared to meet the requirements of the Low Emissions Technology Demonstration Fund Deed dated 15 October 2008 (the Deed) between Chevron Australia Pty Ltd and the Commonwealth of Australia. Significant accounting policies applied in the compilation of the report include:

(a) Eligible Expenditure

Expenditure as reported in the Operations Statement only includes expenditure that is defined as eligible in the Deed and reflects only operational cash spending without accrual.

Consistent with the definition of eligible expenditure in the Deed, relevant operations expenditure is only classified as eligible up to the achievement of the final Project Milestone 11 which was achieved on 15 January 2020. All operations expenditure incurred after this date has been reported as unclassified consistent with the disclosure below.

(b) Unclassified Operational Expenditure

Expenditure as reported in the Operations Statement as Unclassified Expenditure includes all expenditure incurred in relation to the operation of the CO2 system that may not be considered eligible as defined in Note 1 (a).

Note 2 Related Parties

The following summarises the entities that are considered related parties to Chevron Australia Pty Ltd in accordance with Clause 32.1 of the Deed; the nature of the relationship and the value and nature of transactions that have flowed between Chevron Australia Pty Ltd and the related party in relation to the operation of the CO2 system for the reporting period 1 July 2020 to 30 June 2021.

| Related party | Nature of relationship | Eligible expenditure paid to / (by) related party | Unclassified project expenditure paid to / (by) related party |
|---------------------------------------|------------------------|---|---|
| Chevron Energy and Technology Company | Chevron Group Company | \$nil | AUD \$224K |

Chevron Australia Pty Ltd has complied with the requirements of the LETDF Customer Information Guide in relation to the above transactions.

Note 3 CO2 Operations Budget and Actuals

CO2 spend is incurred as part of overall Gorgon operations. The Operations Statement only includes identifiable spend which is directly attributed to CO2 operational activities.

CO2 operational spend is budgeted within the overall Gorgon operations budget process and is not separately identified. As such, no CO2 operational budget numbers have been included in the Operations Statement.

Chevron Australia Pty Ltd
Certification by Barrow Island Finance Manager
For the period 1 July 2020 to 30 June 2021

I hereby certify that the CO2 Operations Expenditure Statement of Chevron Australia Pty Ltd is in accordance with Low Emissions Technology Demonstration Fund Deed dated 15 October 2008, and that the Operations Statement presents fairly the CO2 operational income and expenditure for the period ended 30 June 2021 in accordance with the accounting policies described at Note 1.

s 22

BWI Finance Manager
Chevron Australia Pty Ltd

24th September 2021

appendix g: Review opinion – Project expenditure statement



Independent auditor's review report to directors of Chevron Australia Pty Limited on Unclassified Expenditure included within the CO2 Project Expenditure Statement

Report on the unclassified expenditure

We have reviewed the unclassified expenditure column (the "unclassified expenditure") within the table headed "CO2 Project operations expenditure statement for the period 1 July 2020 – 30 June 2021" included in the CO2 Project Expenditure Statement in Appendix E (the "Statement") of Chevron Australia Pty Limited (the "Company") from 1 July 2020 to 30 June 2021. The Statement has been prepared by management to meet the requirements of the Low Emissions Technology Demonstration Fund dated 15 October 2008 (the "Deed").

Management's responsibility for the unclassified expenditure within the Statement

Management of the Company is responsible for the preparation of the unclassified expenditure within the Statement in accordance with the Deed and the accounting policies described in Note 1. Management's responsibility includes establishing and maintaining internal control relevant to the preparation of the unclassified expenditure within the Statement that is free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express a conclusion on the unclassified expenditure within the Statement based on our review. We have conducted our review in accordance with Australian Auditing Standard on Review Engagements ASRE 2405 *Review of Historical Financial Information Other than a Financial Report* (ASRE 2405) in order to state whether, on the basis of the procedures described, anything has come to our attention that causes us to believe that the unclassified expenditure within the Statement is not prepared, in all material respects, in accordance with the accounting policies as described in Note 1 to the Statement.

ASRE 2405 requires us to comply with the requirements of the applicable code of professional conduct of a professional accounting body.

A review consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Australian Auditing Standards and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

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Other information

Management is responsible for the other information. The other information comprises the information included in the Gorgon Project: Carbon Dioxide Injection Project Low Emissions Technology Demonstration Fund Annual Report for the year from 1 July 2020 – 30 June 2021, but does not include the unclassified expenditure included in the Statement and our auditor's review report thereon.

Our conclusion on the unclassified expenditure included in the Statement does not cover the other information and accordingly we do not express any form of assurance conclusion thereon.

In connection with our review of the unclassified expenditure included in the Statement, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Statement or our knowledge obtained in the review, or otherwise appears to be materially misstated.

Independence

In conducting our review, we have complied with the independence requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants*.

Conclusion

Based on our review, which is not an audit, nothing has come to our attention that causes us to believe that the unclassified expenditure within the Statement from 1 July 2020 to 30 June 2021 is not prepared, in all material respects, in accordance with the accounting policies as described in Note 1 to the Statement.

Emphasis of matter - basis of accounting and restriction on distribution and use

We draw attention to Note 1 in the Statement, which describes the basis of accounting. The unclassified expenditure within the Statement has been prepared for Chevron Australia Pty Limited to assist them in complying with the requirements of the Deed. As a result, the unclassified expenditure within the Statement may not be suitable for another purpose. Our report is intended solely for Chevron Australia Pty Limited and its directors and should not be distributed to or used by parties other than Chevron Australia Pty Limited and its directors. Our conclusion is not modified in respect of this matter.

PricewaterhouseCoopers

PricewaterhouseCoopers

s 22

Partner

Perth
29 September 2021

appendix h: Review opinion – Operations expenditure statement



Independent auditor's review report to directors of Chevron Australia Pty Limited on Unclassified Expenditure included within the CO2 Operations Expenditure Statement

Report on the unclassified expenditure

We have reviewed the unclassified expenditure column (the "unclassified expenditure") within the table headed "CO2 Operations expenditure statement for the period 1 July 2020 – 30 June 2021" included in Appendix F (the "Statement") of Chevron Australia Pty Limited (the "Company") from 1 July 2020 to 30 June 2021. The Statement has been prepared by management to meet the requirements of the Low Emissions Technology Demonstration Fund dated 15 October 2008 (the "Deed").

Management's responsibility for the unclassified expenditure within the Statement

Management of the Company is responsible for the preparation of the unclassified expenditure within the Statement in accordance with the Deed and the accounting policies described in Note 1. Management's responsibility includes establishing and maintaining internal control relevant to the preparation of the unclassified expenditure within the Statement that is free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express a conclusion on the unclassified expenditure within the Statement based on our review. We have conducted our review in accordance with Australian Auditing Standard on Review Engagements ASRE 2405 *Review of Historical Financial Information Other than a Financial Report* (ASRE 2405) in order to state whether, on the basis of the procedures described, anything has come to our attention that causes us to believe that the unclassified expenditure within the Statement is not prepared, in all material respects, in accordance with the accounting policies as described in Note 1 to the Statement.

ASRE 2405 requires us to comply with the requirements of the applicable code of professional conduct of a professional accounting body.

A review consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Australian Auditing Standards and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

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Other information

Management is responsible for the other information. The other information comprises the information included in the Gorgon Project: Carbon Dioxide Injection Project Low Emissions Technology Demonstration Fund Annual Report for the year from 1 July 2020 – 30 June 2021, but does not include the unclassified expenditure included in the Statement and our auditor's review report thereon.

Our conclusion on the unclassified expenditure included in the Statement does not cover the other information and accordingly we do not express any form of assurance conclusion thereon.

In connection with our review of the unclassified expenditure included in the Statement, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Statement or our knowledge obtained in the review, or otherwise appears to be materially misstated.

Independence

In conducting our review, we have complied with the independence requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants*.

Conclusion

Based on our review, which is not an audit, nothing has come to our attention that causes us to believe that the unclassified expenditure within the Statement from 1 July 2020 to 30 June 2021 is not prepared, in all material respects, in accordance with the accounting policies as described in Note 1 to the Statement.

Emphasis of matter - basis of accounting and restriction on distribution and use

We draw attention to Note 1 in the Statement, which describes the basis of accounting. The unclassified expenditure within the Statement has been prepared for Chevron Australia Pty Limited to assist them in complying with the requirements of the Deed. As a result, the unclassified expenditure within the Statement may not be suitable for another purpose. Our report is intended solely for Chevron Australia Pty Limited and its directors and should not be distributed to or used by parties other than Chevron Australia Pty Limited and its directors. Our conclusion is not modified in respect of this matter.

PricewaterhouseCoopers

PricewaterhouseCoopers

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Partner

Perth
29 September 2021

appendix i: Certification of other matters



Certification of Other Certain Matters by the Auditor to the Directors of Chevron Australia Pty Ltd

I understand that the Commonwealth of Australia and Chevron Australia Pty Ltd (the "Grantee") have entered into a Funding Deed dated 15 October 2008 (the "Deed") for the provision of funding under the *Low Emissions Technology Demonstration Fund* ("LETDF") to the Grantee for the Project. A condition of funding under the Agreement is that the Grantee provides a CO2 Project Expenditure Statement and CO2 Operations Expenditure Statement (the "Statements") in accordance with the Deed.

In fulfilment of the condition, I hereby certify that:

1. I am a member of Chartered Accountants Australia and New Zealand,
2. I have prepared the review reports on the unclassified expenditure within the Statements, dated 28 September 2021,
3. I have reviewed the Low Emissions Technology Demonstration Funding Deed and related Guidelines and understand the requirements pertaining to financial reporting of unclassified expenditure contained therein,
4. I have not prepared the Statements to which my review reports relate,
5. I have complied with the professional independence requirements of Chartered Accountants Australia and New Zealand. I specifically certify that I:
 - a. am not, and have not been, a director, officeholder, or employee of Chevron Australia Pty Ltd or a related body corporate of Chevron Australia Pty Ltd,
 - b. have not been previously engaged by Chevron Australia Pty Ltd for the purpose of preparing their LETDF application, and
 - c. have no financial interest in Chevron Australia Pty Ltd.

s 22

Partner

Perth
29 September 2021

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