

# Competitiveness of Shale Gas Vs. Russian Pipeline Gas

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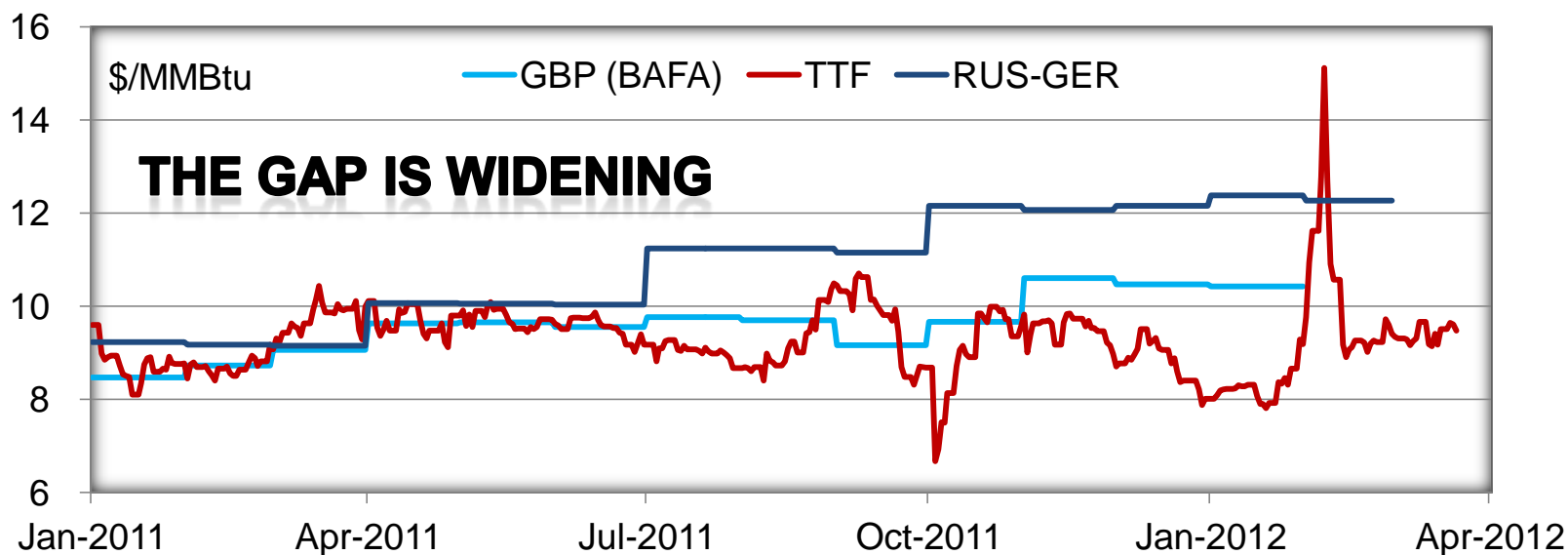


# Competitive Capacity of Gazprom

- Theoretically, Gazprom can slow down the development of shale gas by reducing the price of Russian gas.
  - Gazprom may also finance the anti-fracking activities and / or pay a heavy-weight politician to lead a “clean water” movement in the EU.
- Is Gazprom willing to reduce the price of gas?
- Can Gazprom afford a reduced export price of its gas?
- What is the price of Russian gas that Polish shale gas is likely to compete with?



# According to Gazprom, the Price Is Fair

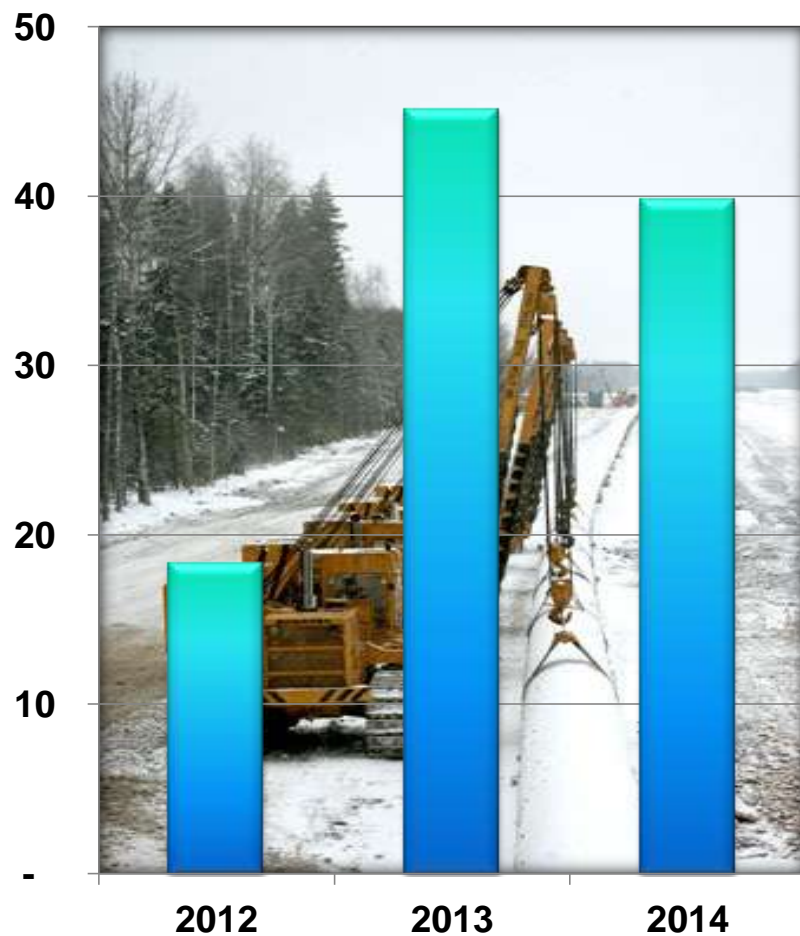


- Gazprom considers itself a reliable supplier and demands a premium price.
- Gazprom believes only oil-indexed price can cover its growing costs.
- Russian authorities believe the current price is a temporary setback.
  - Gazprom CEO A.Miller forecasted the price at \$1000/mcm or about \$28/MMBtu.
- Vladimir Putin has ordered Gazprom to stay tough on the price issues.
- Choosing between market share and earnings, Gazprom prefers the latter.
- **High price is the best incentive for the development of shale gas in Poland.**



# Can Gazprom Afford a Reduced Price?

## Gazprom Investment Plan, € Bn



- Gazprom needs a lot of cash to finance its investment program.
  - In 2013, the investment is to reach about 50% of the annual revenue.
- Export pipeline capacity is to grow from 200 to **318 bcm/yr** (to Europe alone).
  - Gazprom reports **158 bcm/yr** of guaranteed exports for the period of 2020-2025.
- Most of the investment will go to the construction of new pipelines delivering gas from the Yamal Peninsula to the Black Sea.
  - Gazprom evaluates the chances for high gas demand in Russia at 2% and in Europe at 19%.
- Gazprom always chooses the most expensive option.
  - New pipelines instead of storage facilities.
  - Maximization of profits of contractors and intermediaries instead of shareholders' profits.



# It's just business, nothing political

**Does Gazprom need  
conflicts to justify  
its pipeline  
construction plans?**

**For investment  
maximization,  
Ukraine suits better  
than Poland**

**~150 bcm/y of spare  
capacity by 2020**

**The existing pipelines can  
evacuate all gas produced  
in W-Siberia, incl. Yamal**

**Bovanenkovo – Russkaya  
link costs about € 30 billion  
(excluding South Stream)**



# Pipeline Cost Comparison



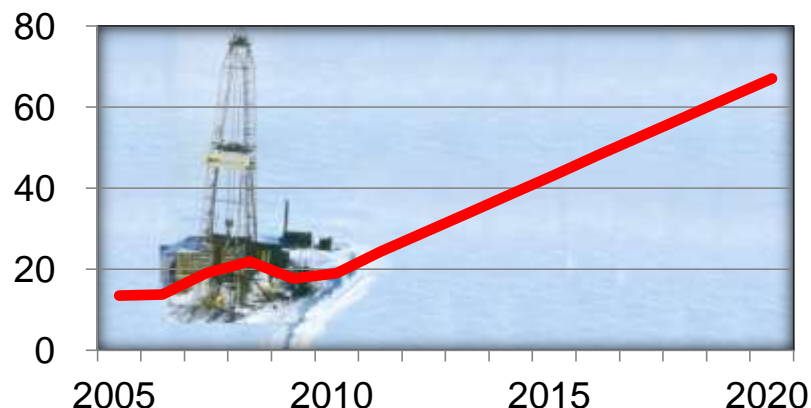
Name	L, km	D, mm	C, bcm/yr	Cost, € M/km
Gryazovets-Vyborg-1 (Nord Stream Russia)	917	1400	~34.0	4.9
Gryazovets-Vyborg-2 (Nord Stream Russia)	703	1400	~21.0	3.5
OPAL (Nord Stream Germany)	470	1400	35.0	2.1
Nord Stream (Baltic Sea)	1224	1153	27.5	3.4
Dzhubga-Sochi (Black Sea)	177	530	3.8	>5.0



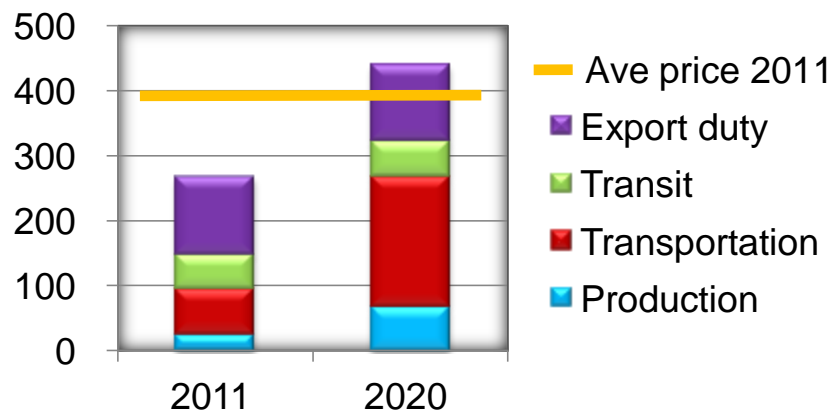
# Growing Costs to Reduce Profit Margin

- Export of gas produced in Russia is the most profitable operation of Gazprom.
  - Gazprom reduces shareholders' profits by adding foreign gas to its export portfolio.
- Current profit margin allows a substantial price reduction.
- A sharp growth of transportation costs is expected.
  - Gazprom builds an extremely expensive new pipeline system to evacuate the Yamal gas.
  - The new expensive lines will be fully loaded while the existing ones will have a lot of spare capacity.
- Gazprom needs a high price in 2020.
- **Polish shale gas is safe at \$12/MMBtu**

Production cost, \$/mcm



Cost of Exports, \$/mcm





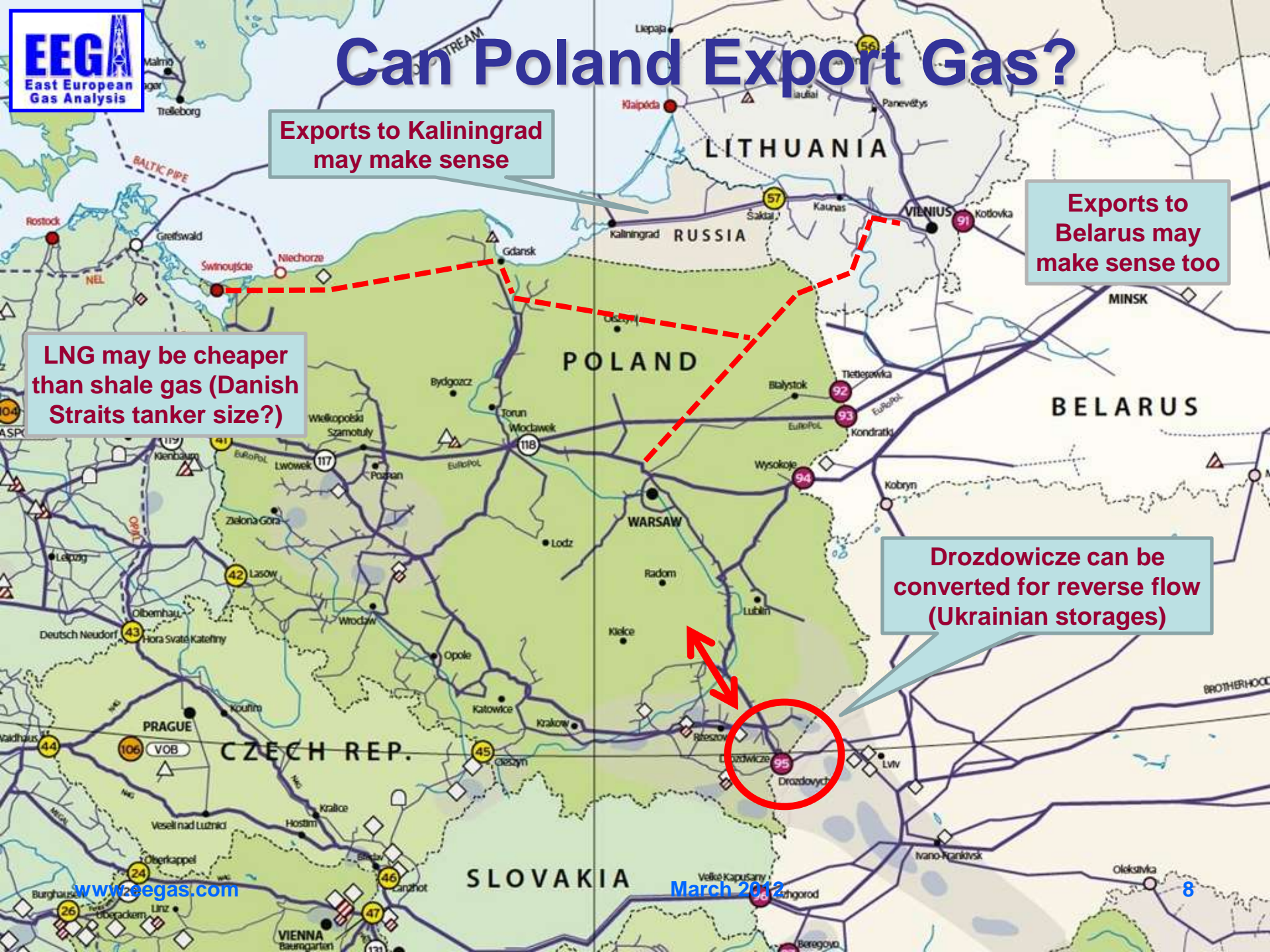
# Can Poland Export Gas?

Exports to Kaliningrad  
may make sense

Exports to  
Belarus may  
make sense too

LNG may be cheaper  
than shale gas (Danish  
Straits tanker size?)

Drozdowicze can be  
converted for reverse flow  
(Ukrainian storages)





# Shale Gas Can Beat Russian Gas



- Pipeline construction program of Gazprom guarantees the competitiveness of Polish shale gas vs. Russian gas.
- By 2020, Gazprom is likely to have a breakeven export price of above \$420/mcm (\$12/MMBtu).
  - Russian government may reduce this number by cutting down taxes paid by Gazprom.
- Reverse flow can give access to the gas storage facilities of Ukraine.
- Reverse flow can bring gas-to-gas competition to the FSU.
- **For “gas independence”, Poland needs some 300 bcm of reserves.**

# THANK YOU DZIĘKUJĘ

UGOS, Warsaw

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Google earth