

LNG: Developments Globally and in Europe

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Ladies and Gentlemen,
Good morning. It's a pleasure to be here.

I'd like to spend some time today talking about the global LNG market – its history, the present and the future – and how this connects with the European gas market.

As you are well aware, gas demand in Europe has been declining since 2010. It's disappointing, but we see a slow recovery on the horizon. And LNG will play an increasingly important role in satisfying future European gas demand.

We have a positive outlook on the global LNG market as well, and expect to see robust growth by 2030 as new markets open up.

Demand, impact and access

But first, let me outline the dilemma at the heart of our global energy system. It is a challenge that affects Europe as well as the LNG market.

On one hand, our world needs more energy. One in six people on this planet still lack access to electricity. World population growth shows no signs of slowing and could hit 9 billion by 2050. Meanwhile, more families are joining the middle-class and aspire to higher standards of living.

Global demand for energy, according to the International Energy Agency, is expected to be 37% higher in 2040.

But at the same time, we want to reduce the environmental impact from energy use, such as greenhouse gas emissions and air pollution.

How can we generate more energy for the world's citizens, and at the same time reduce the impact on the environment? I am convinced we can meet these competing demands.

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The session will take place from 11.15 – 11.45 am and will be chaired by Coby van der Linde

The quickest way to address this challenge is to replace coal-fired power generation with gas.

Fossil fuels account for 80% of the global energy mix, and will be the dominant energy source for decades to come. Gas is the cleanest-burning fossil fuel. It produces less than half the carbon dioxide and just one tenth of the air pollutants that coal does when burnt to generate electricity. While coal produces about less than a third of global primary energy (29%), coal accounts for 43% of energy-related CO₂ emissions.

Therefore, there is enormous potential to reduce near term CO₂ emissions and air pollution by using gas instead of coal. Despite that coal industry's claims that coal provides the solution to global energy poverty – an increasing range of voices agree that the trade-offs in terms of climate change and degraded local air quality are too great to continue the current level of expansion of coal-fired power generation.

Certainly gas is not without its challenges. Methane emissions from oil and gas production is an area receiving increasing focus today. While the industry has made great strides in this area – according to the US EPA methane emissions from natural gas production in the United States have fallen 38% since 2005 even as gas production has increased by more than 30% - we as an industry can and must do more.

Clearly, renewable energy will be a vital part of our transition to a low-carbon future and the fastest growing part of the energy system. But renewables are still beset with many unresolved challenges, such as intermittency, availability, storage, system stability, and investment costs.

Simply put, the world needs multiple sources of cleaner energy. Natural gas is the perfect partner for renewables, both now and in the long term. Europe and The Netherlands can play a leading role in developing such a “clean and green” energy system where renewables and natural gas complement each other.

Natural gas is abundant and reliable. And when sold as LNG, gas is increasingly a global commodity, connecting the world's main markets with a high degree of supply diversification.

LNG supply and demand

The global trade in LNG has seen tremendous growth since the world's first LNG plant was built in 1964 in Algeria. Shell provided the technology for that pioneering plant, and we continue to play a leading role in improving the technology behind LNG.

By 2030, we believe the global LNG market could hit 460 million tonnes per annum (MTPA). This is a near doubling of the market in 2014, which reached 240 MTPA.

Or put another way, we expect LNG demand to rise by 5% per year over the next couple of decades. That's more than double the 2% growth in gas demand over the same timeframe.

The market is also becoming more diverse. In 2000, only 10 countries were exporting LNG with an equal number importing it. But the number of LNG exporting countries has since doubled to about 20, while nearly 30 countries are now importing the liquefied fuel.

New markets continue to open up. So far this year, Pakistan, Jordan and Egypt have begun importing LNG. Within Europe, Lithuania commenced LNG imports in 2014, with Poland expected to follow suit in 2016.

Shell anticipates that there would be 50 LNG importing countries by 2030 – making it a truly global market.

Demand growth in the last decade has largely come from Asian and European customers, who are tapping LNG primarily for power generation and industrial use.

Future demand growth will come mainly from China's hunger for clean energy, South East Asia's and Latin America's need for new power generation capacity, the Middle East as a result of population growth and displacement of liquids in power generation as well as Europe. I will elaborate on Europe shortly.

One future growth area for LNG demand is LNG-for-Transport. Though LNG usage in areas like road and marine transport is small at the moment, it could become significant if there is sustained policy support.

Consider this: the global heavy transport and marine fuel market is in excess of 750 MTPA. If just 12% of these users switch to LNG, this new demand would be equivalent to that in the current top importing country, Japan.

The outlook for new LNG capacity is relatively stable, given that we expect over 80% of new LNG supply to come from just three regions: North America, Australia and East Africa.

East Africa, particularly Mozambique and Tanzania, is estimated to have over 100 Trillion Cubic Feet of undeveloped offshore gas, sufficient to meet all of Europe's gas demand until at least the end of this decade.

In Australia, where a number of key projects including Shell's Prelude FLNG are under construction, we expect LNG production to hit 90 MTPA by the end of the decade, making it the world's top LNG exporting country.

But North America stands out as a reminder that change is the only constant in the energy industry. Less than 10 years ago, most of us assumed that North America would become an LNG importing country.

The shale revolution has fundamentally changed this view. The combined new LNG export capacity being proposed by various project developers in North America is in the range of 600 MTPA.

This is a third more than the entire global LNG market we anticipate for 2030. Realistically speaking, however, we estimate that North America will export around 100 MTPA of LNG by 2030, just under a quarter of the global market.

European gas market

If the North American market has surprised us on the upside, then gas demand in Europe has clearly been one of "disappointment" for us all.

The European gas market has fallen from 600 billion cubic metres (BCM) in 2010 to 490 BCM last year. This 18% decline can be traced to three factors. First, the recession from 2008 to 2013 lowered overall energy and power demand in Europe.

Second, "cheap" American coal pushed out by the shale gas revolution has been flowing to Europe and displacing gas in the power sector here.

Third, the increasing number of renewable energy sources, primarily solar and wind, has further reduced the demand for gas.

But our outlook suggests that gas demand in Europe will recover. By 2030, we expect the market to be back closer to the 2010 level of approximately 600 BCM.

Several variables could affect this outlook. Earlier I talked about the displacement of gas by coal in the European power sector. We believe this trend has bottomed out.

In fact, the European Commission's Industrial Emissions Directive is placing stricter limits on plant emissions. This will facilitate the closure of older and more polluting coal-fired power plants, as well as discourage new investments in coal-fired power generation.

The recent EU-decisions on the reform of the European carbon market are a step forward as well. Still countries that have a large share of coal fired power generation, including the UK, The Netherlands, Denmark and Germany, will have to look at complementary measures to reach a logical CO₂ abatement curve whereby high CO₂ intense coal assets are targeted first.

Renewables is the other key variable for future gas demand. We have seen rapid adoption of renewables across Europe in the past decade due to strong government support, technological improvements, and cost reduction.

Costs for renewables, in particular PV, have declined by over 50% in the last decade, and are expected to continue falling to the point where they can compete on a purely economic basis with gas, and possibly even coal.

By 2030, the share of renewables, excluding hydro, in the European power mix could be as high 30% to 40%, up from 13% today.

But renewables still face considerable challenges, such as intermittency and storage. Also, once the share of renewables in the power system goes beyond 25-30%, substantial additional investments in back-up power generation as well as transmission are required in order to retain grid stability.

The EU Infrastructure and Supply routes

The third and most notable variable in the European gas market is declining domestic production. Oil and gas production in North West Europe are falling while the prospects for unconventional shale gas remain challenging and if anything far from sufficient to stem the domestic production decline.

Equally, we don't expect the gas supply from North Africa, Central Asia and the Middle East to be sufficient to fill the gap left by the decline in domestic European production.

The only other credible sources of supply that can meet this shortfall are LNG and Russian gas imports.

Historically, Russia has been a major supplier of gas to Europe and is the largest single supplier of gas to European countries. In the last decade, Russian gas exports have consistently supplied above 140 bcm/yr and currently supplies ~1/3 of European demand with the vast majority sold under long-term contracts.

In the coming decade Russia is expected to continue supplying Europe with a significant amount of gas. However, increasing geopolitical concerns have led the European Commission to re-examine its position on security and diversity of supply including seeking consultation from the industry (i.e. EU strategy for LNG and storage). Similarly, Gazprom is seeking to diversify its customer base in the East and recently signed a major deal to supply China with 38 BCM of gas a year.

We expect LNG to fill a significant part of the supply gap in Europe. This could significantly boost the LNG business. The current European import of about 35 MTPA could more than double by 2030.

Consequently, LNG is expected to play an ever increasing role in the European gas supply market. The continuously increasing global LNG supply capacity – both in terms of sheer size driven by supplies from mainly Australia, North America and East Africa as well as diversity in terms of players – will provide the European gas market the required security and diversity of supply.

Regional pipeline bottlenecks could remain a stumbling block. But we are encouraged by the planned investments in gas infrastructure in Europe, both pipelines and terminals, and the focus on developing an open and transparent gas market downstream of the terminals.

Conclusion

To sum up, the European gas market is expected to slowly recover from its decline since 2010 and we expect LNG to play an increasingly important role in meeting the new demand.

Domestic gas production in Europe is declining. But the growing strength and number of players in the global LNG supply chain will provide the stability the European gas market needs.

This positive outlook is not written in stone despite the benefits of gas and LNG. Ultimately, the long-term energy mix is driven – not only by market dynamics – but increasingly by government policy choices and national politics.

It is therefore critical that we, as an industry, speak with one voice. This is particularly important in a pivotal year like this.

In a few months' time, world leaders will be meeting in Paris to discuss a legally binding agreement on addressing climate change. The debate in and outside the meeting will be intense.

In areas where we offer integrated solutions, we must let our united voice be heard loudly, clearly, and consistently.

The world is experiencing an energy transition. That transition is being driven by a range of factors including demand for cleaner energy, new resources, shifting geopolitics and technological innovation. But two major challenges dominate: the urgent need to meet rising demand for global energy, and the urgent need to reduce greenhouse gas emissions. Those two needs are going to be very difficult to satisfy at the same time.

There are pressing things we believe the world needs to do. It must embrace cleaner burning natural gas. Governments should support the development of innovations like carbon capture and storage (CCS). They must implement carbon pricing as a flexible, pragmatic solution to rising emissions. They need to encourage diversity of global supply.

I just don't think we have done a good enough job to date of engaging with governments, civil society and other industries to help shape future energy policy. This must change.

One area we could focus on is the need for an effective price on carbon. Shell and five other major energy companies have urged world leaders to introduce well implemented carbon pricing systems in a recent joint letter to the United Nations Framework Convention on Climate Change.

This will help tackle emissions at the lowest possible economic cost and encourage energy companies to invest more in low-carbon technologies. We are not alone on this point.

The US Federal Government, the World Bank and the OECD are among those calling for a carbon pricing system. I encourage everyone here today to do the same, and make your voice heard.

Thank you very much.

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