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Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Committee Secretary

Submission to the Senate Environment and Communications References Committee

Chevron Australia Pty Ltd (Chevron Australia) welcomes the opportunity to provide a submission to the Senate Environment and Communications References Committee's inquiry into Great Australian Bight (GAB) petroleum exploration.

This submission sets out:

- Chevron's corporate overview;
- Chevron's experience in petroleum exploration and production – worldwide, in deepwater and in Australia;
- Our commitment to safety and environmental stewardship;
- Our GAB exploration program;
- The environmental approvals process; and
- Our commitment to local content.

About Chevron

Chevron is one of the world's leading integrated energy companies. Chevron and its subsidiaries are involved in virtually every facet of the energy industry. We explore for, produce and transport crude oil and natural gas; refine, market and distribute transportation fuels and lubricants; manufacture and sell petrochemicals and additives; generate power and produce geothermal energy; and develop and deploy technologies that improve the energy efficiency of our operations worldwide.

Offshore Exploration and Production

For more than 130 years, Chevron has developed some of the world's most complex oil and gas fields. We are leaders in exploring and producing in extremely difficult environments and in deepwater, such as the US Gulf of Mexico, the North Sea, Brazil, West Africa and Australia.

In the deepwater Gulf of Mexico, Chevron USA is one of the top leaseholders with projects including Tahiti, Blind Faith, Big Foot and Jack/St. Malo. Blind Faith and Jack/St. Malo are the company's deepest operated offshore production facilities with water depths of over 2,000 m. Chevron led the industry in gaining regulatory approval to resume operations in the Gulf of Mexico post-Macondo with the first permit to resume drilling, the first accepted revised Exploration Plan and the first approved permit for an exploratory well.

The North Sea and Atlantic Oceans have many similarities with the GAB – large swells, unpredictable weather conditions (particularly in winter) and deepwater. In 1964, a Chevron and Texaco joint venture drilled the first exploration well in the North Sea. Chevron now operates three North Sea fields and is developing the Rosebank field 130 km northwest of the Shetland Islands in 1,115 m of water.

Upstream Portfolio Overview



In Brazil, Chevron operates the deepwater Frade Field project. The field lies in a water depth of about 1,128 m, approximately 370 km northeast of Rio de Janeiro.

Chevron is the largest private producer of oil in Kazakhstan, the top oil producer in Thailand, the largest oil producer in Indonesia and the third-largest oil producer in Nigeria, with extensive deepwater interests, including the Agbami Field, one of Nigeria's largest deepwater discoveries.

With decades of experience operating in harsh conditions and deepwater, Chevron has the capability and expertise to undertake safe operations in the GAB.

For a detailed list of all Chevron Global Upstream Exploration and Production projects, see <http://www.chevron.com/documents/pdf/annual-report-supplement-2015.pdf>

Chevron's Operations in Australia

Chevron has been present in Australia for more than 50 years, with its first oil discovery at the Rough Range No.1 well in the Carnarvon Basin in 1953.

Chevron Australia leads the development of the Gorgon and Wheatstone gas projects. The company is a foundation participant in the North West Shelf Venture; operates Australia's largest onshore oil

field on Barrow Island; and is a significant investor in exploration off the Western Australian and South Australian coasts.

The Gorgon and Wheatstone projects represent over \$80 billion of investment. Chevron Australia's share of this investment is the largest investment by a single company in Australia's history.

Based on independent economic analysis undertaken by ACIL Allen Consulting, over the period 2009 to 2040, Chevron Australia's projects are estimated to add more than:

- \$1 trillion to Australia's gross domestic product;
- 150,000 jobs in Australia; and
- \$338 billion to Federal Government revenue.

To date, the Gorgon and Wheatstone projects have created 19,000 jobs across Australia and committed more than \$45 billion to Australian goods and services, with almost 1,000 contracts awarded to local companies.

The Gorgon Project and Chevron's WA Oil asset are located on Barrow Island, which has been a Class A Nature Reserve since 1910. Chevron's successful involvement with Barrow Island began when oil was discovered in the 1960s.

Chevron is proud of its environmental reputation and performance on Barrow Island. We have demonstrated our commitment to environmental stewardship for more than 50 years, with our operations widely recognised as an industry benchmark for the successful coexistence of petroleum development and biodiversity protection.

Chevron is the largest exploration leaseholder and the largest holder of natural gas resources in Australia, particularly in the Carnarvon Basin off the Pilbara coast, with 25+ discoveries since 2009 at a success rate of 90 percent.

Of the 33 exploration and production offshore wells safely drilled since 2012, nine wells have been at water depths greater than 1000m, and in an area which averages about five tropical cyclones each season.¹

Chevron's commitment to safety and environmental stewardship

Chevron supports a culture of safety and environmental stewardship that strives to achieve unequalled performance and prevent all serious incidents and fatalities by putting in place the right policies, processes, tools and behavioural expectations.

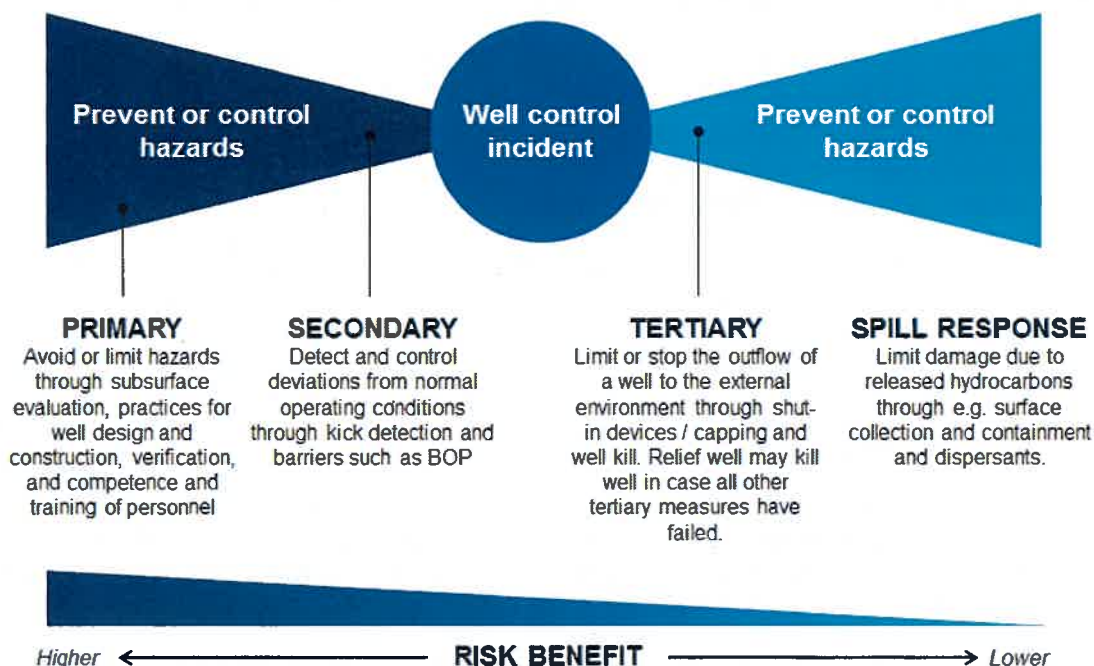
As an example, since Chevron's first year of deepwater exploration in 1987, Chevron has successfully drilled more than 80 wells in offshore Western Australia without a single well-related loss of containment event.

Across the petroleum sector, delivering offshore energy is safer than ever as a result of continuous investments in safety and an enhanced regulatory regime. Extensive resources have been devoted to safety, drawing on the best minds from the industry and government to build a multi-layer system, with many built-in redundancies to help prevent incidents, to intervene and stop a release that might occur, and to manage and clean up spills. There are three critical aspects to this network of safety for offshore operations:

- Prevention, through industry standards and the promotion of robust safety and environmental management systems;
- Innovative well containment and intervention capabilities; and
- Improved planning and resources for oil spill response.

¹ Bureau of Meteorology website: <http://www.bom.gov.au/cyclone/climatology/wa.shtml>

Schematically the industry safety network can be represented by a 'bow tie' diagram, with the principal risk reduction benefits achieved through pre-planning and prevention (i.e. on left side of the bowtie in the diagram below²).



Since Macondo and Montara, Chevron's Global Drilling and Completions (D&C) team has demonstrated Chevron's focus on prevention (the left side of the bowtie) by developing WellSafe, a new well-control assurance program designed to eliminate Loss of Containment (LOC) incidents – the industry measure for when hazardous chemicals, including hydrocarbons, escape from pipes, tanks, vessels and wells.

The WellSafe program is comprised of four certifications: Business Unit, well design/planning, well execution and rig.

- Business Unit certification assures the processes for WellSafe are in place and all personnel involved in planning and executing D&C well operations understand their roles and expectations. Certification is administered independently of the Business Unit.
- Well design/planning ensures that every well Chevron drills – regardless of complexity – meets stringent levels of engineering requirements that impact well control.
- Well execution ensures that wells are drilled per the design requirements and that all aspects of well control and LOC prevention are taken into account during well construction.
- The final certification centres on rig operations and acts as a safeguard in ensuring that our people, critical well-control equipment and procedures – both the operator's and contractors' – are in place and functioning. Procedures for activities such as hole monitoring and well shut-ins will be clearly defined, and the roles and responsibilities of the crew members carrying out these functions will be thoroughly communicated so everyone knows what to do and can perform their role safely and efficiently. All rigs under contract to Chevron or owned by Chevron will be WellSafe-certified rigs.

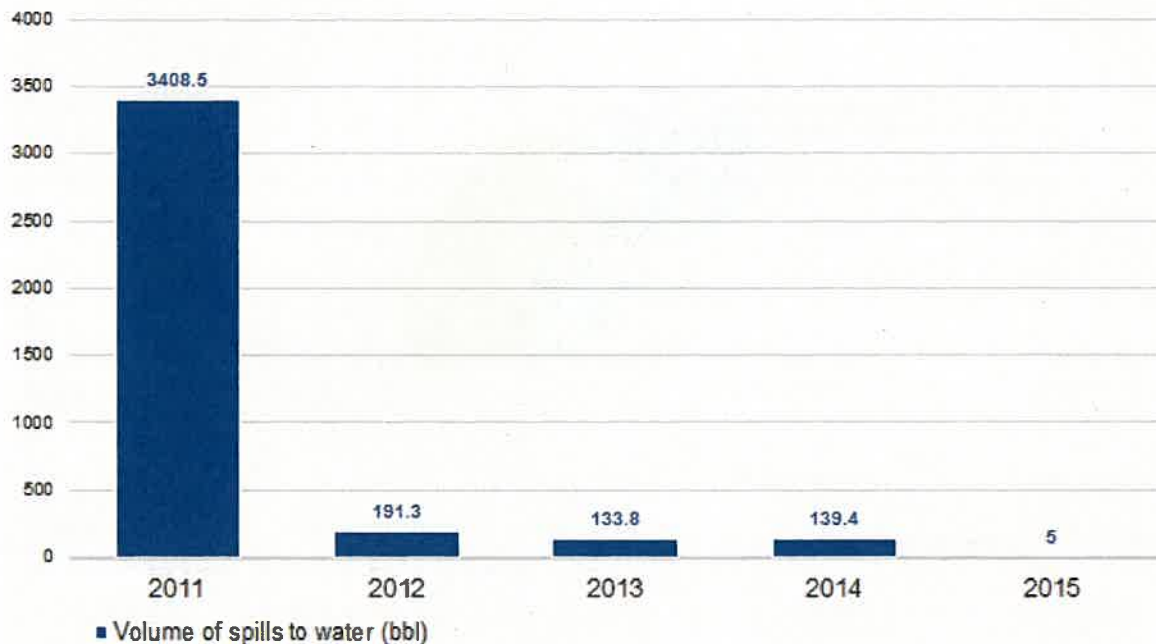
In addition to WellSafe, the Chevron Drilling and Completions Decision Support Center, located in Houston, Texas, provides an additional layer of protection for Chevron's complex wells by providing direct, real-time, remote assistance with key process safety management processes and monitoring

² Diagram adapted from [http://www.npcarcticpotentialreport.org/pdf/tp/8-10 Arctic Well Integrity and Spill Prevention Methods and Technology.pdf](http://www.npcarcticpotentialreport.org/pdf/tp/8-10%20Arctic%20Well%20Integrity%20and%20Spill%20Prevention%20Methods%20and%20Technology.pdf)

key processes for indicators of impending process safety events. This service is currently in use in Australian wells on the Atwood Osprey and is planned for use on GAB drilling operations.

The results of Chevron's commitment to safety and environmental performance are demonstrated by significant falls in spill volumes.

Chevron Corporation - Upstream Petroleum Spills to Water 2011 - 2015



As the graph above shows, global upstream petroleum spills to water have fallen over the past five years to a record low of 5 barrels, from a total production of over 600,000,000 barrels.

The 2011 spike in spill to water volume was largely driven by two factors – 2,400 barrels were a result of an incident at the Frade³ field off Brazil and 700 barrels were due to sabotage in Nigeria.

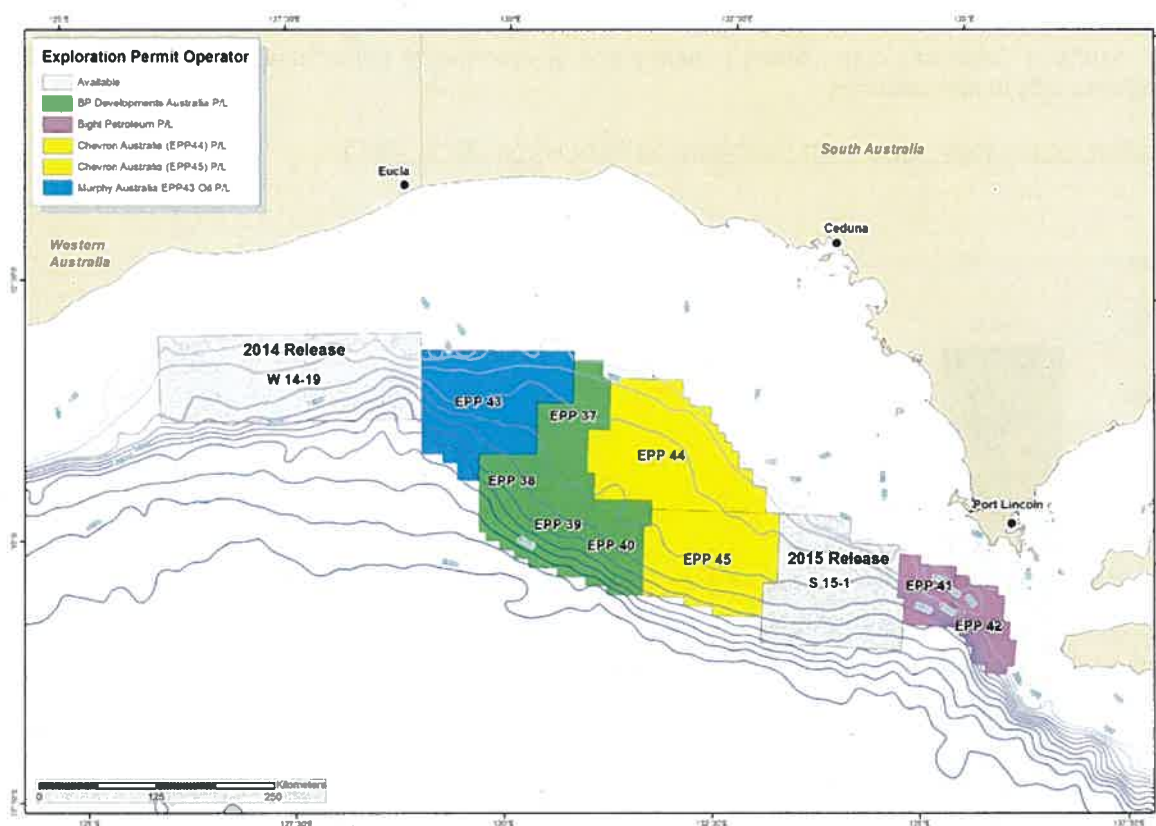
Further information on Chevron's global environmental indicators is available at:
<http://www.chevron.com/corporateresponsibility/reporting/performance/data/environmental/>.

Great Australian Bight Exploration

The Great Australian Bight represents one of Australia's most prospective frontier hydrocarbon exploration regions, however it remains largely unexplored. In late 2013 Chevron acquired exploration interests in two offshore blocks located in the GAB's Commonwealth marine waters. These exploration permits (EPP44 and EPP45) are located approximately 360 km west of Port Lincoln and span more than 32,000 km². Chevron is the titleholder with 100 percent interest.

³ Further information is available via Chevron's website: <http://www.chevron.com/fraderesponse/>

The current approved work program⁴ for each block is:-



EPP 44

Work Program						Close
Year	Start Date	End Date	Activity Unit(s)	Activity Description	Indicative Expenditure(A\$)	
1	22/10/2013	21/10/2014		Geological and Geophysical studies	500,000	
2	22/10/2014	21/10/2017	9000 km ²	3D Seismic Acquisition	36,000,000	
				Prospect review and well planning	500,000	
3	22/10/2017	21/10/2018	2	Exploration Wells	200,000,000	
4	22/10/2018	21/10/2019		Geological and Geophysical studies	500,000	
5	22/10/2019	21/10/2020	1000 km ²	3D Seismic Acquisition	4,000,000	
6	22/10/2020	21/10/2021		Geological and Geophysical studies and Prospect Review	500,000	

⁴ Work Program graphics sourced from the National Offshore Petroleum Titles Administrator (NOPTA) website:
www.nopta.gov.au

EPP 45

Work Program						Close
Year	Start Date	End Date	Activity Unit(s)	Activity Description	Indicative Expenditure(A\$)	
1	22/10/2013	21/10/2014		Geological and Geophysical studies	500,000	
2	22/10/2014	21/10/2017	12,000 km ²	3D Seismic Acquisition	48,000,000	
				Prospect Review and Well Planning	500,000	
3	22/10/2017	21/10/2018	2	Exploration Wells	200,000,000	
4	22/10/2018	21/10/2019		Geological and Geophysical studies	500,000	
5	22/10/2019	21/10/2020	1000 km ²	3D Seismic Acquisition	4,000,000	
6	22/10/2020	21/10/2021		Geological and Geophysical studies and Prospect Review	500,000	

As part of Year 2 commitments, Chevron participated in a two-stage multi-client 3D seismic survey of this region covering more than 22,000 km². The survey was completed ahead of schedule and safely, with no incidents involving whales or other cetaceans and with no recorded disturbance to the tuna catch. Drilling locations for the four exploration commitment wells will be determined from this very large data set. Data processing is underway in Perth using advanced broadband technology to help reduce the noise, enhance the signal, and resolve detailed structural and stratigraphic features so potential drilling locations can be evaluated. This processing work is taking several teams over a year to complete.

Chevron has also commissioned the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to conduct an integrated field research program targeting unexplored deepwater regions in the GAB. This multimillion dollar Great Australian Bight Deepwater Marine Program will help build an enhanced baseline picture of seafloor geology and benthic ecology to better understand the southern continental margin.

The program's objectives include:

- Increasing knowledge of the sedimentary evolution of the Bight Basin;
- Seafloor characterisation of the seamounts, canyons and natural hydrocarbon seeps; and
- Environmental and biological assessment of the benthic biota.

The program is a public/private collaborative effort and is being conducted across key academic and government research agencies including the University of Adelaide, University of Sydney, Deakin University, South Australia Research and Development Institute, South Australian Museum, Western Australian Museum, and Museum Victoria. Research findings will be made public for the benefit of Australia including government, academic, community and environmental groups.

Environment Plan

All petroleum activities undertaken in Australian Commonwealth waters are subject to rigorous evaluation by the independent National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under both the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*, the *Environment Protection and Biodiversity Conservation Act 1999* and their subsidiary regulations.

Chevron has extensive experience in developing and implementing environment plans that demonstrate our commitment to both managing environmental risks to as low as reasonably practicable within acceptable levels and continual improvement, under both State and Commonwealth jurisdiction.

Chevron undertakes a variety of petroleum activities in Commonwealth waters (including production and exploration drilling activities) all of which are covered by NOPSEMA-accepted environment plans.

Since the inception of NOPSEMA in 2012, Chevron has successfully drilled 33 offshore wells, with 9 of those in water depths greater than 1000m, and had environment plans accepted for drilling 73 wells across the Exmouth Plateau and Greater Gorgon Fields.

In the process of developing environment plans, Chevron rigorously and systematically assesses all potential impacts and risks to the ecological and socio-economic environments in which we operate.

Chevron is currently undertaking a regional evaluation of ecological and socio-economic sensitivities within the Great Australian Bight to inform its environmental planning. In addition to the independent CSIRO field research program, Chevron is also partnering with academia so that the best available data is used to inform the potential effects of our operations on the existing environment.

Clear and appropriate environmental protection outcomes are established during the development of the environment plan that allow for Chevron to monitor and report on operational performance during drilling activities. Appropriate preventative and mitigative control measures (systems, personnel, procedures, and equipment) are implemented to enable these protection outcomes to be met. These control measures are currently being developed for the Bight.

Chevron values community feedback and will engage in meaningful two-way dialogue during the development of the EP to ensure relevant⁵ stakeholders are sufficiently informed on how they may be affected by our operations. Stakeholder queries and concerns will be considered and further control measures may be adopted, where practicable, and when additional risk or impact reduction can be achieved.

As part of the above process, Chevron will separate “relevant” stakeholders into two categories:

1. Those who may be directly affected by the petroleum activity; and
2. Those who may be indirectly affected by the petroleum activity through an emergency condition.

In the event a query, claim or objection is submitted to Chevron an evaluation process will assess its merits to determine whether:

- It relates directly or indirectly to the activities outlined in the EP;
- The query/claim/objection is relevant to the stakeholder’s interest; and
- The query/claim/objection is in relation to a control measure (i.e. an Oil Spill Response Plan etc.).

In addition to its face-to-face engagement, Chevron will also utilise a dedicated section of its Australian website to allow stakeholders whose functions, interests or activities may be affected by the activities associated with the Chevron’s exploration activities in the Bight, to self-identify and provide feedback to Chevron including the submission of online objections or claims.

This website can be accessed at <http://www.chevronaustralia.com/our-businesses/exploration/great-australian-bight> and will be updated and refined throughout the development of our EP.

Chevron has commenced scoping of relevant stakeholders ahead of its formal NOPSEMA EP consultation. In 2016 this has included engagement with a range of South Australian State and Commonwealth members of Parliament as well as Eyre Peninsula Local Governments. Chevron has also participated in the Port Lincoln Tunarama Festival and will continue to have a presence at other key community events. Throughout its engagements Chevron seeks input on stakeholders it should be aware of, possible avenues for engagement as well as concerns and queries that it may need to address during the EP development process.

Compliance with regulations and the control measures accepted by NOPSEMA (as part of an EP process) is paramount to Chevron’s operating philosophy. Chevron undertakes its own audits of the implementation of control measures, and is subject to external inspections from the independent regulator NOPSEMA.

⁵ Regulation 11A of the OPGGS (E)R.

In conjunction with the Environment Plan, Chevron will also prepare or commission the following:

- Credible worst-case oil spill modelling to inform the potential risk profile of the activity and the outer geographical extent to which the environment may be affected;
- An Oil Pollution Emergency Plan (OPEP) clearly demonstrating oil spill response arrangements and capabilities (both regional and international) appropriate to the nature and scale of the potential spill risk and aligned with the national system for oil pollution preparedness and response as detailed within the National Plan for Maritime Environmental Emergencies;
- An Operational & Scientific Monitoring Plan (OSMP) that will be enacted in the event of an emergency condition, to inform both the extent, severity, and persistence of environmental impacts from a marine hydrocarbon spill and applied response activity (inclusive of dispersant application where applicable). The OSMP also provides for appropriate monitoring to inform any post-spill remediation activities;
- A Well Operations Management Plan (WOMP) demonstrating that potential hazards and risks to the integrity of exploration wells will be adequately managed during drilling activities and upon the plug and abandonment of exploration wells;
- A Source Control Contingency Plan (SCCP) documenting the engineering and logistical controls required for the timely cessation of any potential sub-sea release including detailed deployment plans for the industry-owned sub-sea first response toolkit and capping stacks and necessary relief well planning arrangements;
- A Safety Case detailing the measures in place to manage and maintain all safety-critical equipment aboard the drill rig; and
- Stakeholder engagement process by which Chevron undertakes community engagement to facilitate meaningful two-way dialogue, as described earlier.

Supporting local companies

Chevron is committed to using Australian Industry Participation (AIP) processes to ensure Australian industry is given a full, fair and reasonable opportunity to bid for work on its projects. This is achieved by informing regional, state-based, Australian and indigenous industry about contract opportunities and fully assessing their capabilities.

Chevron's contractors are also required to apply similar AIP processes when engaging sub-contractors.

The results of Chevron's long-term commitment to local content is demonstrated by the Gorgon and Wheatstone Projects, which have together committed more than \$45 billion to-date on Australian goods and services.

Chevron's exploration program in the GAB has already resulted in around \$125 million of commitments on Australian local content:

- The seismic surveys in EPP44 and 45 resulted in expenditure of \$111.5 million on local content. 78 and 118 Australian workers were employed offshore in the two respective stages of the project, and the chase boats were all contracted from local businesses.
- The CSIRO integrated field research program will see at least \$14 million expended on Australian content, with peak employment of around 100 Australians.

To identify the South Australian and national companies that are best equipped to meet our requirements, Chevron will enter into a partnership with the Industry Capability Network (ICN). This will include publishing upcoming work packages and contractual requirements on project opportunities websites. Post-award the website will publish details of the successful contractor which allows companies to follow-up on any second and third-tier contract opportunities.

We will continue to use our established AIP procedures involving the ICN and a supplier opportunities website. Chevron has held early discussions with ICN South Australia regarding access to their services and to the ICN Gateway supplier opportunities website.

Conclusion

Offshore energy exploration and production is integral to Australia's energy future – for jobs, energy security and potentially billions of dollars in much-needed government revenues.

Exploration and development is a multi-decade process. As innovative technologies and environmental protections continue to improve, we must look at long-term approaches to frontier areas such as the GAB.

Australia's abundant energy resources are enviable. If exploration in the GAB is successful, Chevron can significantly add to Australia's resource base and potentially open the door to new areas of development and ultimately create more jobs and opportunities for the South Australian and national economies.

Australia needs to maintain its robust offshore energy exploration program to open up vital new areas and assist with the development of the nation's resources while balancing strong environmental protections with significant economic and social benefits.

With decades of experience operating in harsh conditions such as the North Sea, Chevron has the capability and expertise to undertake safe operations in the Great Australian Bight.

Yours sincerely

Peter Fairclough
General Manager
Policy, Government & Public Affairs