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# Gorgon Project Carbon Dioxide Injection Project Low Emissions Technology Demonstration Fund Annual Report 1 July 2019 – 30 June 2020

Chevron Australia Pty Ltd  
30 September 2020

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Low Emissions Technology Demonstration Fund  
Annual Report  
1 July 2019 – 30 June 2020

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## 1 Executive summary

This is the eleventh 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 2019 to 30 June 2020.

The highlight during this reporting period was the commencement of injection operations. Supporting this transition was the progressive commissioning and start up checks of each of the three compressor modules, the drying out and conditioning of the carbon dioxide pipeline and associated injection drill centre facilities and the progressive introduction of compressed reservoir carbon dioxide into each of the injection wells. First injection commenced on 6 August 2019 and by late-February the system was injecting at full injection rates. By the end of June 2020, approximately 2.5 million tonnes of greenhouse gas emissions had been successfully avoided by underground injection. Having overcome the challenges in commissioning the injection system, the operational focus now moves to monitoring reservoir performance. The rate of underground injection at Gorgon exceeds that of other greenhouse gas storage projects and this is expected to place the reservoir under some stress. Monitoring over the near to intermediate term will focus on understanding how well the reservoir is able to adsorb these stresses.

While the injection system is operating reliably, delays have been experienced with the commissioning of the pressure management system. This presented as a loss of injectivity in the two water injection wells. At the end of the reporting year investigations into this loss of injectivity are ongoing but it is believed to be related to plugging of the injection wells with higher than expected solids production from the water producing wells.

As at 30 June 2020:

- the carbon dioxide compressors, pipeline, drill centres and injection wells were all operating reliably
- investigations into the loss of injectivity at the pressure management water injection wells was ongoing and remediation actions being developed
- the reservoir monitoring programs were being implemented and initial results were being reviewed and interpreted
- studies were underway to consider options for increasing the outlet pressure from the compressors to maximise injection rates as the reservoir pressure increases.

During the reporting period operating expenditure began being incurred. The expenditure statements attached as appendixes to this report now also contain information on operating expenditure in addition to the historically reported capital expenditure.

During the reporting period the Capital Budget was increased by \$127.6 million to \$3.092 billion.

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 as a whole is now operating in steady state mode.

As part of steady state operations major plant “turnarounds” are being scheduled where roughly every three to four years, an individual LNG train is taken offline so that inspections, equipment maintenance/replacement and process upgrades can be performed. LNG processing train one underwent a turnaround in the second half of 2019 and the turnaround for LNG processing train two is scheduled for the third quarter of 2020.

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.

The Gorgon Stage Two Project involved the drilling of additional production wells at both the Gorgon and Jansz gas fields and the installation of associated subsea production infrastructure. The Gorgon Stage Two project was completed successfully during the reporting period.

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 but no revisions were required.

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 showing 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 with the gas processing plant in the background

s22

**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

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**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



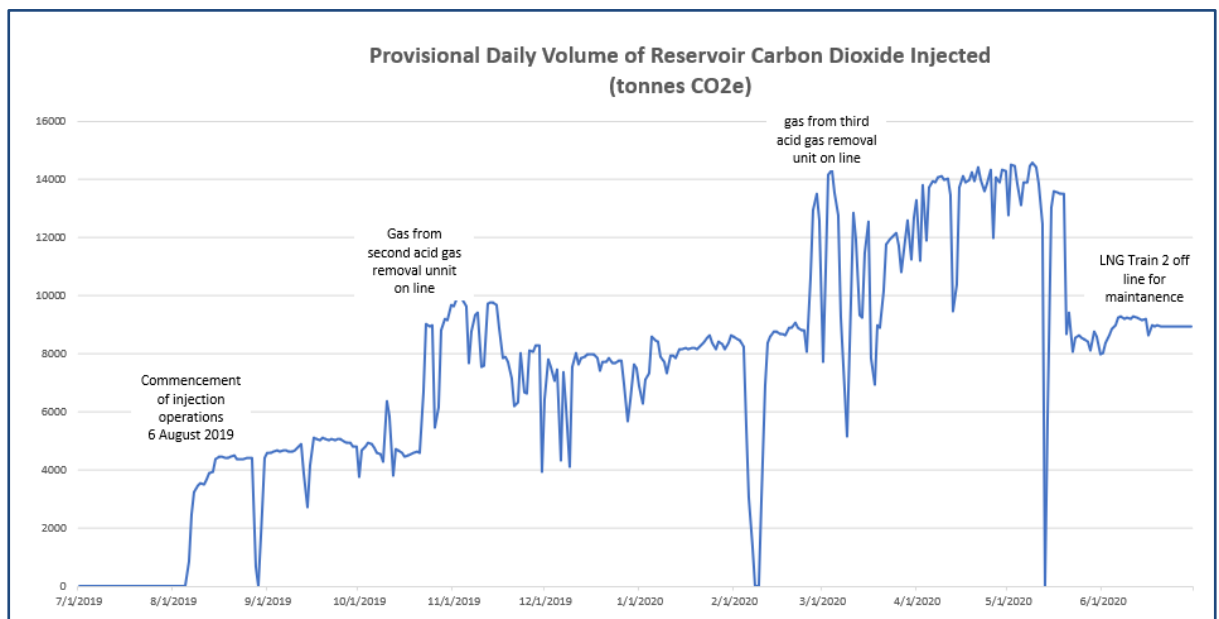
## 2.3 Injection system remediation works

The injection project remedial works discussed in previous annual reports were concluded during the reporting year. This work is referred to as the Constraints, Threats, Opportunities (CTO) initiative in the notes to the Project Expenditure Statement in appendix “e”.

During the reporting year a study commenced to consider options to increase the outlet pressure of the carbon dioxide compressors with the objective of enabling injection rates to be sustained as reservoir pressure increases.

## 2.4 Commencement of injection

Injection operations commenced on 6 August 2019 and by late-February 2020, the system was injecting at full injection rates. By the end of June 2020, approximately 2.5 million tonnes of greenhouse gas emissions had been successfully avoided by underground injection. Figure 5 shows the provisional daily injected volumes of reservoir carbon dioxide.



**Figure 5** Provisional daily injection rates during the reporting period

## 2.5 Well related activities

### 2.5.1 Carbon dioxide injection wells

During the reporting period final preparations were made to commence the injection of reservoir carbon dioxide in each of the nine injection wells. Injection of reservoir carbon dioxide commenced on 6 August 2019 into the A-I2 injection well on drill centre A.

These preparations involved firstly displacing the gases in carbon dioxide pipeline, drill centre manifolds and injection well tubing with industrial sourced dry carbon dioxide.

The pressure of the carbon dioxide pipeline was then increased. The compressed reservoir carbon dioxide from acid gas removal unit number three was then introduced into the pipeline. The injection wells were then progressively opened in a staged process which allowed the pipeline to be brought up to operating temperature by the flowing reservoir carbon dioxide. With only the one acid gas removal unit supplying reservoir carbon dioxide, the average injection rate was around 41 kg/s (approximately 3500 tonnes of gas per day)<sup>1</sup>.

The compressors associated with acid gas removal unit number two commenced start-up on 10 October 2019. On 11 October 2019, a small leak was detected in the pipework between the acid gas removal unit and the and the compressor resulting in curtailment of injection from acid gas removal unit number two until 22 October 2019. With acid gas removal unit number two on line, the daily injection rate averaged around 90 kg/s (7700 tonnes of gas per day).

Reservoir carbon dioxide from the acid gas removal unit number one was introduced to the system on 26 February 2020, taking to daily injection rates to as high as 150 kg/s (13 000 tonnes of gas per day)

Injectivity tests have been conducted on each injection well, with injection performance exceeding pre-drill estimates. At the end of the reporting period all the compressors and injection wells were performing as per design with no significant issues having been identified.

Planning for a well-head maintenance campaign to be undertaken in the third quarter of 2020 was underway at the end of the reporting period.

## **2.5.2 Pressure management wells**

The previous 2019 annual report briefly described the commissioning of the pressure management wells at drill centre DC-D in late May 2019 and highlighted an issue with injectivity in the D-WI1 well. Subsequent injectivity loss was also identified at drill centre DC-E.

During the reporting period various causes for the loss of injectivity have been investigated with:

- initial plugging of the injection well perforations thought to be due to grease, perforation debris and some tubing corrosion material from the initial well completion activities. The grease was likely to be a mix of pipe dope from completing the wells and tree grease used in the servicing and testing of the well-heads (both water production and injection)
- the observation that a significant volume of sand is being produced from the water production wells which is then injected into the water injection wells, causing plugging of the water injection well perforations. This is despite prior studies to selectively perforate the four water production wells to avoid weak zones that might be prone to sand production.

Well workovers were undertaken during the reporting period to address any injectivity loss due to material from the initial well completion activities. It is now thought likely the loss of injectivity in the water injection wells is primarily due to the presence of significant volumes of sand being produced from the Dupuy Formation. It is yet to be confirmed whether sand production is likely to be a long-term issue. If sand production

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<sup>1</sup> Note: tonnes of gas is a different unit to the tonnes of CO<sub>2</sub>e used in Figure 5

is found to be persistent issue it is possible changes to the surface facilities may be required.

At the end of the reporting period, work was progressing on developing a solution to the loss of injectivity believed to be caused by sand production. Due to the injectivity issues, the pressure management system is currently off-line.

## **2.6 Subsurface studies**

During the reporting period subsurface studies were focused on

- monitoring of reservoir performance following the commencement of injection operations
- construction of an updated reservoir model suite (Gen11).

### **2.6.1 Reservoir management**

Prior to the commencement of injection operations, the injectivity at each well was estimated using the Gen10 reservoir model. Once injection commenced, the bottom hole pressure data in each well was compared with these predictions and it was observed that injectivity to reservoir carbon dioxide was routinely better than previously forecast. This also meant the increase in reservoir pressure was lower than forecast.

The opportunity was taken each time a well was shut in to obtain reservoir data by observing the pressure transients at nearby wells. These data were then used in the calibration of the Gen11 reservoir model suite.

### **2.6.2 Gen11 reservoir modelling**

During the reporting period a new suite of reservoir models was developed, termed "Gen11". This suite of reservoir models now incorporates data from the drilling campaign undertaken between 2013 and 2015:

- petrophysical data, core analysis and seismic data were used to build a revised structural framework
- an update to the interpreted depositional environment was then used to populate the reservoir properties in the model
- this new suite of 'static' models were then upscaled and history matched to the data from carbon dioxide injection and observation wells to form the suite of 'dynamic' models. A range of dynamic models were then constructed using experimental design to cover the expected full range of reservoir uncertainty.
- At the end of the reporting period, the dynamic models were being used to determine the probabilistic (P10, P50, P90) models cases.

## **2.7 Monitoring program**

With the commencement of CO<sub>2</sub> injection, the monitoring program moved from collection of baseline data to acquisition and interpretation of operational monitoring data.

### **2.7.1 3D seismic data**

Interpretation of the 2009 and 2017 3D seismic data sets was used as a key input to the Gen11 static reservoir model.

Additional data processing analysis has been performed on the 2017 Gorgon CO<sub>2</sub> Land-Node seismic survey data to test the acquisition parameters for the first repeat which is being planned for 2021.

Work commenced on preparing to tender the acquisition of the repeat GCLN seismic survey following the exit from Australia of the contractor who undertook the 2017 survey. The tender process was underway at the end of the reporting period, with three potential vendors on the bid list.

### **2.7.2 Cased hole logging**

During the reporting period, planning has been undertaken for the first round of repeat cased-hole saturation logs, to be acquired in reservoir surveillance wells A-RS1 and C-RS2. The logging runs are planned to be undertaken in the second half of 2020. It is planned to use the same vendor and tool string used in 2017 baseline survey.

Planning also commenced for baseline production logging tool surveys to be undertaken in the injection wells. This work is planned to be completed in late 2020. This baseline 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. Anytime fluids are injected or extracted from underground it is common to observe micro-seismic activity in response to the changes in pore pressure.

The micro-seismic monitoring system consists of:

- a four-station array of multicomponent geophones installed between 1400m and 1800m deep in the CO2 Data-well.
- a near-surface pilot array, utilising existing buried geophones along a surface seismic line to the southwest of drill centre B.

A low-noise transformer installed on the cathodic protection system has proven successful in reducing the electrical noise that was previously interfering with the data from the micro-seismic monitoring system.

Micro-seismic activity was detected around four weeks following the commencement of injection operations. At the end of the reporting period more than 800 events have been detected, with the rate of events having increased in proportion to rate of injection. The location and magnitudes of these events have been plotted and interpretation of the data is ongoing.

The pilot test using the existing buried geophones has been proven successful and it is planned to expand the surface array in the second half of 2020 with the addition of seven shallow boreholes approximately 50m deep and geophones cemented in-place.

### **2.7.4 Above zone pressure detection**

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

Over the reporting period data from that gauge showed an increase in pressure. 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**

During the reporting period the first dataset from the satellite-based ground elevation monitoring was received. This data was acquired approximately six months following the commencement of injection operations. The data showed no significant uplift of the earth's surface around the area of the injection operations.

### **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**

In June 2020 an order was placed for satellite-based vegetation imaging data. The data will be reviewed in the next reporting period.

### 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

During the reporting period the final two (non-payment milestones) were satisfactorily closed. That is:

- the commencement of injection operations, achieved on 6 August 2019, and
- having achieved one million tonnes of greenhouse gas being injected on 15 January 2020.

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	<p><b>Progress payment 1</b></p> <p><b>\$20 million</b></p> <p>Delivery on Barrow Island of the first carbon dioxide injection compressor module</p>	<p>19 June 2014</p> <p>Payment claim submitted to the Department on 13 June 2014</p>
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	<p><b>Progress Payment 2</b></p> <p><b>\$20 million</b></p> <p>LNG Train 2 ready for start up</p>	<p>7 September 2016</p> <p>Payment claim submitted to the Department on 13 September 2016</p>
9	<p><b>Progress Payment 3</b></p> <p><b>\$20 million</b></p> <p>Ready for start-up of the first carbon dioxide compressor</p>	<p>14 April 2017</p> <p>Payment claim submitted to the Department on 11 May 2017</p>

Project milestone number	Description of milestone	Milestone completion date
10	Commencement of carbon dioxide injection operations	6 August 2019
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

The following regulatory approvals were applied for and/or obtained during the reporting period to support the Carbon Dioxide Injection Project:

- On 30 July 2019, the Department of Water and Environmental Regulation granted an *Environmental Protection Act 1986* Part V amendment to the Gas Treatment Plant Licence L9102 relating to reservoir CO<sub>2</sub> injection
- On 30 July 2019 the Department of Mines, Industry Regulation and Safety granted a conditional ‘Consent to Operate’ the PL93 facilities (pipeline & wells) under the *Petroleum Pipelines Act 1969* enabling the introduction of reservoir carbon dioxide into the pipeline and commencement of injection operations on 6 August 2019
- The PL93 Consent to Operate condition relating to the timing of commencement of the procurement management system was subsequently amended to allow additional time for the system to be made operational - the most recent approval, which was approved on 27 May 2020, is to have the pressure management system operational by 31st December 2020<sup>2</sup>.
- On 28 February 2020 Department of Mines, Industry Regulation and Safety approved a revisions to the Carbon Dioxide Injection System Well Maintenance Environment Plan (Revision 3); the revision was for the ongoing works around the pressure management system.
- On 9 January 2020 Department of Mines, Industry Regulation and Safety approved a revision to the Pipeline Safety Case – Gorgon CO<sub>2</sub> Injection System Pipeline Operations (Revision 5); the revision was for the ongoing works around the pressure management system.
- On 25 March 2020 the Department of Mines, Industry Regulation and Safety approved a well workover application under PL 93, for the re-perforation of the pressure management injector DWI1.

### 3.4 Key personnel

During the year and with the successful transitions to operations of the injection system the CO<sub>2</sub> Project Manager role was removed. In addition, [s22](#)

<sup>2</sup> This date may need to be varied into the future pending the ongoing works on the pressure management system.

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
s22	General Manager, Operations Chevron Australia Pty Ltd
s22	Production Operations Manager Chevron Australia Pty Ltd
s22	Technical Projects Manager Chevron Australia Pty Ltd
s22	Subsurface Producing Assets Manager Chevron Australia Pty Ltd
s22	CO2 Injection Subsurface Team Leader Chevron Australia Pty Ltd
s22	Commercial Manager Base Business Chevron Australia Pty Ltd
s22	Manager Climate Change Chevron Australia Pty Ltd

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

s22  
 Manager Climate Change  
 Chevron Australia Pty Ltd  
 GPO Box S1580  
 Perth WA 6845

s22

### 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 and associated services
UGL	Turnaround planning and field execution support
CCC	CO2 Antisurge Compressor Engineering Support
Global Spill Control	provision of spill management products
Halliburton	Wire-line and logging services



Name of subcontractor	Work to be subcontracted
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
Weatherfords	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

### 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 a project overview and update was provided to the:

- CO2CRC Forum - Torquay Victoria, Nov 2019
- Oil and Gas Climate Initiative, CCUS workstream meeting – Houston, USA, Jan 2020

Technical aspects of the injection project were included in presentations at:

- 2019 Australasian Exploration Geoscience Conference, September 2019
- WA Basin Symposium - February 2020

### 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 \$2.964million to \$3.092million 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 2020
- 1 July 2019 to 30 June 2020
- 14 September 2009 to 30 June 2019.

As the injection project has now moved into operations, operating costs have been incurred for the first time. Appendix "f" to this report provides an Operations Expenditure Statement for the year 1 July 2019 to 30 June 2020.

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 "k" 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"	Audit opinion – Project expenditure statement
Appendix "h"	Review opinion – Project expenditure statement
Appendix "l"	Audit opinion – Operations expenditure statement
Appendix "j"	Review opinion – Operations expenditure statement
Appendix "k"	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

**s22** 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.

**s22**

Signed

Date: 02 October 2020

## 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 centers 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 Dexpco Joule Thompson valve. After the reservoir carbon dioxide is compressed, it will be transported via a buried pipeline to the injection wellheads.

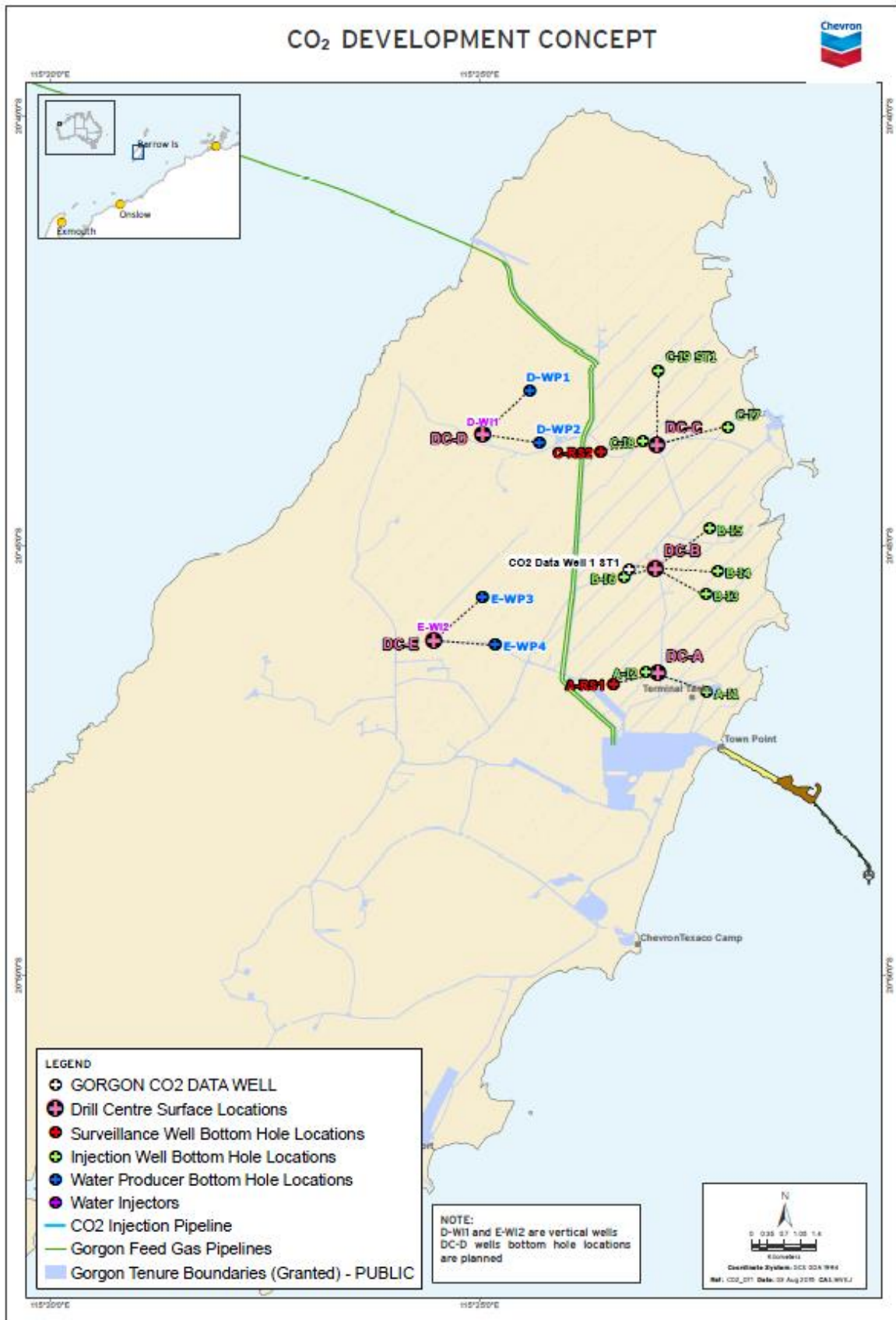
Nine injection wells have been drilled from three surface locations using directional drilling technology. The use of directional or deviated drilling from a limited number of surface locations has been chosen to minimize the environmental impact by limiting land use disturbance.

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**

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 Plan<sup>3</sup>. 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.

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<sup>3</sup> 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)*.



## 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 participants<sup>4</sup>**

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.

<sup>4</sup> 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 center 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.

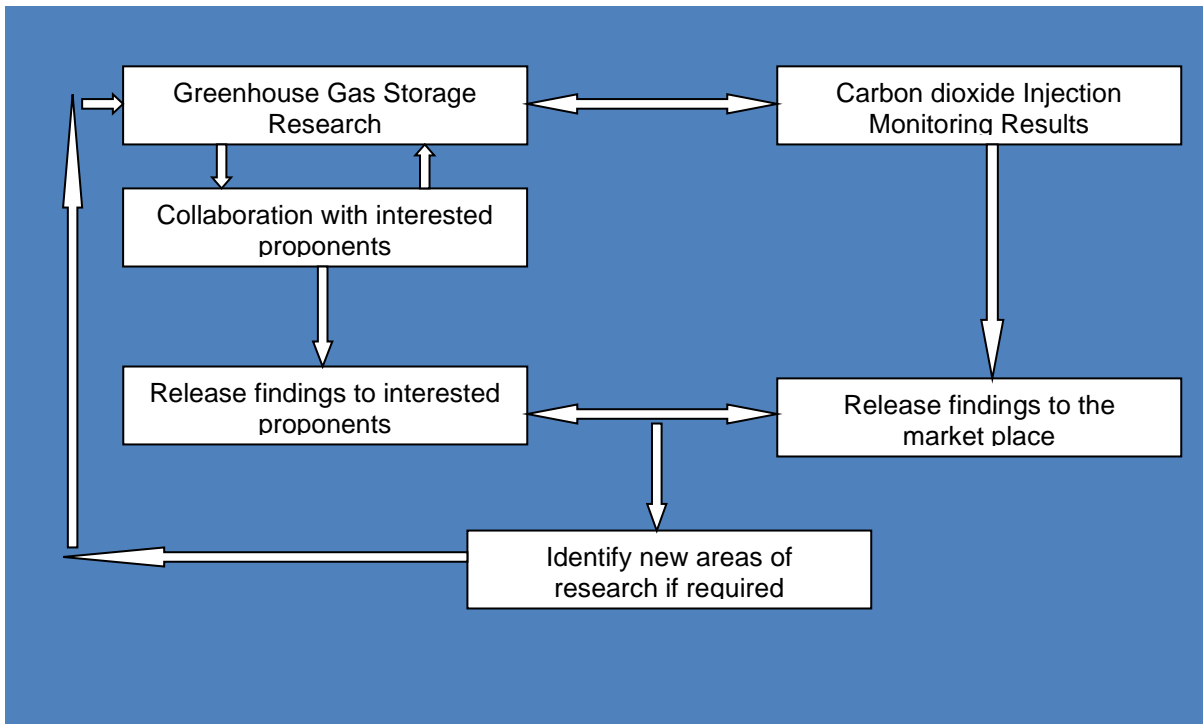
### Process for commercialisation

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.

### **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 center 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.

**appendix e: Project operations expenditure statement and notes**

CO2 Project Expenditure Statement For the Period 14 September 2009 to 30 June 2020							CO2 Project Expenditure Statement For the Period 1 July 2019 to 30 June 2020							CO2 Project Expenditure Statement For the Period 14 September 2009 to 30 June 2019						
Ref	Item	Comprised of					Comprised of					Comprised of								
		Previous Budget (A\$ Millions)	Budget Last Updated 30 June 2020	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)- Audited	Unclassified Expenditure (A\$ Millions)- Reviewed	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)					
a	Carbon dioxide injection compressors (three compressor trains each consisting of two electric drive multi stage compressors)	\$ 715.0	\$ 760.2	\$ 756.8	\$ 230.6	\$ 526.2	\$ 43.6	\$ 31.6	\$ 12.0	\$ 713.2	\$ 199.0	\$ 514.2	\$ 157.9	\$ -	\$ 157.9					
b	Electrical power generation costs (to power the injection compressors)	\$ 157.9	\$ 157.4	\$ 157.4	\$ -	\$ 157.4	\$ 0.5	\$ -	\$ 0.5	\$ 157.9	\$ -	\$ 157.9	\$ -	\$ -	\$ -					
c	Carbon Dioxide Pipeline (including pig launchers and receivers)	\$ 102.4	\$ 102.4	\$ 102.4	\$ 81.8	\$ 20.5	\$ 0.1	\$ -	\$ 0.1	\$ 102.5	\$ 81.8	\$ 20.7	\$ -	\$ -	\$ -					
d	Facilities related indirect costs (detailed engineering, construction management, project management, special logistics including quarantine, camp costs and commissioning)	\$ 1,024.6	\$ 1,062.0	\$ 1,087.9	\$ 122.8	\$ 965.1	\$ 43.5	\$ 29.7	\$ 13.8	\$ 1,044.4	\$ 93.1	\$ 951.3	\$ -	\$ -	\$ -					
e	Downstream contingency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
f	Downstream Owners costs	\$ 113.1	\$ 134.3	\$ 104.9	\$ -	\$ 104.9	\$ 13.4	\$ -	\$ 13.4	\$ 91.5	\$ -	\$ 91.5	\$ -	\$ -	\$ -					
g	Drill Centre facilities (facilities at each of three drill centres, including site works, manifolds and well control systems)	\$ 102.9	\$ 115.0	\$ 114.1	\$ 56.7	\$ 57.5	\$ 11.7	\$ 8.2	\$ 3.5	\$ 102.4	\$ 48.5	\$ 53.9	\$ -	\$ -	\$ -					
h	Drill and complete nine injection wells	\$ 235.9	\$ 235.9	\$ 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	\$ -	\$ -	\$ -					
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	\$ -	\$ -	\$ -					
k	Drill and complete four water production wells	\$ 73.0	\$ 73.0	\$ 74.1	\$ 50.7	\$ 23.4	\$ -	\$ -	\$ -	\$ 74.1	\$ 50.7	\$ 23.4	\$ -	\$ -	\$ -					
l	Drill and complete two water injection wells	\$ 29.7	\$ 38.2	\$ 39.8	\$ 22.3	\$ 17.6	\$ 8.5	\$ 1.3	\$ 7.3	\$ 31.3	\$ 21.0	\$ 10.3	\$ -	\$ -	\$ -					
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	\$ -	\$ -	\$ -					
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	\$ -	\$ -	\$ -					
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	\$ 1.4	\$ -	\$ 1.4	\$ 91.3	\$ 133.2	\$ -41.9	\$ -	\$ -	\$ -					
p	Subsurface Seismic Baseline	\$ 20.9	\$ 20.9	\$ 21.0	\$ 20.0	\$ 1.0	\$ -	\$ -	\$ -	\$ 21.0	\$ 20.0	\$ 1.0	\$ -	\$ -	\$ -					
q	CO2 Management	\$ 22.8	\$ 22.8	\$ 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	\$ -	\$ -	\$ -					
s	CO2 Injection Drilling Team	\$ 127.4	\$ 127.4	\$ 127.4	\$ 3.7	\$ 123.7	\$ -	\$ -	\$ -	\$ 127.4	\$ 3.7	\$ 123.7	\$ -	\$ -	\$ -					
t	CO2 Capacity Increase Project	\$ -	\$ 3.7	\$ 2.5	\$ 0.3	\$ 2.2	\$ 2.5	\$ 0.3	\$ 2.2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
<b>Total Expenditure</b>		<b>\$ 2,964.2</b>	<b>\$ 3,031.9</b>	<b>\$ 3,076.2</b>	<b>\$ 920.4</b>	<b>\$ 2,155.8</b>	<b>\$ 121.3</b>	<b>\$ 71.0</b>	<b>\$ 50.3</b>	<b>\$ 2,954.9</b>	<b>\$ 849.4</b>	<b>\$ 2,105.5</b>	<b>\$ 60.0</b>	<b>\$ 60.0</b>	<b>\$ -</b>					
<b>Funding under the LETDF</b>		<b>-\$ 60.0</b>	<b>-\$ 60.0</b>	<b>-\$ 60.0</b>	<b>-\$ 60.0</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-\$ 60.0</b>	<b>-\$ 60.0</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>					
<b>GRAND TOTAL</b>		<b>\$ 2,904.2</b>	<b>\$ 3,031.9</b>	<b>\$ 3,016.2</b>	<b>\$ 860.4</b>	<b>\$ 2,155.8</b>	<b>\$ 121.3</b>	<b>\$ 71.0</b>	<b>\$ 50.3</b>	<b>\$ 2,894.9</b>	<b>\$ 789.4</b>	<b>\$ 2,105.5</b>	<b>\$ 60.0</b>	<b>\$ 60.0</b>	<b>\$ -</b>					

**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 2009.
- 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 2020**

**Note 1 Basis of Accounting**

This CO2 Project 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 expenditure is only classified as eligible up to the achievement of the final Project Milestone 11 which was achieved on 15 January 2020. All expenditure incurred after this date has been reported as unclassified consistent with the Basis of Accounting below.

**(b) Unclassified Project Income and Expenditure**

Income as reported in the Statement as unclassified 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 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 2019 to 30 June 2020.

Related party	Nature of relationship	Eligible expenditure paid to / (by) related party	Unclassified expenditure paid to / (by) related party
Chevron Energy and Technology Company	Chevron Group Company	AUD 383,908	-

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 4.3% increase in the budget from 2019 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 2019 (A\$ Millions)	Updated Budget as of 30 June 2020 (A\$ Millions)	Movement (A\$ Millions)	Comment
Carbon dioxide injection compressors (three compressor trains each consisting of two electric drive multi stage compressors)	\$ 715.0	\$ 760.2	\$ 45.2	Additional procurement and installation costs due to scope growth and legacy work required to complete Project.
Electrical power generation costs (to power the injection compressors)	\$ 157.9	\$ 157.4	-\$ 0.4	Reconciliation of costs following Project close out.
Carbon Dioxide Pipeline (including pig launchers and receivers)	\$ 102.4	\$ 102.4	-\$ 0.1	Reconciliation of costs following Project close out.
Facilities related indirect costs (detailed engineering, construction management, project management, special logistics including quarantine, camp costs and commissioning)	\$ 1,024.6	\$ 1,062.0	\$ 37.4	Increased engineering support resulting from additional detailing required to complete Project.
Downstream Owners costs	\$ 113.1	\$ 134.3	\$ 21.3	Owners team increase due to increased Project duration.
Drill Centre facilities (facilities at each of three drill centres, including site works, manifolds and well control systems)	\$ 102.9	\$ 115.0	\$ 12.1	Additional procurement and installation costs due to scope growth and legacy work required to complete Project.
Drill and complete nine injection wells	\$ 235.9	\$ 235.9	\$ -	
Drill and equip four reservoir surveillance wells (two wells to be drilled at commencement of project)	\$ 41.9	\$ 41.9	\$ -	

Gorgon Project - Carbon Dioxide Injection Project  
 Low Emissions Technology Demonstration Fund, Annual Report - 1 July 2019 – 30 June 2020  
 Chevron Australia Pty Ltd – 30 September 2020  
 Document Number ABU200700339

Item	Previous Budget as of 30 June 2019 (A\$ Millions)	Updated Budget as of 30 June 2020 (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	\$ -	
Drill and complete four water production wells	\$ 73.0	\$ 73.0	\$ -	
Drill and complete four water injection wells	\$ 29.7	\$ 38.2	\$ 8.5	Remediation scopes on pressure management wells.
Remediate three existing well penetrations so as to ensure fit for service	\$ 5.3	\$ 5.3	\$ -	
Remediation of existing CO2 data well at year 3	\$ 9.7	\$ 9.7	\$ -	
Drilling related engineering, supervision and management costs (including allowance for contingency and cyclone related down time)	\$ 97.0	\$ 97.0	\$ -	
Subsurface Seismic Baseline	\$ 20.9	\$ 20.9	\$ -	
CO2 Management	\$ 22.6	\$ 22.6	\$ -	
CO2 Injection Subsurface Owners Team	\$ 78.9	\$ 78.9	\$ -	
CO2 Injection Drilling Team	\$ 127.4	\$ 127.4	\$ -	
CO2 Capacity Increase Project	\$ -	\$ 3.7	\$ 3.7	Engineering costs related to CO2 capacity increase.
<b>Total</b>	<b>\$ 2,964.2</b>	<b>\$ 3,091.9</b>	<b>\$ 127.6</b>	

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

Consistent with previous LETDF submissions, Chevron Australia Pty Ltd has included unclassified expenditure relating to tagged and bulk equipment. The following ITD expenditure has been included in the 1 July 2019 to 30 June 2020 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.

Gorgon Project - Carbon Dioxide Injection Project  
 Low Emissions Technology Demonstration Fund, Annual Report - 1 July 2019 – 30 June 2020  
 Chevron Australia Pty Ltd – 30 September 2020  
 Document Number ABU200700339

Tagged Equipment (AUD Millions)	FID - June 19	1 July 19 – 30 June 20	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
<b>Grand Total</b>	<b>\$ 122.0</b>	<b>\$ 0.0</b>	<b>\$ 122.0</b>

Bulk Equipment (AUD Millions)	FID - June 19	1 July 19 – 30 June 20	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
<b>Grand Total</b>	<b>\$ 82.1</b>	<b>\$ 0.0</b>	<b>\$ 82.1</b>

**Chevron Australia Pty Ltd**  
**Certification by Barrow Island Finance Manager**  
**For the period 14 September 2009 to 30 June 2020**

I hereby certify that the CO2 Project Expenditure Statement of Chevron Australia Pty Ltd is in accordance with Low Emissions Technology Demonstration Fund Deed dated 15 October 2008. In particular, the CO2 Project Expenditure Statement:

- (i) presents fairly the project income and expenditure for the period ended 30 June 2020 in accordance with the accounting policies described at Note 1;
- (ii) presents fairly the cumulative project income and expenditure since the commencement of the project on 14 September 2009 in accordance with the accounting policies described at Note 1; and
- (ii) presents fairly the budget and cumulative budgets approved by the Department as at the date of the annual CO2 Project Expenditure Statement.

s22

**F&D Finance Manager**  
**Chevron Australia Pty Ltd**

30<sup>th</sup> September 2020

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## appendix f: Operations expenditure statement and notes

<b>CO2 Operations Expenditure Statement</b>			
<b>For the Period 1 July 2019 to 30 June 2020</b>			
	Comprised of:		
<b>Item</b>	<b>Total Actual Expenditure to Date (\$A Millions)</b>	<b>Eligible Expenditure to Date (A\$ Millions) - Audited</b>	<b>Unclassified Expenditure (A\$ Millions) - Reviewed</b>
CO2 Reservoir Management	\$ 7.9	\$ 0.3	\$ 7.6
CO2 Equipment Maintenance	\$ 2.6	\$ 0.5	\$ 2.1
CO2 Wells Maintenance	\$ 0.4	\$ -	\$ 0.4
CO2 Labour	\$ 6.2	\$ -	\$ 6.2
CO2 Other Operational Expenditure (i)	\$ 0.7	\$ 0.2	\$ 0.5
<b>GRAND TOTAL</b>	<b>\$ 17.8</b>	<b>\$ 1.0</b>	<b>\$ 16.8</b>

**Note:**

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



**Chevron Australia Pty Ltd**  
**Notes to the CO2 Operations Expenditure Statement**  
**For the period 1 July 2019 to 30 June 2020**

**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 Income and Expenditure**

Income as reported in the CO2 Operations Expenditure Statement (Operations 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 Operations 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 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 Basis of Accounting below.

**(b) Unclassified Operational Income and Expenditure**

Income as reported in the Operations Statement as unclassified income includes, where applicable, all income received in relation to the operation of the CO2 system that may not be considered eligible income as defined in Note 1 (a).

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 2019 to 30 June 2020.

Related party	Nature of relationship	Eligible expenditure paid to / (by) related party	Unclassified expenditure paid to / (by) related party
Chevron Energy and Technology Company	Chevron Group Company	AUD \$237,676	AUD \$119,639

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 2019 to 30 June 2020**

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 2020 in accordance with the accounting policies described at Note 1.

s22

**BWI Finance Manager (Acting)  
Chevron Australia Pty Ltd**

30<sup>th</sup> September 2020

## appendix g: Audit opinion – Project expenditure statement



### *Independent auditor's report*

To the directors of Chevron Australia Pty Limited

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#### *Our opinion*

In our opinion the eligible expenditure within the CO<sub>2</sub> Project Expenditure Statement (the "Statement") of Chevron Australia Pty Limited (the "Company") from 1 July 2019 to 30 June 2020 is prepared, in all material respects, in accordance with the Low Emissions Technology Demonstration Fund Deed dated 15 October 2008 (the "Deed").

---

#### *Basis for opinion*

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the eligible expenditure* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### *Independence*

We are independent of the Company in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) that are relevant to our audit of the eligible expenditure in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

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#### *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 eligible expenditure has been prepared to assist the Company to comply with the requirements of the Deed. As a result, the eligible expenditure may not be suitable for another purpose. Our report is intended solely for Chevron Australia Pty Limited, its directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources and should not be distributed to or used by parties other than Chevron Australia Pty Limited, its directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources. Our opinion is not modified in respect of this matter.

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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 from 1 July 2019 to 30 June 2020, but does not include the eligible expenditure and our auditor's report thereon.

Our opinion on the eligible expenditure does not cover the other information and accordingly we do not express any form of assurance conclusion thereon.

In connection with our audit of the eligible expenditure, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with

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the eligible expenditure or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

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*Responsibilities of management for the eligible expenditure*

Management is responsible for the preparation of the eligible expenditure in accordance with the Deed, and for such internal control as the management determine is necessary to enable the preparation of the eligible expenditure that is free from material misstatement, whether due to fraud or error. Management have determined that the basis of preparation described in Note 1 to the Statement is appropriate to meet the needs of the directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources.

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*Auditor's responsibilities for the audit of the eligible expenditure*

Our objectives are to obtain reasonable assurance about whether the eligible expenditure as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the eligible expenditure.

As part of an audit in accordance with the Australian Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the eligible expenditure, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.

We communicate with the directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

s22

PricewaterhouseCoopers

s22

Partner

Perth  
30 September 2020

## appendix h: Review opinion – Project expenditure statement



### **Independent auditor's review report to the directors of Chevron Australia Pty Limited**

#### ***Report on the unclassified expenditure***

We have reviewed the unclassified expenditure within the CO<sub>2</sub> Project Expenditure Statement (the "Statement") of Chevron Australia Pty Limited (the "Company") from 1 July 2019 to 30 June 2020. 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 are responsible for the preparation of the unclassified expenditure in accordance with the Deed, and for such internal control as management determine is necessary to enable the preparation of the unclassified expenditure 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 based on our review. We conducted our review in accordance with Australian Auditing Standard on Review Engagements ASRE 2405 *Review of Historical Financial Information Other than a Financial Report*, 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 is not prepared, in all material respects, in accordance with the accounting policies as described in Note 1 to the Statement. As the auditor of Chevron Australia Pty Limited, ASRE 2405 requires that we comply with the ethical requirements relevant to the review of the unclassified expenditure.

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.

#### ***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 (including Independence Standards)*.

#### ***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 Statement from 1 July 2019 to 30 June 2020 is not prepared, in all material respects, in accordance with the accounting policies as described in Note 1 to the Statement.

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*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 has been prepared to assist Chevron Australia Pty Limited in complying with the requirements of the Deed. As a result, the unclassified expenditure may not be suitable for another purpose. Our report is intended solely for Chevron Australia Pty Limited, its directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources and should not be distributed to or used by parties other than Chevron Australia Pty Limited, its directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources. Our conclusion is not modified in respect of this matter.

s22

PricewaterhouseCoopers

s22

Partner

Perth  
30 September 2020

## appendix i: Audit opinion – Operations expenditure statement



### *Independent auditor's report*

To the directors of Chevron Australia Pty Limited

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#### *Our opinion*

In our opinion the eligible expenditure within the CO<sub>2</sub> Operations Expenditure Statement (the "Statement") of Chevron Australia Pty Limited (the "Company") from 1 July 2019 to 30 June 2020 is prepared, in all material respects, in accordance with the Low Emissions Technology Demonstration Fund Deed dated 15 October 2008 (the "Deed").

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#### *Basis for opinion*

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the eligible expenditure* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### *Independence*

We are independent of the Company in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) that are relevant to our audit of the eligible expenditure in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

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#### *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 eligible expenditure has been prepared to assist the Company to comply with the requirements of the Deed. As a result, the eligible expenditure may not be suitable for another purpose. Our report is intended solely for Chevron Australia Pty Limited, its directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources and should not be distributed to or used by parties other than Chevron Australia Pty Limited, its directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources. Our opinion is not modified in respect of this matter.

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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 from 1 July 2019 to 30 June 2020, but does not include the eligible expenditure and our auditor's report thereon.

Our opinion on the eligible expenditure does not cover the other information and accordingly we do not express any form of assurance conclusion thereon.

In connection with our audit of the eligible expenditure, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with

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the eligible expenditure or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

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#### *Responsibilities of management for the eligible expenditure*

Management is responsible for the preparation of the eligible expenditure in accordance with the Deed, and for such internal control as the management determine is necessary to enable the preparation of the eligible expenditure that is free from material misstatement, whether due to fraud or error. Management have determined that the basis of preparation described in Note 1 to the Statement is appropriate to meet the needs of the directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources.

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#### *Auditor's responsibilities for the audit of the eligible expenditure*

Our objectives are to obtain reasonable assurance about whether the eligible expenditure as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the eligible expenditure.

As part of an audit in accordance with the Australian Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the eligible expenditure, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.

We communicate with the directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

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PricewaterhouseCoopers

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Partner

Perth  
30 September 2020

## appendix j: Review opinion – Operations expenditure statement



### **Independent auditor's review report to the directors of Chevron Australia Pty Limited**

#### ***Report on the unclassified expenditure***

We have reviewed the unclassified expenditure within the CO<sub>2</sub> Operations Expenditure Statement (the "Statement") of Chevron Australia Pty Limited (the "Company") from 1 July 2019 to 30 June 2020. 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 are responsible for the preparation of the unclassified expenditure in accordance with the Deed, and for such internal control as management determine is necessary to enable the preparation of the unclassified expenditure 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 based on our review. We conducted our review in accordance with Australian Auditing Standard on Review Engagements ASRE 2405 *Review of Historical Financial Information Other than a Financial Report*, 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 is not prepared, in all material respects, in accordance with the accounting policies as described in Note 1 to the Statement. As the auditor of Chevron Australia Pty Limited, ASRE 2405 requires that we comply with the ethical requirements relevant to the review of the unclassified expenditure.

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.

#### ***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 (including Independence Standards)*.

#### ***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 2019 to 30 June 2020 is not prepared, in all material respects, in accordance with the accounting policies as described in Note 1 to the Statement.

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*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 has been prepared to assist Chevron Australia Pty Limited in complying with the requirements of the Deed. As a result, the unclassified expenditure may not be suitable for another purpose. Our report is intended solely for Chevron Australia Pty Limited, its directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources and should not be distributed to or used by parties other than Chevron Australia Pty Limited, its directors and Commonwealth of Australia, represented by the Department of Industry, Science, Energy and Resources. Our conclusion is not modified in respect of this matter.

s22

PricewaterhouseCoopers

s22

Partner

Perth  
30 September 2020

## appendix k: 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 an audited Project Expenditure Statement and CO<sub>2</sub> 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 audit and review reports on the eligible and unclassified expenditure respectively within the Statements, dated 30 September 2020.
3. I have reviewed the Low Emissions Technology Demonstration Funding Deed and related Guidelines and understand the requirements pertaining to financial reporting of eligible and unclassified expenditure contained therein.
4. I have not prepared the Statements to which my audit and 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.

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Partner

Perth  
30 September 2020

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