A new narrative for gas

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Argus – Paris – 25 September 2018
EU sentiment changed vis-à-vis gas

- Gas demand growing since 2014
- Gas infrastructure is the batteries of the new energy system
- Complete electrification will not work
- Gas is not just a bridge fuel for renewables, but it has its own future in Europe
- EU hasn’t stopped already all public funding for new interconnections

Source: Florence School of Regulation
“We need a new narrative for gas”

• If the 2006-2014 efficiency boost can’t be repeated, coal & oil will have to leave EU energy mix much faster...

• Europe could profit from becoming the worldwide energy storage provider
  - Change Directive 2009/119/EC designed at a time when oil was more relevant than today, the energy transition hadn’t really started, and energy markets were not fully functional
  - This Directive is neither fuel- nor technology-neutral

• Additional data:
  - Foreign dependency
  - LNG tightness
  - Spare capacity
2006-2014 efficiency boost

If this efficiency boost can’t be repeated, coal & oil will have to leave EU energy mix much faster...

Source: BP Statistical Review, RichesFlores Research, Macrobond, thierrybros.com
CO₂ linked more to total demand than mix

CO₂ vs Primary energy

CO₂ per unit of energy used

Source: BP Statistical Review, thierrybros.com
LNG supply growth

- Customers are always better off
- Suppliers have to select low cost projects to be profitable

- Even if more expensive than pipe, a low cost LNG project can thrive

- More buyers & sellers
- Increases global liquidity

- 32% of trade and growing
- Impacts also storage

Competition
Optionality
Diversification
Security of Supply
EU LNG use is already changing

What matters is not the net but the gross load regas factor
Europe should use its storage differently

EU & Ukraine gas storage

- EU used: 57%
- EU unused: 20%
- Ukraine used: 9%
- Ukraine that could be used: 8%
- Ukraine unused: 6%

Source: GIE, thierrybros.com
Brexit’s impact on foreign dependency

Foreign dependency pre and post-Brexit

Can this impact perceived SoS?

Source: BP Statistical Review June 2018, thierrybros.com (Norway is foreign for all)
Gazprom exports and Europe dependency

Source: Gazprom Export, BP Statistical Review, thierrybros.com
Fictional 2021 scenario
Nord Stream 2 full (55 bcm) & 50 bcm transit via Ukraine

No demand growth - Gazprom pipe replaces Groningen cut (-12 bcm), Algerian pipe exports drop (-6 bcm) and displaces other pipe and LNG (-10 bcm)

Source: Gazprom Export, BP Statistical Review, thierrybros.com
Month-Ahead Gas Prices

Source: Argus Media, thierrybros.com

LNG tightness (AGC FOB - HH)  Anea  TTF  HH  LNG FID

All contracts roll on 16th - month 1 (1-15) month 2 (16-31)
Major projects to come on-line
(until 2021, on a FID basis)

LNG capacity

Russia 18%
Australia 23%
Others 7%
US 52%

40% LNG

Pipe gas capacity

Russia 30%
Egypt 24%
Oman 5%
Israel 6%
Azerbaijan 9%
Others 16%
Iran 10%

LNG only for North America & Australia
No upstream project in Trinidad and Tobago & Peru (LNG producers)

Source: thierrybros.com
Gas spare production capacity

Assuming transit via Ukraine unaffected, Groningen cap at 12 bcm/y & no major unconventional gas production in China

Source: thierrybros.com
Boom & Bust

**Short**
- Increase producer’s rent 2008, 2011-2014, 2018
  - Very good

**Med.**
- Demand destruction 2007-2014
  - Impact on export volumes?

**Long**
- New suppliers entering the market
  - New competitors from 2016

**After**
- Lower prices & higher demand 2015-2017
  - Delayed FID
Thank you

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