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Ms Nicole Ross
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Dear Ms Ross

Shell response to Consultation Paper – Framework for the consistent reporting of natural gas reserves and resources

Thank you for the opportunity to make a submission in response to the February 2019 Consultation paper on a framework for the consistent reporting of natural gas reserves and reporting (**Consultation Paper**).

This response is provided by Shell, both in its capacity as gas producer (QGC Pty Limited, as operator of the QCLNG project) and as a participant in the domestic market through Shell-operated Walloons Coal Seam Gas Company Pty Ltd and Shell Energy Australia Pty Ltd.

In general, Shell supports the introduction of measures to improve transparency where there is a clear market benefit. While some additional clarity could come from more consistent reporting of reserves and resources, Shell is concerned with the starting assumption that *more* information will necessarily improve decision-making for both gas purchasers and policy makers. While international models have been considered, the Consultation Paper does not demonstrate how such enhanced reporting requirements have improved the functioning of the markets in which they operate.

In particular, information that is inherently uncertain (such as contingent resource estimates) is given very little weight by informed market participants. This is why such information is typically not included in mandatory reporting in most of the key markets. There is a risk that misunderstanding of potentially unreliable information could lead to poor quality decision-making.

In addition, as outlined in the attached response, Shell has significant concerns regarding the reporting of contracted and uncontracted reserves, and the reporting of underlying price assumptions. Shell would appreciate the opportunity to discuss these concerns with the Commission in detail, both to address underlying misconceptions, as well as to highlight the very significant burden associated with providing data that satisfies these requirements.

Further, the efficient functioning of the East Coast Gas Market requires information transparency across the supply chain as well as the demand-side. The recommendations put forward in the Consultation Paper focus entirely on upstream gas production. This follows ongoing focus on the supply side only over the past few years.

As previously noted, it is difficult to understand the full set of scenarios and risks around the supply-balance without more insight into the demand-side sensitivities. Transparency on the characteristics of end users will allow a greater understanding of customer requirements, encourage product innovation and supplier response.

Shell would also welcome the opportunity to discuss further the suitability of the Gas Bulletin Board for publication of all the proposed information. While the GBB might be suitable for some straightforward data (e.g. similar to that reported to DNRME), there is some complexity to some of the information proposed that requires more explanation, together with aggregation of potentially confidential information. For example, the approach taken by the ACCC for the LNG Netback Price series might be a better model for some of the measures proposed, both in this Consultation Paper, and the wider set of reforms contemplated by the joint ACCC/GMRG paper published in December 2018.

Response

As requested, Shell has completed the template with its response to each of the 40 questions set out in the Consultation Paper, as **attached**. The information in the response is **Commercial-in-Confidence** and accordingly, Shell does not wish the submission to be published on the ACCC's website.

Please contact Kim Broadfoot if you have any further queries.

Yours sincerely

Katie Whittle
GM Development, East
QGC Pty Limited, a member of the Shell Group

Framework for the consistent reporting of natural gas reserves and resources – Consultation Paper

Stakeholder name: Shell (QGC Pty Limited, Shell Energy Australia Pty Ltd and related entities)

	Questions	Feedback
Box 2.2 Questions on categories of reserves		
1.	Do you agree that producers should be required to report on their 1P, 2P and 3P reserves estimates? (a) If so, please explain how you would use this information and the benefit it would provide. (b) If not, please explain why.	Shell has no objection to reporting 2P reserves subject to the more detailed responses below, principally that reporting should be consistent with existing reporting requirements. As a market participant, Shell undertakes its own assessment of the supply/demand position over time of competitors and potential suppliers, drawing on information from a wide variety of sources. We use 2P reserves as a check to make sure our production profiles are reasonable. 1P and 3P volumes could provide an indication of downside and upside volumes but these are of limited use and Shell recommends that reporting of 1P and 3P should be optional.
2.	Do you agree that producers should be required to break down their 1P, 2P and 3P reserves into developed and undeveloped reserves? (a) If so, please explain how you would use this information and the benefit it would provide.	Shell has no objection to reporting reserves as developed or undeveloped.

	Questions	Feedback
	(b) If not, please explain why.	
3.	Should it be mandatory for producers to develop 3P reserves estimates, or should the reporting of this information be optional as it is under the ASX Listing Rules and in other jurisdictions?	As a market participant, Shell does not consider that there is a benefit in mandatory reporting of 3P reserves estimates, because 3P implies an inherently low level of confidence. Shell disagrees with the ACCC's statement that 3P reserves "*provide a better insight into the potential upside associated with 2P reserves*". [c-i-c] It is noted that this information is optional for both ASX and DNRME reporting. One of the key reasons it is not considered to be useful for valuations of listed companies is because of its low level of reliability.
Box 2.3 Questions on categories of resources		
4.	Do you agree that 1C and 2C contingent resources should be reported? (a) If so, please explain how you would use this information and the benefit it would provide. (b) If not, please explain why.	As a market participant, Shell does not place weight on reported contingent resources. By their very definition, contingent resources are not yet considered to commercial, for a wide range of reasons – whether that be project maturation, technical challenges, economics, or internal commercial decision-making processes. An external participant cannot make any reasonable evaluation of the quality of the resource, the pre-conditions to its maturation, or the timeframe in which this could occur. From the perspective of the gas market, there can be no confidence of whether or when this gas will come to market, so the information would be of limited value to prospective purchasers for decision-making.

	Questions	Feedback
		Similar concerns arise from the use of this data for long-term policy making, given that it could lead to policy being made on potentially unreliable information. This is why public reporting around the world is typically optional, and generally used with a high degree of caution.
5.	Do you think it should be mandatory for producers to develop 1C and 2C contingent resource estimates, or should the reporting of this information be optional as it is under the ASX Listing Rules and in other jurisdictions?	In light of the response to question 4, Shell considers that reporting of contingent resources should be optional.
6.	Do you think any other resource categories (e.g. 3C contingent resources or prospective resources) should be reported? If so, please explain how you would use this information and the benefit it would provide.	Shell agrees with the ACCC's conclusion (p16) that 3C or prospective reserves are speculative only and should not be included in the reporting framework.
Box 2.4 Questions on gas field information		
7.	Do you agree that information on the field's stage of development, the type of gas and the nature of the gas field should be reported? (a) If so, please explain how you would use this information and the benefit it would provide. (b) If not, please explain why.	At a high level, this information could have some use to market participants (for example, in distinguishing between CSG and conventional gas, and whether the field is currently under development). Shell would not object to reporting the gas field information specified in section 2.3.3, provided that the information could be supplied at basin level, rather than field level, as noted in the response to **Question 8** below.

	Questions	Feedback
8.	Do you agree with the categories that have been proposed for the field's stage of development, the type of gas and/or the nature of the gas field? If not, please explain why and what alternatives you would suggest.	For Queensland gas, Shell has a strong preference to report this information at Basin level (i.e. Surat Basin CSG) for resources that do not conform to conventional field definitions. [c-i-c]The publication of detailed information broken down by 'field' (if that is intended to be a term that aligns with the boundaries of a PL) provides no meaningful insight into the likely timing of development or performance of a field and creates a significant additional compliance and reporting burden. Flexibility should be provided to producers in relation to the manner in which this information is to be reported.
9.	Is there any other gas field information that you think should be reported? If so, please explain why you think this is consistent with the objectives of the reporting framework.	Shell does not consider that additional gas field information should be reported.
Box 2.5 Questions on movement in 2P reserves		
10.	Do you agree that annual movements in 2P reserves should be reported? (a) If so, please explain how you would use this information and the benefit it would provide. (b) If not, please explain why.	While this information could be broadly useful, in discerning the relative impact of various factors on reserves movements, Shell would only be supportive of this requirement if set at basin level (i.e. Surat Basin CSG), not at the level of the individual PL. The complexity and additional effort in preparing this data would not provide any better quality in market information.

	Questions	Feedback
11.	Do you agree with the categories that have been proposed for the breakdown of movements in 2P reserves? If not, please explain why.	Provided there is the flexibility to report at basin level, rather than at "field" level, the categories are acceptable to Shell.
12.	Do you think there would be value in also requiring producers to report on annual movements in 2C resources? (a) If so, please explain how you would use this information and the benefit it would provide. (b) If not, please explain why.	As noted in Shell's response to **Questions 4** and **5** above, Shell does not consider there is value in mandatory reporting on 2C resources, so would not support reporting on annual movement in these resources.
Box 2.6 Questions on contracted 2P reserves		
13.	Do you agree that if the ACCC and GMRG's recommendation on contracted 2P reserves is implemented that: (a) producers should be required to report the total quantity of 2P reserves that they are contracted to supply as total contract quantities under GSAs at a basin level? If not, please explain why. (b) AEMO should be required to further aggregate the information if there are less than three producers operating in the basin? If not, please explain why.	2P reserves are not contracted, in the sense that specific reserve volumes are dedicated to contracts. Contract volumes are based on expectations of future production at the time of contracting and while reserve volumes can provide confidence to producers (and buyers) in committing to sales, producers may also take into account other volumes such as production from areas that have not yet qualified as reserves and gas purchases. Forward contracted volumes can be compared to reserves, but great care needs to be taken in making this comparison. An excess of reserves over contracted volume does not mean that gas volumes will be available to the market in the short to medium term. Conversely, if reserves are lower than contracted volumes, uncontracted gas may be available. There are many reasons for this, including: • Timing of production is an important consideration. [c-i-c] • Contracts often include some volume flexibility. [c-i-c] For instance, diverted volumes from contracted

	Questions	Feedback
		LNG supply to domestic sales will not be apparent from quoted contracted volumes. • Producers may have gas purchase contracts in place which can be used to satisfy sales commitments, making reserve volumes available for uncontracted sales. Shell considers that the most useful information for gas market participants would be a gas production forecast profile. Shell recommends that a supply/demand forecast should be developed by the ACCC at an aggregated level from forecast production and contract information supplied by producers through the existing confidential reporting processes, rather than linking this to project-specific reserves reporting. Purchases must be accounted for in this picture. In developing such a supply/demand picture, the concept of 'total contract quality' should be better defined, allowing for consideration of whether this represents the minimum contracted volume, or a theoretical maximum, given the range of contract flexibility requirements. If this information is reported, Shell supports aggregation of data at basin level regardless of the number of producers. For example, in the Surat basin, there are currently 3 dominant producers with a number of smaller players entering the market. Aggregation would still serve the interests of informing the market of the extent of uncommitted volumes, without risking disclosure of producer confidential information.

	Questions	Feedback
Box 2.7 Questions on other information		
14.	Is there any other information that you think should form part of the reporting framework? If so, please set out: (a) what the information is (b) how you would use the information and the benefit it would provide (c) why you think the inclusion of this information would be consistent with the objectives of the reporting framework.	No.
Box 2.8 Questions on reporting standard		
15.	Do you agree that the PRMS classification system should be used in the proposed reporting framework? If not, please explain why.	Shell's petroleum reserve reporting system is based upon PRMS, so in principle Shell supports the use of the PRMS, however there are some specific differences between the PRMS and Shell reporting. [c-i-c]
16.	Do you agree that the PRMS definitions set out in Box 2.1 should be used in the proposed reporting framework? If not, please explain why.	Shell has no specific concerns with PRMS definitions.
17.	Are there any other reporting standards or definitions that you think should be reflected in the reporting framework?	[c-i-c]
Box 2.9 Questions on quantities and analytical methods		
18.	Do you agree that reserves and resources should be reported on the basis of sales quantities? If not, please explain why.	For the purposes of **Questions 18 and 19** Shell notes that it is essential that there is harmonisation of any reporting (e.g. to DNRME and through the GBB process).

	Questions	Feedback
		Shell's preference is for reporting to align with current DNRME reporting ie 100% well head gas (including upstream fuel and losses).
19.	Do you agree that reserves and resources should be reported on a net revenue basis? If not, please explain why.	Shell's preference would to be report on an 100% gross gas production basis, in accordance with current reporting to DNRME.
20.	Do you agree that producers should be required to disclose the analytical method they have used to estimate their reserves and resources? If not, please explain why.	Shell does not consider the estimating method to be critical information in evaluating competitor reserves and resources, as the use of a particular method does not inherently imply greater or lesser quality or confidence.
Box 2.10 Questions on reserves and resources reporting level		
21.	Do you agree that the reserves and resources information set out in sections 2.2.1-2.2.4 should be reported at a field level? (a) If so, please explain how you would use this information and the benefit it would provide. (b) If not, please explain why and set out what reporting level you think should be adopted.	No, as noted in the response to **Question 8**, Shell's strong preference is for this to be reported at Basin level.
Box 2.11 Questions on the frequency and timing of reporting		
22.	Do you agree that the frequency of reporting should be annual? If not, please explain why.	Shell supports annual reporting, so long as the timing is appropriately aligned to internal and external processes (see response to **Question 24** below).
23.	Do you agree that producers should also be required to report on any material changes in reserves and resources estimates that occur within the year? (a) If so:	Shell does not support the requirement for additional in-year reporting of changes. Shell considers annual reporting to be sufficient and allows consistent evaluation across all Operators.

	Questions	Feedback
	i. do you think there should be any limitation on the requirement to report changes (for example, should the requirement be limited to changes in reserves and resources that are advised to the ASX and/or government agencies, or should it be limited to material changes in reserves and resources)? ii. do you think the threshold for material changes should be set at +/-10% or do you think another threshold would be more appropriate? (b) If not, please explain why.	
24.	Do you think that all producers should be required to report their reserves and resources as at a fixed date? If not, please explain why and the option you believe should be employed.	Producers should have some flexibility with reporting dates to ensure that the timing aligns with internal and external reporting so that the most current information is reported. Shell would be in position to report after external disclosure in March.
Box 2.12 Questions on evaluation requirements		
25.	Do you agree that reserve and resource estimates should be required to be prepared by, or under the supervision of, an independent qualified evaluator? If not, please explain why.	No. Shell considers that there is sufficient rigour in internal reserves reporting processes, and that it should be sufficient for reserves and resources estimates to be signed off by an appropriately qualified internal assessor. [c-i-c] The addition of external evaluation or supervision would add significant time, cost and complexity to the reserves estimation process.

	Questions	Feedback
26.	Do you think that any other evaluation requirements (e.g. a requirement to obtain an independent audit) should be implemented?	No.
Box 2.13 Questions on compliance costs		
27.	What incremental costs do producers expect to incur in complying with the reporting requirements proposed in sections 2.3 and 2.4?	Shell estimates the additional compliance costs to be [c-i-c]. This is based on additional internal resources to generate volume estimates not currently required and for engaging independent reserves evaluators.
28.	Do you think there are any refinements that could be made to the proposed reporting requirements in sections 2.3 and 2.4 to further reduce compliance costs or the regulatory burden, whilst also ensuring the requirements are fit for purpose and achieves the objectives set out in section 1?	The following would reduce reporting compliance costs. • Alignment with other reporting agencies (e.g. DNRME) • Flexibility to report either SEC Proved or 1P • Optional reporting of 1C/2C/3C and 3P volumes. • No in-year reporting of changes. • No requirement for independent reserves evaluators.
Box 3.1 Questions on the manner in which reserves are to be estimated		
29.	Do you agree that producers should be required to estimate their reserves on the basis of forecast economic conditions? If not, please explain why.	Yes, this is consistent with the use of forecast economic conditions by producers for planning purposes, when taking investment decisions and when entering into sales contracts of any length.
Box 3.3 Questions on gas price assumptions to be used for uncontracted reserves		
30.	Do you think that: (a) Producers should be responsible for determining the forecast gas prices they will assume when estimating	Shell believes that producers should be responsible for determining forecast gas prices for reserves and should not be required to disclose their assumptions (option 3, subject to Shell's comments made in response to **Questions 34-37**).

	Questions	Feedback
	uncontracted reserves and required to disclose these assumptions (i.e. Option 2)? i. If so, please explain why. ii. If not, please explain why. (b) Producers should be required to use a mandated common gas price assumption when estimating uncontracted reserves (i.e. Option 1)? i. If so, please explain why and set out: a. the benefits you think this would provide over the producer-determined assumptions? b. how you think the forecast common gas price assumption should be determined? ii. If not, please explain why. (c) Producers should be responsible for determining the forecast gas prices they will assume when estimating uncontracted reserves and not required to disclose their assumptions (i.e. Option 3)? i. If so, please explain why and set out how do you think this option would address the concerns outlined in section 3.1? ii. If not, please explain why.	This allows producers to align price assumptions with those used for planning and investment decisions, as well as with reserves and resource reporting to other external bodies such as the ASX, ensuring consistency between the volume a producer expects to produce and the volume reported. Forecast price assumptions are highly commercially sensitive as they are a major factor in internal decision making in relation to a range of matters. As a result, Shell is **strongly opposed** to disclosure of price assumptions. With reference to chart 3.1 in the Consultation Paper, customers should expect a wide range of prices to be applied when estimating reserve and resource volumes. Contracted prices range from low priced legacy domestic contacts through to term LNG contracts. Also note that, depending on the portfolio of supply, demand and options for alternative supply/demand (e.g. LNG diversions), not all contract prices effect the reserve estimates. For uncontracted volumes, different prices are, for example, assumed for distressed gas sales arising from unexpected plant trips and term domestic sales contracts. Any mandated gas price assumption would therefore have to cater for these various outcomes and will need to cater for both LNG and domestic sales. In any case, we reiterate that contracted prices don't <u>necessarily</u> drive decisions about future development.

	Questions	Feedback
31.	If Option 2 is implemented, do you think that the disclosure requirements in section 3.6 will impose enough discipline on producers, or do you think the gas price assumptions used by producers should be required to satisfy a test that would be overseen by the AER? If you think the gas price assumptions should be subject to a test, please set out: (a) what form you think the test should take and if the test should apply to the gas price assumptions or the method used to determine the gas price assumptions (b) how you think the test should be enforced by the AER (for example, should the AER have the power to require producers to re-estimate their reserves using an alternative price assumption).	Price assumptions for uncontracted volumes are unlikely to have a material impact on near term volumes and therefore to impact market participants entering into price negotiations. The most material impacts of price are to determine whether future developments are economic and therefore can be included in reserve/resources and also when fields reach the end of their economic life. It is not in the interests of producers to materially misstate their reserve and resource positions particularly if reporting is aligned with other market reporting such as to the ASX.
Box 3.4 Questions on gas price assumptions to be used for contracted reserves		
32.	Do you agree that the gas price assumptions underpinning contracted reserves should be based on the prices specified in the relevant GSAs? If not, please explain why.	As noted above (especially in 13), 'contracted' may not relate directly to reserves for various reasons. As noted above in 31, not **all** contracted pricing impacts the estimate of reserves particularly with an integrated portfolio. An example of this could be if a producer expected to fulfil a contract using LNG diversions or offsetting purchases, rather than develop upstream assets, or if volumes on the contract were immaterial to the overall portfolio. However, in general not using contracted prices for contracted volumes could materially misstate reported reserves and resources. To the extent that contracted prices include uncertain elements such as a link to oil prices, assumptions should be determined by producers in the same way as for uncontracted prices.

	Questions	Feedback
33.	Do you agree with the ACCC's proposal to allow producers to account for the operation of: (a) price escalation mechanisms when determining the prices to apply under the relevant GSAs over the forecast period? If not, please explain why. (b) contract extension provisions if the GSAs are likely to be extended and the prices (or pricing mechanisms) to apply in this period have already been determined? If not, please explain why.	Yes, price forecasts should reflect the likely outcome of contract provisions such as price escalation mechanisms and contract extensions.
Box 3.5 Questions on the disclosure requirements for gas price assumptions		
34.	Do you agree that producers should be required to disclose the following information when reporting their reserves estimates? (a) The gas price range within which there would be no material change in the 2P reserves estimates, which is to be reported at a basin level for each of the following five years and generally for subsequent periods (with the range to be based on the price assumptions used to estimate uncontracted reserves). (b) The sensitivity of the 2P reserves estimates to a +/-10% change in the gas price range reported under (a). (c) A description of the method used to determine the gas price range and any other assumptions that have been made when determining the price range. (d) An explanation of any changes that have been made to the gas price assumptions from the previous year and why the changes were made. If not, please explain why.	Price is only one of many assumptions that underpin reserve and resource estimates. Reserve reporting is an existing requirement for many producers to the financial markets. Detailed disclosure as suggested here will not impose more discipline on producers as that discipline is already in place. It will however, add an additional reporting burden where additional data is required and may not provide meaningful information for customers. a – Reserve estimation is a lengthy process based around a set of technical and non-technical assumptions, including price. For CSG projects, assessing the impact of a reduction in price would involve: re-evaluation of all future development activity to determine whether it is still economic, re-evaluation of economic cut-off for all current wells and infrastructure and re-assessment of economic end of field life. To determine the price level at which there is

	Questions	Feedback
		no material reduction in reserves would require multiple iterations to determine a price/volume relationship. Estimating reserve upside from a price increase is harder. Additional wells in existing fields may become economic, but as they are excluded from field development plans they would require estimated drilling schedules and costs to be prepared specifically for this purpose. New fields may become economic, but these will not have the level of forecast maturity consistent with 2P reserves. Again, multiple iterations would be required to determine at what price point a material reserve increase occurs. The price range for short term (first five years) reserves is likely to be very wide. Short term production estimates are more sensitive to well performance than directly to price. Well performance could be affected by price, for example cost savings in response to low prices could reduce production, but typically price scenarios reflect a fixed cost base. The price sensitivity would have to be applied to all non-fixed contracted (such as oil linked) as well as uncontracted volumes. Given the range of prices applied to volume estimates, it would not be appropriate to report a price range in $/GJ, but could be done via a percentage. b - see comments for a. c – It is unclear how this information might be of use to customers. While general qualitative statements could be made, there is a high degree of judgement involved

	Questions	Feedback
		in setting price assumptions. Underlying assumptions such as FX and inflation are highly commercially sensitive and applied across the global business for decision-making. Shell is **strongly opposed** to this information being disclosed. d- unless price assumptions are to be disclosed, any explanation of changes would have to be generic and therefore of limited use to customers.
35.	Do you agree with the proposal to require producers to report the gas price range: (a) for each year over a five-year period and generally thereafter? If not, please explain why. (b) for uncontracted reserves only? If not, please explain why. (c) at a basin level? If not, please explain why.	Gas prices are determined in negotiation between buyers and sellers and vary greatly depending upon the conditions under which gas is sold. Requiring gas producers to publish uncontracted gas price assumptions would set price expectations and would completely undermine the operation of the gas market.
36.	If producers are required to report the gas price range within which there would be no material change in 2P reserves, what materiality threshold do you think should be adopted for this purpose and why?	Shell has fundamental concerns with publication of a gas price range, as noted in response to **Question 34**.
37.	Do you agree that the threshold for measuring the sensitivity of the reserves estimates should be 10%? If not, please explain why and what alternative threshold you think should be applied.	A percentage change in 2P reserves is of limited use without an understanding of when the impact is likely to be realised. Reserves estimates are based on production over decades, for the market a reserve change in the 2020s is more significant than one in the 2040s. Materiality should be set at a level that is meaningful to the users of information. It is unclear exactly how the proposed disclosure will be used, so it is difficult to comment on an appropriate range. Any

	Questions	Feedback
		range needs to balance the benefit to users, with the considerable cost to producers to generate this information.
38.	Is there any other information that you think should be disclosed about the gas price assumptions? If so, please explain what the information is and why it is required to meet the objectives set out in section 1.	No.
Box 3.6 Questions on compliance costs		
39.	What incremental costs do producers expect to incur in complying with the proposed reporting requirements set out in sections 3.4-3.6?	The most significant additional compliance costs would be associated with the proposal in **Question 34(a)**, as outlined above. Development of this additional information would create multiple times the number of man-hours associated with current internal reporting processes, spread across a wide range of subject-matter experts, with a potential value of [c-i-c]. Compliance with the process in **Question 34(b)** is significantly less labour intensive – possibly [c-i-c].
40.	Do you think there are any refinements that could be made to the proposed reporting requirements in sections 3.4-3.6 to further reduce compliance costs or the regulatory burden, whilst also ensuring they are fit for purpose and achieves the objectives set out in section 1?	As noted in response to **Question 13**, compliance cost and regulatory burden could be reduced, while better meeting the desired outcomes of understanding supply/demand, by aggregating forecast production and contract information.