Russian LNG Exports to Supply Asia's Growing Needs for Gas

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Gazprom in Russian and Global Energy Industry

	As of and for the year ended December 31,				
	2007	2008	2009	2010	2011
Share in the world natural gas industry					
Gas reserves*	16.5 %	18.0 %	18.0 %	17.6 %	18.3 %
Gas production*	17.4 %	16.7 %	14.5 %	14.8 %	14.5 %
Gas sales*	27.0 %	25.4 %	22.1 %	20.1 %	21.0 %
Share in the Russian fuel and energy complex					
Russian natural gas reserves controlled	62.1 %	68.9 %	69.8 %	68.7 %	71.8 %
Gas production**	83.9 %	82.7 %	79.2 %	78.1 %	76.5 %
Crude oil and gas condensate production**	9.2 %	8.8 %	8.4 %	8.6 %	8.7 %
Processing of natural and associated petroleum gas (APG)**	70.2 %	59.1 %	47.6 %	49.9 %	48.6 %
Primary processing of oil and stable gas condensate**	14.1 %	14.5 %	15.5 %	16.5 %	17.2 %
Power generation**	3.1 %	10.5 %	13.9 %	16.9 %	16.9 %
Total length of trunk pipelines and pipeline branches, thousand km	**158.2**	**159.5**	**160.4**	**161.7**	**164.7**

* Based on International Natural Gas Center "CEDIGAZ" and *Gazprom* figures. Statistics on international production and trade are adjusted to Russian standard terms and conditions using 1.07 ratio.

** Based on Federal State Statistics Service, CDU TEC and *Gazprom* figures.

Source: Gazprom in Figures 2007-2011

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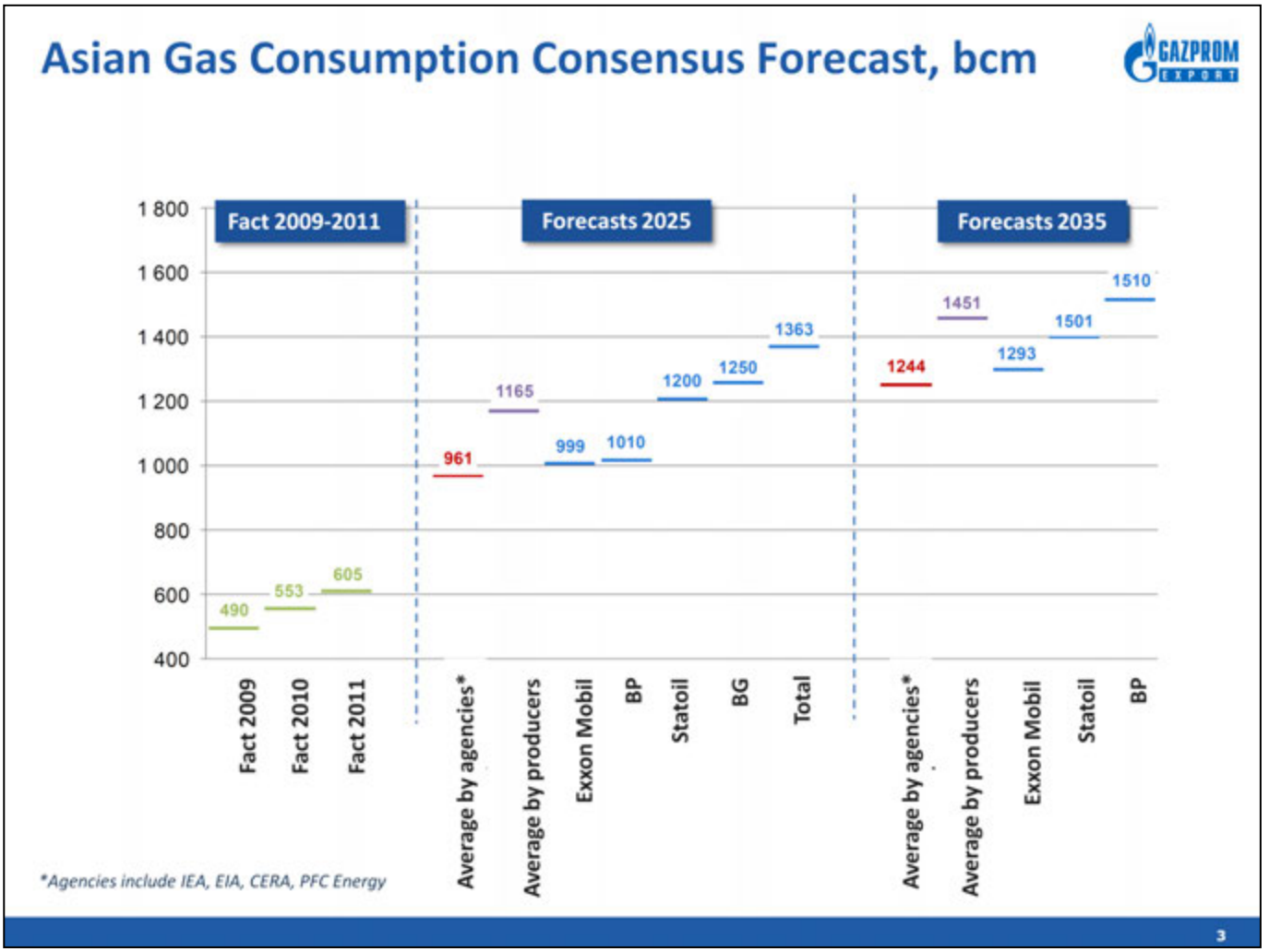
Just to remind you: Gazprom accounts for 18% of the overall natural gas reserves so far discovered and proven, 15% of global production and 21% of the global commercially traded gas volumes. The volumes indicated in the chart include both Gazprom globally traded gas and domestic sales in Russia.

If you put aside the funny paranoia that sometimes accompanies media coverage of our company, Gazprom is a boringly normal business-oriented corporation that operates with the interest of its shareholders on its mind. Surprisingly for some, it came to pass that Mitt Romney, the Republican candidate targeting the White House, who considers Russia to be the number one foe of America, until recently was a Gazprom's shareholder. It could serve as an argument proving that his advisors believe that Gazprom has a sound business strategy.



You know well, as energy sector professionals, that natural gas is a very special commodity which can withstand a lot of market pressure and remain on the most wanted list of products. Do you know what is the difference between gas, especially in the form of LNG, and a condominium in Miami? Even in the midst of a crisis you can still easily sell LNG.

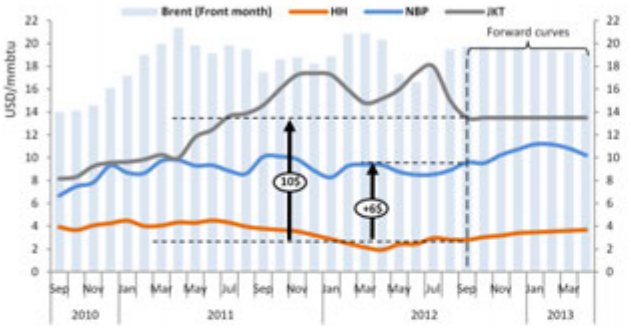
But that is not true for buyers of LNG. North-West Europe with its empty LNG terminals may be facing the perspective of being a dumping ground for LNG uncontracted cargoes that no one could sell anywhere else.

Asia with its growing gas demand potential and willingness to buy gas at oil-indexed prices is becoming an increasingly attractive destination for gas producers including Gazprom. The Eastern vector in Gazprom's growth strategy and in current developments is getting more and more attention. It is important to note that gas consumption in Asia is growing even at a time of global crisis by 50-60 bcm per annum.

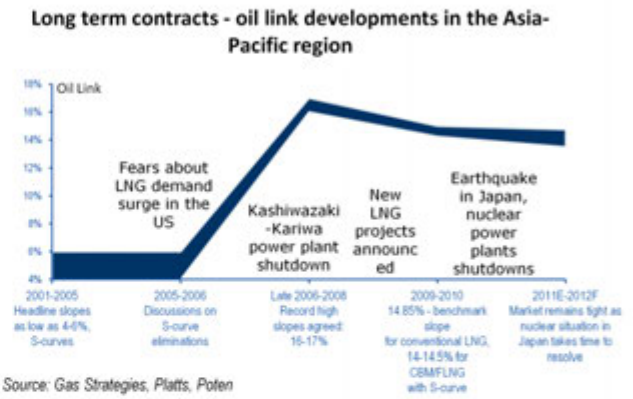
Let me share with you a consensus forecasts that we prepared in Gazprom Export in respect of Asian gas demand. We summarized market expectations both of the world leading agencies and gas producers. In a rare display of unanimity, both groups of forecasters expect demand growth trend to continue steadily in the future as much as the forecasting horizon allows. These forecasts are good reasons to believe that Golden age of gas will dawn in Asia.

It is no surprise however that producer's forecasts are more bullish that those of the agencies. They point to more than doubling of gas demand in Asia by 2035. That is a good sign for Asian consumers that there will be more supply side competition in the future.

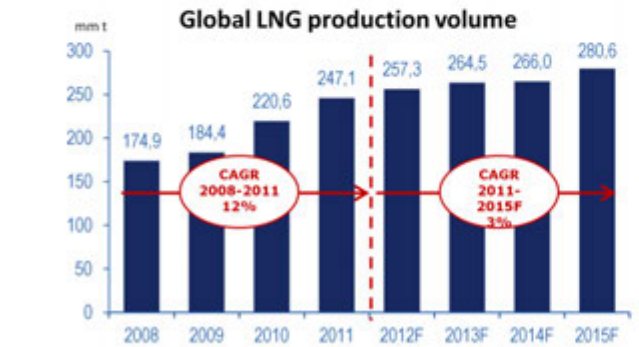
Asian LNG Market in Global Context



Source: Bloomberg, Platts



Source: Gas Strategies, Platts, Poten



Source: WoodMackenzie

The Asia-Pacific region is a main source of growth: demand is strong, boosted by the 03`2011 earthquake consequences, prices continue to show a considerable premium with respect to North American and European gas markets

Asia attracts spare LNG volumes, including those redirected from Europe

LNG supply growth is limited in the next few years: the situation is unlikely to change dramatically

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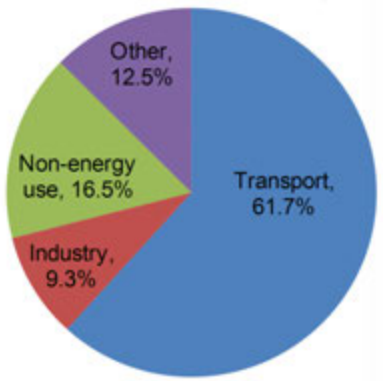
Let me share with you our short-term observations of the Asian gas market. Trend for gas price deglobalization will persist in the future although not to the extremes recorded this year when the price differential between Asia and North America reached USD 10 per MMBTU for a short period of time.

Market in Asia remains tight due to the exponent demand growth in Japan and limited supply options after 2015. Tendency towards redirection of gas from Europe is already taking shape. Situation is favorable to suppliers who managed to strike lucrative deals on gas sales with gas prices staying at around 13.5% of JCC crude oil price.

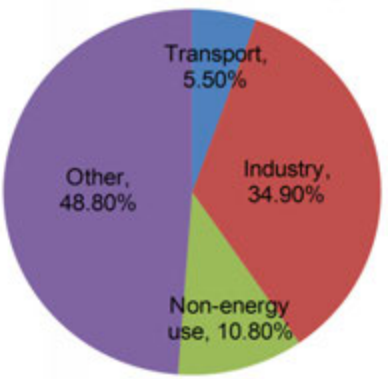
Market Commonalities Argue in Favor of Similar Pricing Structures for Oil & Gas

- Oil and gas continue to share many commonalities; price indexation is a natural extension of this
  - Similar exploration and drilling technologies
  - Similar cost structures
  - Increasing convergence in end-use markets

World Oil Consumption



World Gas Consumption



"Other" includes agriculture, residential, commercial and public services, and non-specified uses. Source: IEA.

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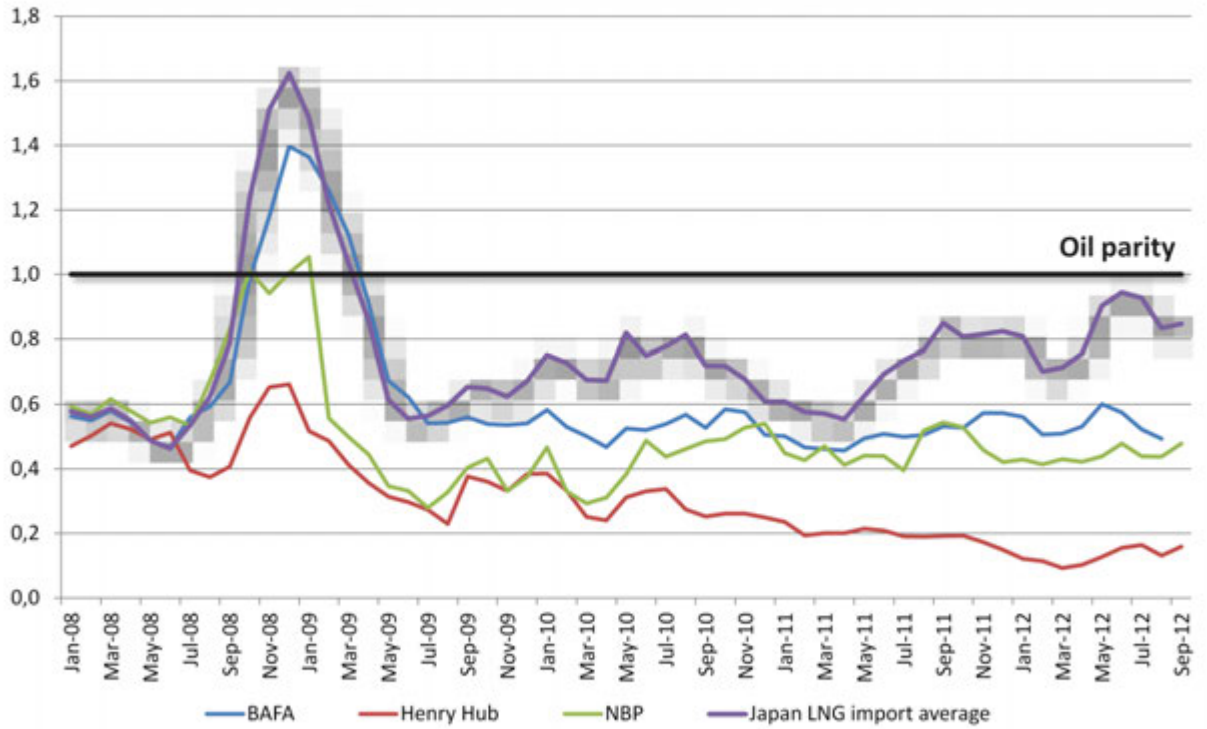
Critics of oil indexation in gas pricing often claim that it is outdated because there is not much demand side substitution between oil and gas in Europe. We consider these conclusions as premature. There is still a deep-rooted relationship between oil and gas that is getting only stronger.

Oil and gas continue to share so many commonalities that make price indexation a natural extension: they are largely produced by the same companies, they often come out of the same wells using similar finding and drilling technologies, and the overall cost structure of delivered LNG approaches that of delivered oil products in many supply regions. Further on, oil and gas compete for many of the same markets (home heating, power generation, etc.).

These end-use markets should continue to converge in the future as natural gas and LNG increasingly become a preferred fuel substitute for petroleum products in new markets such as transportation.

Gas Is Losing its Value When it is not Linked to Oil



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Current divergence of oil and gas prices is not an indication that gas is cheap compared to oil but rather that markets are dysfunctional. Chart on slide 6 clearly points to a fact that gas is losing its value when it is not linked to oil as Henry Hub price behavior indicates. Why does it happen?

Let me remind you that a necessity to price your commodity via a third commodity stems from the fact that the market for your commodity is not perfect enough to function properly and produce a quality price signal. This was truly the case in the early years of the gas industry when production required enormous investments and the market mechanisms were in their infancy and not in a position to guarantee security of supply and demand. Since gas industry has matured, it seems that the rationale for third party indexation no longer holds.

However, I will argue here that the rationale for oil-indexation does indeed still hold, now more than ever before, but that this is no longer the result of an immature market; rather, it is the result of a dysfunctional, mature commodity market.

What Makes Gas Lose its Value When it is not Linked to Oil?

- Although the volumes of natural gas global exports are only 4 times lower in US$ value than the sales of oil, the financial markets have disregarded natural gas as an attractive hedging instrument. As a result gas price is not supported by the financial markets like many other commodities.
- There is another depressing factor that affects hub-priced gas prices. In the USA and UK, associated gas deliveries play a secondary or auxiliary role compared to oil deliveries.
- USA financial markets – principally futures markets – enable producers to lock in profits for years ahead. Current low cash prices do not discourage producers that had sold today's production up to three years ago at much higher and profitable prices. As a result, price adjustment mechanisms do not function properly.
- Almost all gas markets outside of North America lack the level of competition and liquidity to create the market mechanisms to fairly price gas as an independent commodity.
- For all the above reasons, oil indexing remains a valid pricing mechanism for long-term commercial gas supply arrangements

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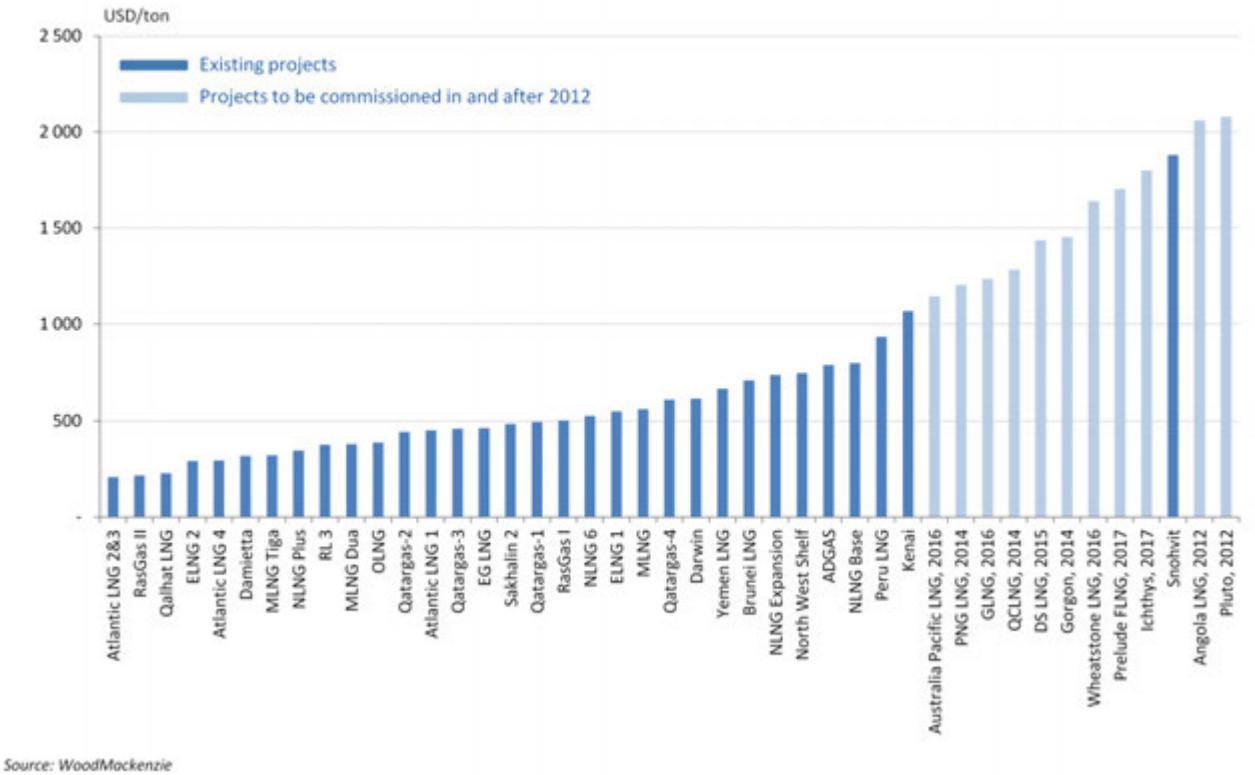
It is true that there are no perfectly functioning markets. Perfect markets exist only in textbooks. But in many commodity markets, these real life imperfections could be neglected because they are within acceptable limits. This is not the case for natural gas. The outcome of market distortions here is the lasting inability of price mechanisms based on supply and demand to provide sustainable price signals that support investment in the gas industry.

Firstly, we need to take into consideration the effects of financialisation on pricing in energy. Financial markets have disregarded natural gas as an attractive hedging instrument. As a result of this weak interest by financial investors, gas price on contrast to a broad range of exchange traded commodities receives the support largely from the fundamentals of its own market. And these markets are far from being perfect.

There is another price depressing factor. There are several places in the world, where associated gas deliveries by major natural gas suppliers play a secondary or auxiliary role compared to its oil deliveries. Portfolio optimization on the part of these suppliers in many instances jeopardizes the value of gas in favor of oil. Cases when prices of gas were negative on NBP are a good example of this depressive factor. This depressing factor now plays an important role in the shale oil production. As prices for shale oil are 10 times higher than prices for shale gas, producers are flooding the market with the associated gas volumes ignoring the negative pressure on prices that these volumes create. Cases of gas flaring in the USA have become a common thing.

Thirdly, US financial markets – principally futures markets – enable producers to lock in profits for years ahead. Current low cash prices do not discourage producers that sold today's product up to three years ago at much higher and profitable prices. As a result supply to price adjustment mechanisms do not function properly but with a lasting delay.

Liquefaction Projects CAPEX Growth



Source: WoodMackenzie

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Low elasticity of supply to price in the liberalized gas markets is damaging to the upstream investments and serves as a vivid example of a market failure. It makes reference to oil indexes a must. Dramatic growth of downstream costs as well as costs for liquefaction makes no project possible without a firm oil link, as illustrated by slides 8 and 9.

Liquefaction Projects CAPEX Growth

Plant	Capacity	Capex (US$/ton)	Year for $ Value
Peru LNG	4.5 (1 train)	926	2009
Snohvit	4.3 (1 train)	2,096	2008
Pluto LNG	4.8 (1 train)	3,650	2012
Angola LNG	5.2 (1 train)	1,700	2012
Gorgon LNG	15.0 (3 trains)	3,000	85% complete in 2012
PNG LNG	6.3 (2 trains)	2,400	2014*
Browse LNG	10.0 (2 trains)	3,000-3,500	2012
Ichthys	6.0 (1 train)	4,000	2011
Tangguh	7.6 (2 trains)	660	2009
Yemen	6.7 (2 trains)	360	2009

*Source: Pace Global. *November 2011 project update*

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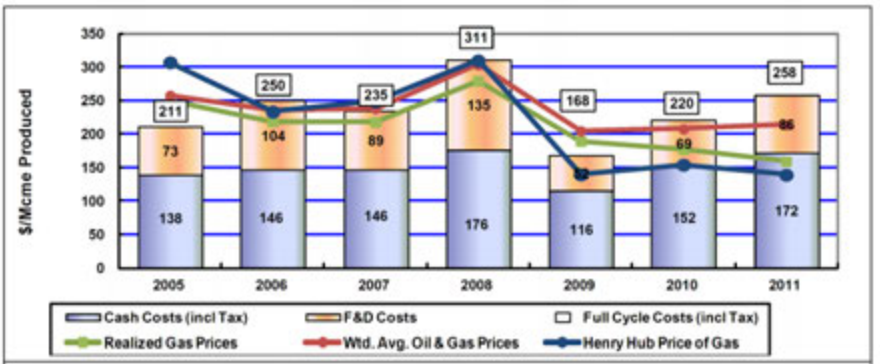
After the crisis of 2008 liquefaction capital expenditures have gown well above USD 1000 per ton of LNG up to USD 4000 per ton in some cases.

Let me comment briefly on a proposition that we hear often today to introduce partial Henry Hub indexation in a formula for long term contracts for gas delivered to Asia. That proposition makes no economic sense especially at a time when American and Asian markets are completely disconnected. It will still make no sense is case cargoes of American LNG will reach Asia some day because Henry Hub is an indication of the American and not the Asian supply and demand equilibrium. With the same success you may incorporate the Economist 'Bid Mac Index' in the formula for Asian long term supply gas contracts.

In another plan the International Energy Agency chief suggests that Asia should set up a regional spot market for natural gas trading to reduce its high acquisition costs. There are OTC LNG trades but no hubs in Asia in the moment. It will years to develop liquid hubs on the continent. But I strongly doubt that hub prices will reduce LNG acquiring cost in any significant way. Hub prices in Asia will be a derivative of the long term contracts that will still dominate the future market. Platts JKM index of spot trades that could be considered as a present-day proxy to hub prices in Asia is by and large an average of the portfolio of the same month long term supply oil-indexed contracts.

Companies' Costs Exceeded Revenues on a Unit Basis

- In 2011 All-in Costs of Shale Developers were above $256 per Mcme.
- All-in costs jumped 16% in 2011 over 2010, and are 53% higher than in 2009.
- Unit operating costs have returned to pre-crash levels.
- Unit F&D costs, however, remain below peak land-rush levels of 2008.
- Commodity inputs like steel, labor, and various contract services are all still increasing for shale gas producers.
- Exxon Mobil CEO Rex Tillerson: "We don't make money. Everything is red"



$ Per Mcme	2005	2006	2007	2008	2009	2010	2011
Operating Costs	91.26	92.22	95.93	124.30	88.95	115.89	133.95
G&A	11.82	14.12	14.20	15.89	14.68	15.18	15.28
Interest	11.57	13.54	16.32	12.73	12.02	9.50	10.30
Current Tax	23.74	26.16	19.83	23.40	0.00	11.14	12.39
Cash Costs (incl Tax)	138.39	146.04	146.29	176.33	115.66	151.70	171.92
F&D Costs	72.63	103.50	88.86	134.73	52.18	68.61	85.68
Full Cycle Costs (incl Tax)	211.03	249.54	235.15	311.06	167.83	220.32	257.60
Realized Gas Prices	249.83	218.88	217.93	279.50	189.40	177.35	159.24
Wtd. Avg. Oil & Gas Prices	257.87	235.91	238.03	303.43	204.82	207.61	213.81
Henry Hub Price of Gas	307.13	233.43	248.82	309.85	139.85	154.32	139.31

Note: Cash Costs and Current Tax in units of production. F&D costs are in units of reserve additions.

Source: Company 10-Ks

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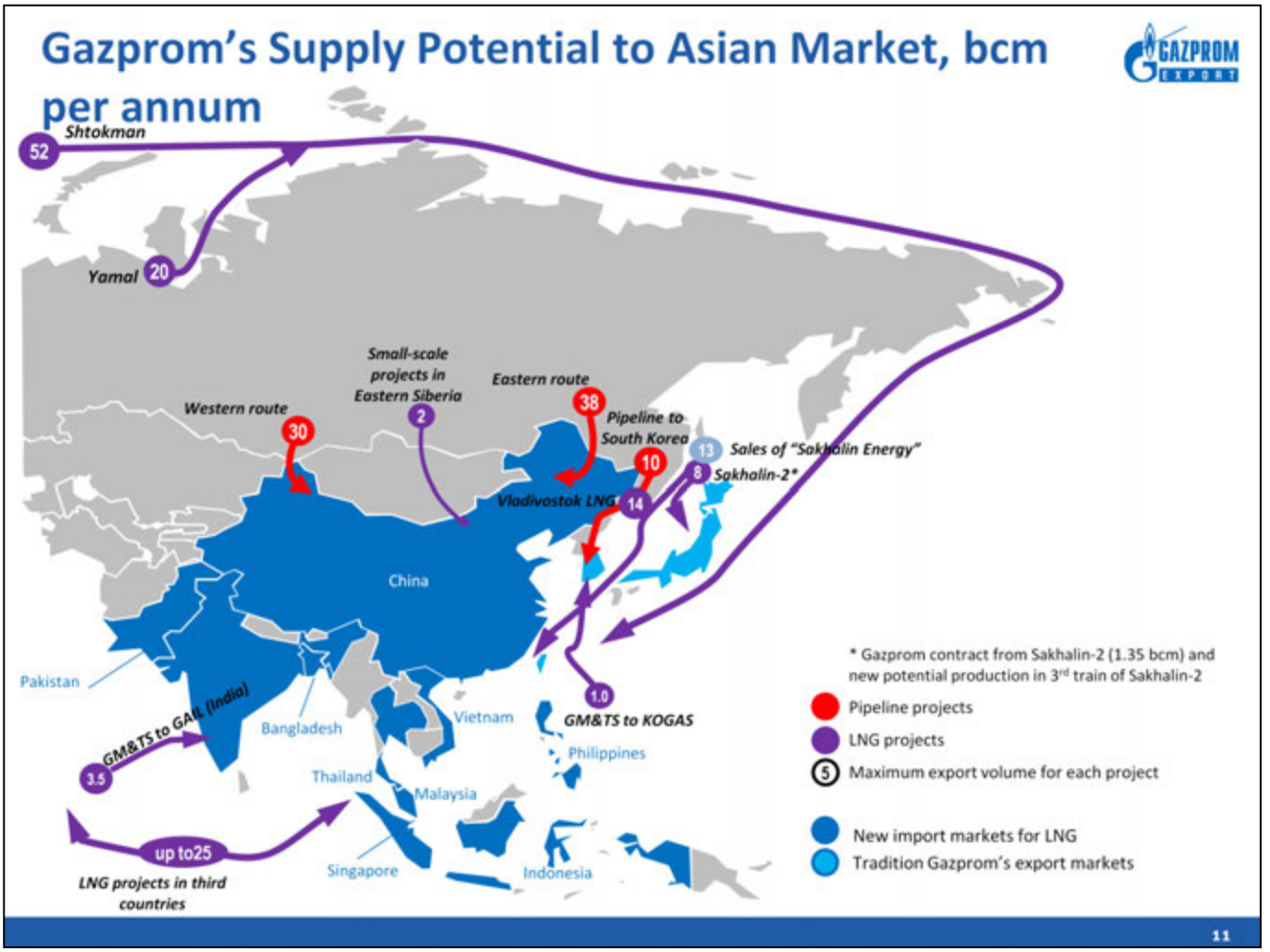
And finally, a couple words about the shale gas revolution. It created an illusion that caravans of inexpensive gas from North America will bring a revolution in pricing with them to the Asian markets. In reality we are now seeing reduced investment in gas production as the shale gas revolution proves to be more of a "bubble" than a "boom". Industry research shows that costs of shale gas production well exceed the current prices on Henry Hub. This research indicates that North American natural gas prices are in fact a temporary and unsustainable aberration that has been incorrectly seized on by many importers as an excuse to tear up existing contracts that have reliably served the market for over 35 years.



Gazprom has a huge potential to meet the growing Asian demand both with pipeline gas and LNG. In addition to deliveries from Russian these volumes include portfolio deliveries from projects in the third countries. The majority of the production projects will come on stream at the end of this decade or even later. Final investment decisions for the proposed third train as Sakhalin 2, Shtockman and Vladivostok LNG are yet to be taken. Some LNG projects will be accomplished soon like, for instance, deliveries by GM&T Singapore to KOGAS in 2013 and 2014, totaling up to 1 million tonnes over the two years. Oil-indexation is a vital prerequisite to the successful implementation of these projects. No project will be built until LNG is sold. Producers including Gazprom would not take the risk of investing in LNG projects without a long-term oil-indexed contract.