GAS
Medium-Term Market Report 2015

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Market Analysis and Forecasts to 2020
Global gas demand increases amid growing uncertainties
Asia drives incremental demand

Incremental gas demand by region, 2014 - 2020

Major downward revisions 2015 v 2014
The power sector drives global demand growth

Incremental gas demand by sector, 2014 – 2020

- Power: 48%
- Industry: 27%
- Residential/Commercial: 9%
- Transport: 11%
- Energy industry own use: 5%
- Losses: 0%

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GDP used to have a large impact on electricity up until recently.

*Income elasticity of power demand in the growth period leading to current consumption level*

- **USA**: internet bubble to financial crisis, 2001-2007
- **Germany**: reunification to financial crisis 1993-2007
- **Japan**: "Lost decade", 1989-2000
It is not only the financial crisis and not explained by electricity prices.
Gas-fired generation relies on imported gas in many countries with substantial coal capacity.

Global coal-fired power generation (TWh)

- **Other**
- **US**
- **China**

![Bar chart showing global coal-fired power generation by countries with domestic and imported gas.](image)
A young and efficient coal fleet in Asia takes advantage of low coal prices

- 350 GW coal capacity came online in 2010-2014
- 80% of the global ultrasupercritical fleet is in Asia
- To cut the load factor of an USC plant one needs 4$/mbtu LNG or 8$ LNG and a 50$/ton carbon price
Who is cleaning the air in China?

Expansion of energy sources with low particulate and SO2 emissions 2014-2020

- Retrofitted coal plants
- Low carbon sources: Solar, Wind, Hydro, Nuclear
- Other Power
- Gas
Is LNG still competitive with wind and solar?

Recent long-term remuneration contract prices (e.g. auctions or FITs)

- **Combination of technology cost reduction, better resources, appropriate regulatory framework attracting financing**
- **Long-term PPAs and price competition effective drivers**
India’s gas-fired generation is under-utilized

- Actual generation
- Additional generation with 2011 load factor
Alternative vehicles and lower oil prices

Fuel switching impact of 2014 US vehicle sales

- Heavy trucks
- Buses and garbage trucks
- Cars
- EVs
- Plug-in hybrids

Gas

Electricity

(Bar chart showing the impact of fuel switching on vehicle sales)

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Global production growth shifts towards OECD countries

Incremental gas supply by region, 2014 - 2020

Major downward revisions 2015 v 2014
Second wave of additional LNG supply is coming soon

Additional LNG export capacity by year, 2005 -20

- United States
- Russia
- Southeast Asia
- Qatar
- Other Middle East
- Latin America
- Norway
Buyers seem to became cautious on the competitiveness of Henry Hub based LNG

- Financing of projects with previously signed contracts is unproblematic
- Only one small contract (0.75 Mt/Y) was signed since oil peaked
Asian buyers are well supplied under long-term contracts (1)
China’s supplies become more diversified

China’s incremental gas supply, by type 2014-20

- Domestic production: 47 bcm
- LNG: 38 bcm
- Pipeline: 51 bcm
Global LNG trade flows will shift

Change in LNG net trade: 2014-20 (bcm)

This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.
Europe import dependency rises

- Demand increase (weather related)
- Demand increase (non weather related)
- Domestic supply decrease
- LNG supply increase
- Caspian supply increase

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<th>Year</th>
<th>Russian import (bcm)</th>
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- Increase
- Decrease
Thank you for your attention!