

Mr. Peter De Wit

Final

New Developments in Asia's Natural Gas Market and Policy Issues

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Slide 1 - Title

1. Good afternoon, I am delighted to be here at this Asia Energy Forum and to participate in a programme which has already given us a very interesting range of insights into current issues in the energy industry.
2. Energy is high on the agenda across the world but especially so in this region where energy demand is growing at an unprecedented pace and where security of energy supplies has long been a key concern.
3. The role of gas is a particularly important feature on that agenda and it is very appropriate that we should be discussing the gas market here in Japan. Japan has been at the heart of the global gas market for more than thirty years and, as the world's largest importer of LNG, has been a significant driver of the development of that market.

Slide 2 Shell in Japan

4. Shell is very proud to have been a part of that industry and indeed of its wider role in meeting Japan's energy needs over many years. In fact, many people do not realise that we have been here for more than a hundred years. To be precise, Shell established Rising Sun Petroleum in Yokohama on April 11th 1900, when the Government shifted its focus from light to heavy industries. Shell continued to expand its business in Japan and in 1985, in a joint venture with Showa Oil, became SSSKK.
5. Today, three major Royal Dutch/Shell Group companies operate in Japan. They are Shell Chemicals Japan Ltd., a company active in petrochemicals; Shell Services International (Japan) Ltd a provider of services related to information technology, and Shell Gas & Power Japan Ltd., which focuses on the marketing of

gas into Japan and explores business opportunities to promote LNG. We also have a number of innovative projects exploring the potential of future energy sources such as solar and hydrogen.

Slide 3 – A successful track record

6. My comments today will focus on the particular role of LNG today as it is such an essential factor in driving the development of the gas market both in this region and across the world.

7. Of course, Asia Pacific does not just contain the world's largest customers for LNG, it also contains some of the biggest suppliers. Indonesia, Brunei, Australia and Malaysia have played a vital role in the development of the global LNG business.

8. I want to underline how successful this business has been. For more than thirty years producers have been supplying LNG safely and reliably to customers both in Asia and across the world. In fact, since 1969, more than 16, 000 cargoes have been delivered.. They have also been at the heart of some of the major improvements in efficiency across all the elements in the LNG business – in liquefaction, shipping, and regasification.

9. Let me just illustrate this with one example.

10. Brunei LNG was the very first LNG supplier in the region and has delivered more than 5000 cargoes since it started production in 1972. Thirty years on it is operating more efficiently than ever, with the application of new technology and excellent engineering increasing throughput by 40 per cent over its original design capacity.

11. This example underlines the strong foundations of the LNG market in this region, a feature of which has been the trust and close working relationships between buyers and sellers, so crucial in establishing LNG as a long term secure energy source for Japan and I am sure that these tried and tested customer supplier relationships will continue to be a key feature of this gas market in the years ahead. However, it is clear, that the gas market is changing, and that is going to present challenges, as well as opportunities, for us all.

Slide 4 – Increasing gas demand across Asia

12. One of the most important features of that changing market will be the need to meet increased demand. Some of that demand will come from the traditional Asia Pacific LNG demand centres – Japan, Korea and Taiwan. There has been some deferral of long term buying decisions in these countries in recent years primarily due to desire for gas industry restructuring and consequent demand uncertainty, but that period now seems clearly behind us. Japan's continuing political and economic drive for more gas usage, especially for power generation, will drive increased future demand – and the issue of ageing nuclear plants may also be important in this context.

13. Korea also presents a major growth opportunity, notwithstanding current uncertainty about the long term structure of the gas market. That means we predict that LNG demand in these traditional markets could grow from 84 million tonnes to 105 million tonnes per year over the next decade.

14. This will be accompanied by growth in demand from new areas, where significant economic growth is driving increases in energy consumption. For example, China's GDP is increasing at about 9 per cent. And the rapid development of new energy infrastructure aims to satisfy the Chinese Government's desire to triple natural gas's share of primary energy demand to ten per cent by 2015. Some of that will be met by LNG, with the energy consultancy CERA and many others, predicting China could be importing seven million tonnes by 2010 and growing very rapidly after that. That is clearly going to have a critical impact on the dynamics of Asia Pacific's LNG market. And we should not ignore similar rapid economic growth in India which has already received its first cargoes of LNG and will have three operational LNG import terminals in the near term.

15. This growth must also be seen in the context of significant new LNG demand in the European and US market where increased energy demand is being accompanied by a significant decline in indigenous supplies.

Slide 5 – A Changing Market

16. At the same time as that increase in the number and range of customers, we

are also seeing a growing number of suppliers in the market. There are currently twelve countries exporting LNG globally, up from nine in 1997, and another seven planning to enter the market.

17. In this region alone, Shell has the Sakhalin II project under construction, the North West Shelf expansion, and several other possible development prospects including Gorgon. There is also further development and expansion from suppliers in the Middle East such as Qatar, and Oman. These could be further supplemented by additional resources from mainland Russia and Australia.

All of this underlines the fact that, despite the significant increases in demand we are likely to see in this region, there is plenty of scope for new conveniently located production to meet that demand for many decades ahead.

Slide 6 – Shipping Costs

18. One factor which is encouraging, the emergence of those newer suppliers is the reduction in shipping costs. Effectively, long distance delivery costs have more than halved since 1990. This is due, in part to the move towards ever larger ships. The industry is now talking about 200,000 cubic metre ships compared to today's standard of 145,000 cubic metres.

19. This is making long distance supplies of gas more competitive. The result could be, that by 2020, we could see two-thirds more gas produced, travelling on average 25 per cent farther than it does now. And that means a much more dynamic and complex market.

20. One of those complexities we are currently seeing is a move away from the traditional regional LNG markets to one where there is a global overlay and, as a result, increasingly interconnected prices. It will be important that North American markets send the correct pricing signals to fuel strong demand growth, and that these suppliers see North Asia as their preferred market. As I will touch on later, North America is proving to be an attractive alternative to Middle East and even Asia Pacific suppliers. There is probably a clear danger that the wrong pricing signals are being given at a time when market conditions are changing.

Slide 6 – Construction Underway in Sakhalin

21. I can perhaps best illustrate this through the example of the Sakhalin II project, which Shell is developing with our Japanese partners, Mitsubishi and Mitsui. Sakhalin II, will initially produce around 10 million tonnes of LNG per annum from a plant at the southern tip of the island, barely 40 kilometres from the North Coast of Japan. Of course, Sakhalin Island contains enormous energy resources. There are nine offshore license areas, two of which are currently being developed and the balance of which may be explored by major international and Russian energy companies in the future. With reserves of oil and gas in place estimated to exceed 90 billion barrels of oil equivalent, the likelihood is that Sakhalin LNG production, in the longer term, will be far greater than 10 million tonnes per annum

Slide 7 – Sakhalin and its markets

22. Clearly, Japan will be one of the key markets for Sakhalin's gas. And we are delighted that the project has already signed contracts to supply up to 4.3 million tonnes per annum to Japanese customers.

23. We also believe that LNG from Sakhalin will be attractive to Korean and Chinese customers. It is only three days sailing time away from these markets, far shorter than any other potential supply source, and can offer flexibility to these customers and an ability to meet seasonal demand.

24. The other attractive market for Sakhalin is the West Coast of North America.. The US energy administration predict that the US could be importing 42 million tonnes per year of LNG by 2010, and quite a sizeable share of that on the West Coast. And this market is ten days sailing time from Sakhalin. .

25. Other supply projects in this region will also be targeting the North American market – attracted not only by the current and anticipated high prices, but also the high level of market liquidity, allowing immediate and fast volume build ups. That means that as access to this market grows, we are going to see increased interconnectivity of prices between regions and traditional regional markets being increasingly influenced by the emergence of and activity in, new markets.

Slide 8 Evolving LNG markets

26. We are already seeing some greater flexibility in the Asia Pacific market in recent times with a greater range of contract types, more volume offtake flexibility and a wider range of pricing formulae. New deals, including one to supply LNG to the Southern Chinese Province of Guangdong, have had an undeniable impact in this respect. Future changes will largely depend on the status of LNG supply demand balance as well as structural changes in the marketplace.

27. Here in Japan, liberalisation is making it harder for LNG customers to predict long term demand and so there is a growing desire for some flexibility in the long-term contracts. Equally, there has been a growing move towards importers taking more of a role in the upstream. Tokyo Gas and Tokyo Electric have a position in Bayu Undan and Osaka Gas in the Sunrise projects. And the current draft Japanese Long Term Energy Policy reinforces this drive to secure upstream positions. It is likely, however, that there will be a limit on the extent to which this can or will be delivered by supply countries - given the constraint that the supply industry is driven by a relatively small number of very large projects. Many of these have an increasing range of inter-regional supply options; hence many of these have already played their cards in terms of customer participation.

28. Elsewhere, customers are increasingly demanding delivery intervals that reflect their own seasonal demand fluctuations and we have seen shorter term contracts that reflect that drive in the North West Shelf and MLNG sales to KOGAS

29. All of this is presenting a challenge for both customers and suppliers as they both try to respond to those changes in the market. These changes will inevitably lead to tension between those suppliers and customers as new ways of dealing with and responding to each other are explored. However, I believe that the long standing constructive long-term relationships that exist in this region will help all of us manage those tensions and respond effectively to those changes.

30. One of the particular questions I am asked to address is whether the changes in the gas market might include the development of a spot market.

Clearly the increased scale and size of the LNG industry, as well as contractual changes, does bring greater liquidity. A small spot market has emerged, now accounting for about 8 per cent of world trade, up from 2 per cent in 1997. However, that varies considerably by country. Japan currently buys 3 per cent of its imports from spot market, South Korea can be as high as 15 per cent - driven by extreme seasonal demand variation - with the US at 30 per cent having a very large and fully liquid market. There is equally wide variation with regard to suppliers. Indonesia only sells 1.3 per cent of its LNG in the spot market, Malaysia 5.9 per cent and Brunei less than 2 per cent but Algeria more than 20 per cent.

31. However, while those percentages may increase slightly, I believe that the scale of any such spot market will remain limited and is unlikely to reach more than 10 per cent of the global total, though there may be individual variations within that. Ultimately the long-term contract is still seen by all parties as the fundamental bedrock of the industry.

32. High transportation costs and consequent tight shipping availability, strict quality requirements, constraints at receiving terminals will continue to limit the liquidity of the market. This issue also goes to the very heart of the nature of the business case and value chain in LNG projects; both of which are very different from those for oil.

33. LNG projects require huge investment - a recent Deutsche Bank report suggested that the overall investment required for a typical five million tonnes per annum LNG train is \$5 billion. With investment on that scale it is clear that investors will continue to require great certainty of returns, and that will continue to mean long term contracts for a very significant part of the volumes produced. That means an LNG spot market is likely to be based mainly around the small amount of uncontracted cargoes in an LNG project build-phase, or those that become available through greater contract offtake flexibility and, possibly, through additional LNG plant capacity .

34. However, what is clear from these changes is that all participants in the development of LNG will need to develop greater flexibility; both in the upstream supply and in the downstream marketing part of the chain, plus evolving

midstream capabilities in shipping and trading. That means LNG is going to continue to be an industry where the bigger companies play the main role.

Slide 9 – Developing Gas to Liquids

35. LNG has transformed the gas market in the past thirty years and I want now to turn briefly to another option for gas use that could play a similar transforming role in the decades ahead. That is Gas to Liquids or GTL.

36. We in Shell first developed GTL products using our own proprietary technology at our plant built in Bintulu in Malaysia in 1993. Put simply, it converts natural gas into liquid fuels. And at the end of that process, a range of high quality ultra clean products are created, including not only transport fuels but also lubricants and the intermediate products raw materials which are used to make in detergents and chemical feedstocks.

37. GTL has been blended with conventional diesel in Shell Pura fuel which has been on sale in Thailand at a premium to standard diesel with great success, for the past two years. We see a huge potential market for these products, not least in the markets of North Asia. We are currently developing a world scale GTL plant in the Gulf State of Qatar. Due to come on-stream in 2009 it will produce over 200K of liquids per day. It will be ten times the size of the existing successful Bintulu plant and will continue to open up the burgeoning GtL market. More of these large new projects can be expected in the future offering natural gas suppliers an attractive alternative outlet to LNG for their gas resources.

38. The key advantage of the GTL fuels is that they can be used in existing engines and have significantly lower emissions than conventional fuels. This is obviously particularly attractive in urban areas where there are local air quality problems.

Slide 10 – Testing GTL on the road

39. A number of trials of the fuels are underway in major cities across the world. This includes one which has just finished here in Tokyo. Showa Shell, in partnership with Mitsubishi and COOP, tested a blend of GTL fuel and conventional diesel in a number of COOP delivery trucks that operate around the city. Last month a further trial began on bus routes in Shanghai, and China

could offer a particularly attractive market for GTL as it faces significant challenges in accommodating increased mobility and tackling air pollution.]

40. The results so far of all these trials have been very encouraging. Significant reductions have been seen in nitrous oxide emissions, along with decreases in particulate emissions and reductions in hydrocarbons and carbon monoxide, all of which have been achieved without any decline in engine performance.

41. I have spent a little time on GTL because I think it is an important part of the overall development of the gas market, adding to its diversity.

Slide 11 – Conclusion

42. However, let me conclude by returning to LNG and restating the point I made at the beginning of my comments – the LNG business is a very successful one – it has reliably, cost effectively and safely supplied a significant part of the energy needs of this region for thirty years and that there is abundant opportunity for new supply development in the region to cope with the anticipated increase in demand for many decades to come.

43. There are challenges ahead but there is also real experience and expertise across the this region, and it is the combination of both that will be used to meet the challenges. And that means that Asia will remain one of the most exciting energy markets to be in and one where the next thirty years will be just as successful as the past thirty years.