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The Chair
Committee on the Northern Territory's Energy Future
GPO Box 3721
Darwin NT 0801

By email: contef@nt.gov.au

Dear Chairman

Legislative Assembly of the Northern Territory - Committee on the Northern Territory's Energy Future

Santos welcomes the opportunity to provide the following submission to the Committee on the Northern Territory's Energy Future inquiry into the impact of cultural, economic, geographic, regulatory or other factors on the exploration, development and production of energy producing resources and the availability of developed resources for the domestic energy market.

Executive Summary

The safe, sustainable exploitation of Australia's abundant natural gas resources should bring widespread economic, environmental and energy security benefits. Many of these prospective benefits are likely to be concentrated in regional areas, including in the Northern Territory.

Australia's upstream oil and gas industry is currently building almost \$200 billion worth of projects, a development phase that is expected to deliver around \$13 billion a year in royalties and taxes by 2020. According to McKinsey & Company, existing and committed Liquefied Natural Gas (LNG) projects in Australia are expected to contribute \$520 billion to the economy over 2015 to 2025.

Driven by growing Asian demand for LNG energy, there is the opportunity for a second wave of LNG investment in Australia. McKinsey & Company puts the potential capital expenditure of those LNG projects, still on the drawing board, at more \$180 billion, which would contribute an additional \$320 billion to economy.

The NT is a beneficiary of the current wave of industry investment and well placed to participate in the second wave, with significant reserves in the Timor Sea and its onshore Basins.

However, Australia is not the only country striving to supply future Asian gas demand. The LNG market is a competitive one, and there are new suppliers emerging including the United States, Canada and East Africa. In the US, the boom in shale gas development has seen that nation begin a shift from LNG importer to major exporter. If Australia, and the NT, is going to compete successfully for new Asian demand, it must meet the cost challenge. Investors in LNG development now have more options than ever before in choosing a destination for their capital, and new Australian projects must be cost competitive if they are going to attract the investment needed to get off the ground.

In the NT, that means having policy settings that are efficient and effective in protecting the environment and community interests, but are market-based and attract investment capital. Interventionist policies like gas reservation, which distort the market, will scare off investment. An efficient and consistent regulatory regime is also critical in securing investment whilst at the same time ensuring public confidence in the industry. If an unnecessary regulatory burden doesn't scare off investment at that first instance, it invariably delays projects and adds to cost. According to a recent Productivity Commission draft report on Major Development Assessment Approvals Processes, an indicative cost estimate for a one-year delay on a large oil or gas project is in the order of \$700 million.

To ensure the NT remains competitive and attracts the investment to unlock its resources potential, it will need to remove disincentives (e.g. the formula behind the NT Build levy), continue to support infrastructure development (e.g. Marine Supply Base) and ensure regulation is consistent and efficient (e.g. removing unnecessary green tape through the Federal Government's 'one-stop-shop' environmental approval process framework).

About Santos

With its origins in the Cooper Basin in north-east South Australia and south-west Queensland, Santos is one of Australia's largest producers of gas for the domestic market and has the largest exploration and production acreage position in Australia of any company. Santos has developed major oil and liquids businesses in Australia and operates in all mainland Australian states and the Northern Territory.

Santos also has an exploration-led Asian portfolio, with a focus on three core countries: Indonesia, Vietnam and Papua New Guinea.

The company has a unique LNG portfolio with interests in four projects – Darwin LNG, PNG LNG, GLNG and Bonaparte LNG.

In over 50 years of exploration and production, Santos has drilled over 2700 wells and currently produces from approximately 1300 oil and gas wells. To date, over 700 wells have been fracture stimulated in the Cooper Basin with over 1500 individual fracture stimulation stages having been pumped.

With over 3,000 employees across Australia and Asia, Santos' foundations are based on safe, sustainable operations and working in partnership with host communities, governments, business partners and shareholders.

Santos in the NT

Santos has had a long and important association with the NT, stretching back many decades. Indeed, the 'NT' in the company name stands for Northern Territory; Santos being an acronym for South Australia Northern Territory Oil Search. Santos has major interests in oil and gas assets both on and offshore NT, and in the past 12 months the company has committed to spend up to \$320 million in onshore exploration in the NT over the next four years.

Onshore

Mereenie

Santos operates the Mereenie oil and gas field, located approximately 250 kilometres west of Alice Springs. The field was discovered in 1963, with oil production beginning in 1984, gas production in 1987. Santos has operated Mereenie since 1993 and now owns 100% of the field.

Oil and condensate produced from the field is processed and then loaded into trucks for transport to Port Bonython in South Australia.

Mereenie gas was the major source of the NT's domestic gas supply until the NT's Power and Water Corporation switched to taking ENI Australia's Blacktip gas in 2009. Since then, Mereenie gas has largely been re-injected into the reservoir to help with oil uplift.

Santos is currently investing \$100 million appraising and developing reserves in the Mereenie field. The Mereenie Appraisal and Development Drilling (MADD) project is targeting oil and evaluating natural gas in the sparsely drilled western and central areas of the field. Dependent on the outcome of the eight well drilling program, Santos will consider drilling a further 15 wells in the field.

Fracture stimulation has been employed at Mereenie on about half of the 63 wells in the field and will be employed as part of MADD.

Mereenie is on freehold Aboriginal land. An agreement between Santos and the Central Land Council on behalf of the Traditional Owners of the land sets out conditions by which the company operates on the land.

Amadeus and Pedirka Basins

In October 2012, Santos farmed-in to 13 Exploration Permits (EP), Exploration Permit (Applications) (EP (A)) and Retention Leases (RL) held by Central Petroleum in the Amadeus and Pedirka Basins, south of Alice Springs.

The farm-in agreement provides for a four year, three phase exploration program. Santos can earn up to a 70% interest in the permits, and is Operator. The first phase, seismic survey program commenced in June 2013 with 300 kilometres of seismic in EP 115 NM, followed by 1,500 kilometres of seismic in EPs 82, 105, 106, 107, 112 and RLs 3 and 4, as well as one exploration well, known as Mount Kitty, in EP 125.

The second phase may include up to 1,300 kilometres of seismic and up to three exploration wells and the third phase may include up to five exploration wells.

EP 115NM is located over Aboriginal freehold land, subject to the *Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)*. The remaining EPs are located over pastoral leasehold land subject to the *Native Title Act 1993 (Cth)*.

McArthur Basin

In December 2012, Santos farmed-in to three EPs held by Tamboran Resources in the Beetaloo sub-basin of the McArthur Basin. Santos is now the Operator of these permits, which are located over pastoral leasehold land subject to the *Native Title Act 1993 (Cth)*.

Tamboran Resources is currently applying for a fourth EP (299), also located on pastoral leasehold land, which Santos has agreed to farm-in to upon grant.

The farm-in agreement provides for a five year, two phase exploration program. Santos can earn up to a 75% interest in the permits through a seismic and drilling program. The first phase, seismic program commenced in July 2013 with 500 kilometres of seismic in EP 161.

Other

Santos has also applied for EP 288 within the Gorrie sub-basin, an area of about 780 square kilometres, 130 kilometres south-east of Katherine. The area is over Aboriginal freehold land held by the Wubalawun Aboriginal Land Trust.

Offshore

Darwin LNG/Bayu-Undan

The Bayu-Undan fields are located in the Timor Sea, within the Joint Petroleum Development Area, approximately 500 kilometres north-west of Darwin. Santos has an 11.5% interest in the fields as well as in Darwin LNG, the plant at Wickham Point which draws its gas from Bayu-Undan fields. Santos was a foundation member of the Bayu Undan/Darwin LNG development and is the only Australian company with an interest in the project, and is the second biggest shareholder behind the Operator, ConocoPhillips. Liquids production at the project commenced in April 2004 and LNG production commenced in February 2006.

A Final Investment Decision (FID) was recently taken on the Bayu-Undan Phase 3 project which will deliver incremental liquids recovery and higher offshore well capacity through the development of two subsea wells tied back into the existing platform.

Darwin LNG is now a key piece of regional infrastructure, with scope for expansion (government approvals are already in place to expand the plant's capacity from 3.7 million tonnes per annum to up to 10 million tonnes per annum).

Caldita Barossa

The Barossa and Caldita gas fields are located approximately 270 kilometres north of Darwin, in the Timor Sea. Caldita field was discovered in 2005 and Barossa the following year.

Planning for a three well appraisal program is well advanced, following entry into the joint venture by Korean diversified group SK in June 2012. Assuming a success case at the end of the appraisal program, which gets under way in 2014, development options include expansion of Darwin LNG.

Santos holds a 25% interest in Caldita Barossa, which is operated by ConocoPhillips.

Bonaparte LNG

In August 2009, Santos formed the Bonaparte LNG joint venture with French company GDF SUEZ to develop the Petrel, Tern and Frigate fields, located approximately 250 kilometres west of Darwin in the Joseph Bonaparte Gulf, using floating LNG (FLNG) technology.

Santos holds a 40% interest in the project, which is operated by GDF SUEZ.

The Petrel and Tern fields were discovered in 1969 and 1971, respectively, and have remained undeveloped for decades, with conventional technology and infrastructure (such as a pipeline to shore, compression capacity, jetties and an onshore processing plant), making them uneconomic to develop via onshore processing. Santos hopes to develop these fields using FLNG technology.

The project is in pre-FEED (Front End Engineering and Design) and is expected to enter FEED in early 2014, with FID scheduled for 2015 and first LNG in 2019. The facility will produce around 2.4 million tonnes per annum (Mtpa) of LNG.

Other

Santos holds exploration permit WA-459-R to the west of Frigate, in the Joseph Bonaparte Gulf, which contains the single well Fishburn discovery.

Challenges and Opportunities

Market-based Approach

Santos strongly supports a market-based approach to energy policy. Government should be looking to improve market efficiency, remove impediments to investment and provide an internationally competitive investment environment to ensure long term security and reliability of energy supply.

Government intervention in the market aimed at shifting supply or demand, influencing prices or providing other forms of subsidy or protection, prevent markets from adjusting to equilibrium and result in investment uncertainty (sometimes referred to as 'sovereign risk'), reduced investment and, ultimately, less supply.

The NT Government's policy to oppose domestic gas reservation, therefore, is to be applauded for sending the right investment signals. The imposition of such a reservation, inferring the mandatory sale of gas specifically for domestic use at an artificially lower price than available otherwise, would have the effect of stifling exploration activity in the NT. Exploration investment would be directed to those prospective areas, in Australia and overseas, where a proper commercial return would be obtained. With the onshore (shale) resource opportunity in the NT in its very early stages of potential development, the policy settings are critical for attracting the right investment to bring this potential to reality.

Government intervention should be restricted to those situations where 'market failure' is clearly and unambiguously identified and the public benefits from intervention are shown to exceed the costs. The recent issue around the delivery of 300PJ of gas to Gove was not a case of market failure. Gas projects typically take three to five years to develop once FID has been taken (timeframes may involve two to three years before drilling explorations wells, then discoveries have to be appraised over two or more years, then an economic development has to be worked up over two or more years, then the project has to be built over 2½ years or more). Prior to the Gove alumina refinery operator's sudden decision to switch from fuel oil to gas as its energy source, the NT market was long in domestic gas.

Infrastructure Development

Santos commends the NT Government's on-going commitment to offshore oil and gas exploration and production through the facilitation of the establishment of the Marine Supply Base in Darwin Harbour. The Timor Sea holds vast gas reserves awaiting development and, with the right infrastructure, Darwin is well positioned as the industry's regional hub both in terms of supply and maintenance and traditional onshore development (green and brownfield). It is also well placed to take advantage of opportunities flowing from the early global deployment of FLNG, with projects in various phases of development in the Browse and Joseph Bonaparte basins and nearby Indonesian waters.

The prospective areas in the NT for shale oil and gas are vast and sparsely populated with limited infrastructure. The development of a shale oil and gas industry in the NT will require significant future infrastructure investment, particularly for roads and an expanded gas pipeline network. Santos notes the critical role that available infrastructure played in the rapid development of the shale oil and gas industry in the United States.

The investment decisions required and the identification of locations for infrastructure to meet the needs of the shale oil and gas industry are some years away. However, in order to provide a strong incentive for exploration activities, the NT Government is encouraged to acknowledge those likely future needs sooner rather than later, and express a firm resolve to make and/or facilitate the required investments at the appropriate time.

If the Gas to Gove pipeline had proceeded as proposed, from the Amadeus Gas Pipeline near Katherine to the Gove alumina refinery, it would have traversed areas in the northern McArthur Basin considered prospective for oil and gas, providing an incentive for exploration.

Should sufficient onshore gas reserves be discovered, the opportunity for gas from the NT to be sold into Eastern Gas Market would necessitate an appropriately sized pipeline connection between the NT gas pipeline network and the Eastern network. Santos notes that the Commonwealth Government has agreed to fund a study into the feasibility of such a connection. Santos believes the opportunity for the connection to be through Moomba in the Cooper Basin has merit and should be considered as part of the feasibility investigation.

Moomba is the hub of the Eastern Australia gas market. The facility accepts production from 115 gas fields and 28 oil fields containing 536 producing gas wells and 177 producing oil wells through approximately 5,600 kilometres of pipelines and flow-lines via 24 oil and gas satellite facilities, many of which incorporate field boost compression. Sales gas is sent from Moomba to Adelaide via a 790 kilometre pipeline and to Sydney via an 1160 kilometre pipeline. The South West Queensland pipeline connects Moomba to Brisbane and other key regional Queensland markets, including the export plants being constructed at Gladstone. Ethane is sent to Sydney via a dedicated pipeline.

The Moomba facility also incorporates substantial underground storage for processed sales gas and ethane. Natural gas liquids are recovered via a refrigeration process in the Moomba plant and sent together with stabilised crude oil and condensate through a 659 kilometre pipeline to Port Bonython, near Whyalla in SA.

As well as offering employment and opportunities for local service providers, the development of the onshore industry will also increase NT Government revenue through the payment of royalties, thereby reducing the high reliance on the Commonwealth Government for income (royalties from offshore projects in Commonwealth waters i.e. Bayu Undan are paid to the Commonwealth Government).

Incentives

Santos supports the NT Government's Gravity Survey program. Santos has participated in the 2013 Southern McArthur Basin Gravity Survey by funding infill, and the company has expressed interest in funding infill in the northern McArthur Basin in 2014 should the Government extend the program to that area.

As well as removing impediments to business, governments can offer incentives aimed at making their jurisdictions more attractive. Santos notes the easing of the royalty rate by the WA Government in July 2009 for tight gas production. The tax relief (from 10% to 5% of the value of the gas at the wellhead) was also recognition that, unlike an offshore production which may involve a handful of wells, tight gas production requires potentially hundreds of wells to maintain output.

Disincentives

Santos is aware, and shares the concern, of other oil and gas companies with interests in the NT over the adverse (and presumably unintended) impact of the current structure of the Construction Industry Long Service Leave and Benefits Act on the industry. The current method of calculating the imposition of the levy to fund the scheme, different from most other Australian jurisdictions, acts as a disincentive for placing infrastructure onshore in the Territory.

The current scheme is not well designed as the levy applies to all expenditures including equipment imported into the NT whilst the scope of activities being caught by the levy is poorly defined and is being expanded. Santos believes, therefore, that the scheme needs to be independently reviewed according to a well-defined consultative process.

Efficient Regulation

Santos supports the recent action taken by the NT Government to commission an independent review (Dr Tina Hunter) of the *Petroleum Act* and Regulations and *Petroleum (Submerged Lands) Act* and Regulations. Santos notes and supports the Government's implementation of the review's recommendations.

Santos also notes and supports the commitment of the NT Government to benchmark its regulatory environment against other Australian jurisdictions and internationally. Santos also encourages the NT Government to work with the Commonwealth Government for the implementation of a 'one-stop-shop' approach to environmental assessment processes. To date, two States have struck an Memorandum Of Understanding with the Commonwealth in support of the eradication of red and green tape for environmental approvals. The one-stop shop will eliminate duplication, deliver more timely approvals and enable companies to expedite their work. It will mean only one approval is needed, not two.

Santos understands the NT Government is preparing an Energy Strategy for the Territory, an initiative it welcomes, and the company looks forward to the opportunity to provide input into the development of the Strategy.

Access

Santos onshore activities throughout Australia demonstrate that agriculture and natural gas extraction can coexist successfully. As the global population increases, sustainable and multiple uses of land is the best response to increased domestic, regional and global demand for food and energy. This is particularly true when both can be provided safely and sustainably from the same land. Santos will only undertake oil and gas development in an environmentally sound manner and in consultation with the community.

Santos seeks long term, mutually beneficial relationships with landholders who are affected by its operations. The company's approach is to seek negotiated outcomes with landholders in a manner that lays the foundations for long term relationships.

Santos acknowledges that landholders may have concerns about how oil and gas exploration and production will impact upon their existing land use, operations and property values. Santos agrees that landholders should be properly compensated for loss of productive land and amenity impact.

Community contribution

Santos embraces a citizenship role in the communities of which it is a part and seeks to establish and maintain enduring and mutually-beneficial relationships with these communities.

The company invests time and money to achieve this, from the informal neighbourly relationships Santos has with remote-area landholders to defined programs that seek input on specific work activities, common issues or development plans.

In the NT, our support for the community is highlighted by several initiatives, including:

- Darwin Festival. Santos has been a major sponsor of this unique multicultural festival since 1991.
- Somerville Community Services. A non-government and not-for-profit youth, family and community welfare organisation, providing temporary accommodation, disability support, family welfare programs, social work and financial counselling.

- Santos Top End Gran Fondo. This annual ride-round-the-bay is Darwin's biggest cycling event, promoting good health and raising funds for local charities.
- Yalari: a scholarship program which offers indigenous children from remote communities the opportunity for a first-class secondary education.
- West Arnhem Land Fire Abatement Project: a program of controlled grass fires lit by indigenous landowners which reduces unchecked wildfires and preserves aboriginal cultural traditions.
- Red Tails/Central Australia Football Club: The NT Football League Premier League team requires its players - drawn from central Australia communities - to be working, studying or participating in the Right Tracks program (a full-time, structured-curriculum conducted in conjunction with the Desert Peoples Centre and the Centre of Appropriate Technology).

Conclusion

Santos believes the safe, sustainable development of the NT's natural gas resources promises significant cultural, economic, environmental and energy security benefits.

As in other areas where Santos operates, these benefits are enhanced by direct contributions to the communities which host our activities.

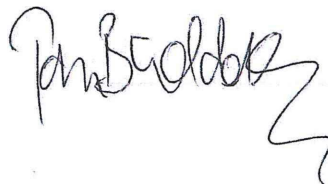
Santos would welcome the opportunity to appear before your Committee in due course. In the meantime, we would be pleased to offer detailed technical briefings or visits to areas of gas exploration and production activities if this was of interest and benefit to members of the Committee.

Should you have any questions or comments, please do not hesitate to contact Matthew Doman, Manager Public Affairs Eastern Australia, on 08 8116 5260 or at matthew.doman@santos.com

Yours faithfully,



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