

REF: 130830-EXE-OGI-00195

30 August 2013

Principal Research Officer
Economic & Industry Standing Committee
Parliament House
PERTH WESTERN AUSTRALIA 6000

Dear Chairman

Requested Submission to the Western Australian Economics & Industry Standing Committee's Inquiry into the Economic Implications of Floating Liquefied Natural Gas Operations

1. ConocoPhillips Experience and Qualifications

ConocoPhillips is the world's largest independent exploration and production (E&P) company based on proved reserves and production of liquids and natural gas. We explore for, produce, transport and market crude oil, bitumen, natural gas, natural gas liquids and liquefied natural gas (LNG) on a worldwide basis. We have operations and activities in 30 countries, with approximately 17,500 employees as June 30, 2013.

Specifically in Australia, ConocoPhillips has actively conducted exploration and production operations since the early 1990's. Over this time, we have built a successful business in Australia with extensive production and LNG operations; with our asset base spanning across Western Australia, Queensland and the Northern Territory. Our activities comprise ongoing liquids and natural gas production, LNG operations, projects in the construction and development phase, along with exploration and appraisal programs.

Australian LNG Assets

ConocoPhillips has a long history in the Australian LNG business. We built and operate one of Australia's first LNG plants at Wickham Point, Darwin in the Northern Territory (Darwin LNG). We also operate the Bayu-Undan gas field in the Timor Sea, which supplies gas to Darwin LNG. Darwin LNG has delivered more than 350 LNG cargoes since it was commissioned in early 2006.

ConocoPhillips is also investing in Australia as a joint venture partner in the Australia Pacific LNG (APLNG) project in Queensland. This project is currently in the construction phase and represents an investment in excess of \$20 billion. The project involves the development of APLNG's coal seam gas resources in central south-west Queensland, a 520 kilometre transmission pipeline, and a multi-train LNG facility on Curtis Island, near Gladstone, Queensland. ConocoPhillips is building and will operate the project's LNG trains, while Origin Energy is constructing and will operate the upstream portion of the project.

Exploration Assets

ConocoPhillips has a significant and diverse offshore and onshore Australian asset base which includes Sunrise and Caldita-Barossa in the Bonaparte Basin, the Greater Poseidon discovery in the Browse Basin and an unconventional onshore gas play in the Southern Canning Basin.

Greater Sunrise was discovered in 1974. ConocoPhillips has a 30 percent interest in the Greater Sunrise natural gas and condensate field located about 450 kilometres north-west of Darwin in the Timor Sea. The Greater Sunrise structure extends across Australian Commonwealth Waters and the Joint Development Petroleum Area, a joint Australian and Timor-Leste jurisdiction. Although the Sunrise joint venture and the governments of Australia and Timor-Leste are aligned with the objective to develop the Greater Sunrise Field, key challenges must be resolved before significant funding commitments can be made. Alignment between Australia and Timor-Leste on the interpretation and administration of the treaties is one of the key next steps required to select the project development option. Development options under consideration include development via Floating LNG technology.

Additionally in the Bonaparte Basin, ConocoPhillips holds a 37.5% interest in and operates the Cauda and Barossa fields, located in Retention Leases NT/RL-6 and NT/RL-5, respectively. These fields are located about 270 kilometres north-northwest of Darwin in the Timor Sea. ConocoPhillips has previously undertaken exploration drilling on these structures. Currently, we are planning to undertake an appraisal drilling program that is scheduled to commence in early 2014. This drilling program will better delineate the hydrocarbon resource and support project development selection.

Moving westward to the Browse Basin, ConocoPhillips is operator and holds a 40% interest in Exploration Permits WA-315-P and WA-398-P, and a 10% interest in WA-314-P, located offshore approximately 480 kilometres north of Broome, Western Australia. These exploration permits contain the Poseidon discovery and comprise the Greater Poseidon Area; we are currently conducting drilling operations to further explore the area. This phase of exploration will consist of six exploration wells and is scheduled to continue into 2014.

Onshore in Western Australia, ConocoPhillips is undertaking exploration in the Southern Canning Project, an unconventional shale play located within the Canning Basin. New Standard Energy is the operator of the project, which extends over approximately 48,000 square kilometres. To date, two exploration wells have been drilled. ConocoPhillips and co-venturers New Standard Energy and PetroChina are working to identify and plan future exploration wells, with further drilling planned for 2014.

Worldwide LNG Experience

Globally, ConocoPhillips is a leader in LNG, as licensor of the Optimized Cascade® liquefaction process and developer of world-class onshore LNG facilities. ConocoPhillips has been a pioneer in the development of LNG, building and operating one of the first successful commercial liquefaction facilities in Kenai, Alaska in 1969. Today, ConocoPhillips successfully operates or is a co-venturer in facilities in Kenai, Alaska, Qatar and Darwin, Australia; and has licensed its Optimized Cascade® process to operators on three continents including all three projects in eastern Australia, as well as the Wheatstone project in Western Australia. ConocoPhillips offers companies and governments the opportunity to license our Optimized Cascade® technology, which continues to set new standards in the design and operation of efficient and cost-effective LNG facilities.

In addition, we have built and operate some of the largest and most sophisticated production, storage and offloading vessels (FPSOs) in the world, including the Belanak FPSO, located in the South Natuna Sea, Indonesia. We are now working to develop a floating LNG design based on the Optimized Cascade® process utilizing our extensive LNG and FPSO experience.

2. Submission on Floating LNG

From our experiences in both Australia and the worldwide LNG industry, we offer the following views in relation to the application of LNG technology to a floating development concept.

ConocoPhillips considers that, consistent with other aspects of the oil and gas industry, a floating LNG development has the potential to bring many benefits to Australia, and Western Australia specifically. As such, industry should have the ability to include floating LNG in the spectrum of development options when making a commercial project assessment.

Globally Competitive

To be commercial Australian LNG projects must be globally competitive in two areas. Firstly, they must attract the necessary investment capital to undertake engineering, procurement and construction. Secondly, their cost of supply must support their ability to secure long term sales contracts. These two areas are highly interrelated and are key components to achieving a positive final investment decision.

Global competition is increasing. Deep-water petroleum discoveries in Mozambique and the Gulf of Mexico, arctic discoveries in Russia and unconventional resource discoveries in the United States, Canada, Australia and China have the potential to be transformative for the global gas industry. These unconventional volumes are large compared to existing conventional resources and in the case of China and North America are located within existing and growing demand centres. The United States Government is currently considering its energy export policy and has recently granted approval for the conversion of three LNG import terminals into export terminals with further applications awaiting consideration.

Against this global field, Australia's competitiveness is challenged. Australia is already a higher cost LNG producer, by global standards, which makes Australia less attractive for future projects developed in the conventional way. The underlying field reservoir qualities, size and remoteness have a major impact on a project's competitiveness, with many of the undeveloped discoveries in Australia having much lower liquid yields than developed projects and/or are located further from shore or supporting infrastructure. Against this back-drop for Australia to remain competitive will require new and innovative approaches to resource development.

The potential for floating LNG to deliver lower capital costs to projects that may otherwise not be economically viable, or may not compete globally, is from our perspective the single strongest reason why freely competitive market forces should be used to assess projects and all relevant development options, including floating LNG, on their merits. Resource size, quality and location will drive the suitability of different development concepts. The appropriateness of given development options should always be considered on a project by project basis. Our analysis indicates that floating LNG development has the potential to unlock or accelerate the development of fields where the size of the resource and/or limited liquids yield do not to support a globally competitive green-field onshore LNG development. It is also worth noting that:

- i. Where new discoveries can leverage existing infrastructure a brownfield development can compete with floating LNG.
- ii. Certain field characteristics, for example a larger more liquid rich reservoir located close to a potential onshore development site, could result in a green-fields onshore development being more competitive than floating LNG.

Therefore, in our opinion, it is unlikely that floating LNG will replace onshore development altogether; however, it has the potential to unlock or accelerate the development of fields that are currently stranded. Conversely, if floating LNG was not an option in Australia, certain fields that are good candidates for floating LNG would likely go undeveloped as the industry would concentrate its floating LNG resources and capabilities elsewhere.

Benefits from LNG Developments

The ability to unlock or accelerate the development of certain fields with the use of floating LNG could deliver to Australia and Western Australia the same range of benefits as traditional petroleum developments, including taxes and royalties and local content including employment. Lower initial capital results in higher tax and royalty streams. However we believe this is well understood and would like to focus most of our comments on local content.

In order to remain globally competitive the LNG industry, including ConocoPhillips in our current construction of a multi-train LNG plant in Gladstone, is already modularising much of its construction, with modules sourced on a global basis. Floating LNG train construction will be undertaken in a similar manner utilising globally sourced production modules. Despite the global sourcing of modularised components, our experience with APLNG is that a significant proportion of services and materials are sourced locally.

The greatest portion of sustained local benefit from the development of fields via floating LNG will be derived during the operational phase of the project. LNG projects are generally 20-30 years in duration and irrespective of facility location require staff to operate and maintain facilities. ConocoPhillips currently directly employs over 700 people across our Australian and Timor-Leste operations, with over 90 percent of employees being local (Bayu-Undan defined as Australian or Timorese). To break this down a further 96 percent of our offshore workforce supporting the Bayu-Undan facility is local, which represents a significant commitment to local employment. In our experience, this level of local employment is also consistent across operational support services such as maintenance and engineering. We see similar levels of activities in procurement of goods. Research conducted by the Chamber of Minerals and Energy of Western Australia (CME) and Australian Petroleum Production and Exploration Association (APPEA) indicates approximately 83 percent local content for the operational phase of projects¹. Over the life of a typical project operational expenditure is approximately equal to the capital expenditure.

This steady generation of significant activities in support operations provides a stable economic base for local communities. It also has the additional benefit of avoiding some of the challenges and strains on local infrastructure that arise from the peak nature of construction activity, and therefore in our opinion is more sustainable to the community over the longer term. We envision that local content generated from operational phases of a floating project will be very consistent with existing offshore projects. We would expect that floating LNG development will continue to generate significant levels of local content, just as other offshore developments have already delivered.

In fact, with floating LNG being at the forefront of technology development, Western Australia is well placed to become a global leader across the development of operational, maintenance and support services. In addition to Western Australia directly benefiting from the creation of supply bases, Perth is well positioned to create engineering and procurement centres of research excellence. Western Australia has a unique opportunity to create jobs that would provide services beyond its borders, creating Australian jobs that can export skills and services to a growing worldwide industry.

One further benefit associated with floating LNG is long term environmental sustainability, due to the smaller environmental footprint compared to traditional shore-based development options. Floating LNG removes the need for export pipelines to shore and onshore processing plant capacity, therefore reducing impacts associated with sensitive receptors along a pipeline corridor or near shore associated with dredging, jetty and breakwater construction or onshore impacts associated with terrestrial site clearing.

To conclude, it is ConocoPhillips' view that floating LNG development technology has the potential to unlock development of fields that are currently stranded; which will deliver significant economic, social and environmental benefits to Australia and Western Australia.

Yours sincerely



Todd Creeger
President – Australia West

For and on behalf of ConocoPhillips Australia Pty Ltd

¹ CME & APPEA, 2011. *Local Content Report*, June 2011. Perth.