

The Quiet Gas Revolution in Central and Eastern Europe

ETCSEE

ENERGY TRADING IN CENTRAL & SOUTH EUROPE

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Executive Summary

- In 2015, IPA Advisory pointed out that the quiet gas revolution is taking place in CE. Two years on, the increased pipeline flexibility is spreading further East
- Despite very low utilisation of reverse flows in most of the countries the actual capability already represents competition
- Gas prices have converged, even in countries where connections or reverse flows are not installed yet
- Each country has historical specific arrangements, national regulatory regimes and long-term supply contract with Gazprom, which continue to impact their markets
- In future, increased flexibility of gas flows will further reduce dependence on direct Russian gas deliveries and keep price differentials between countries more narrow

The evolution of the gas revolution in CEE

Central and Eastern European reverse flow points (2015)

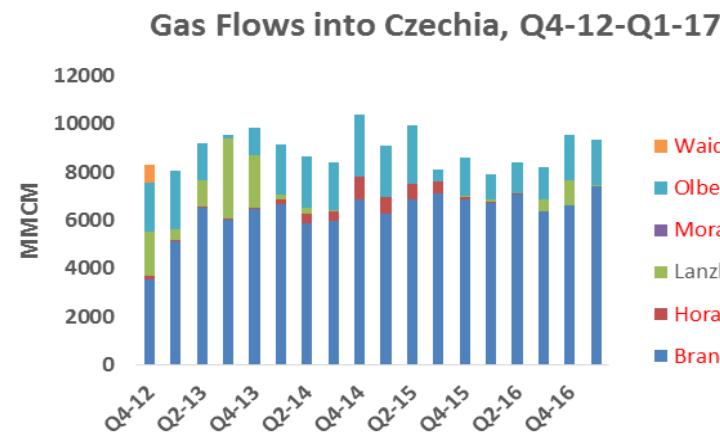


Source: IPA analysis

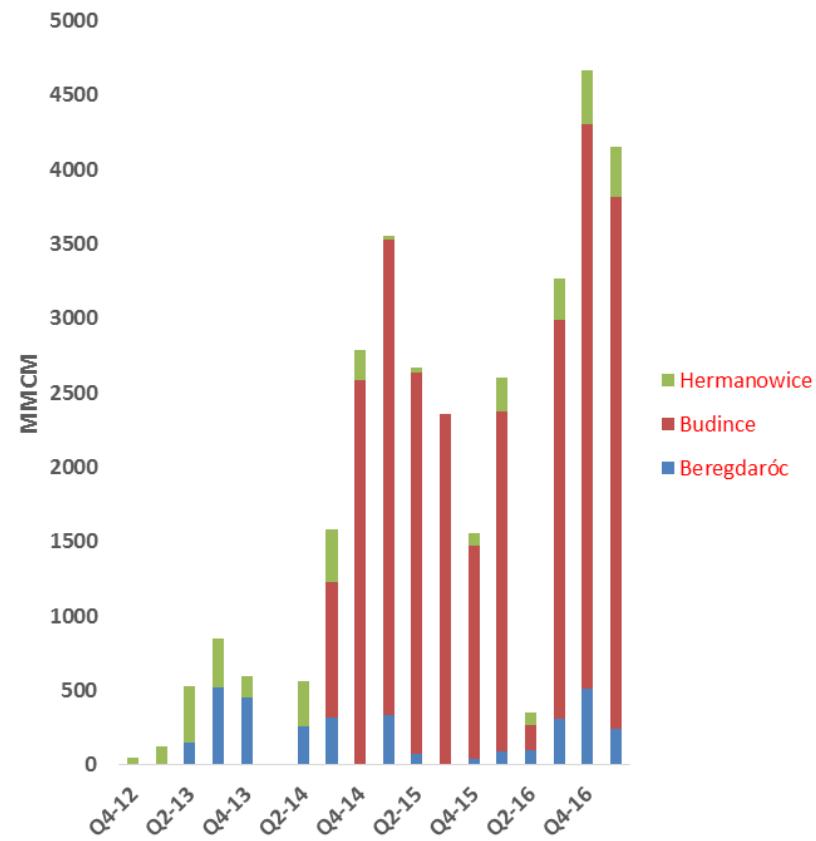
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- Two consecutive cut-offs of Russian gas initiate the revolution
- Between 2011 and 2015 reverse flows were built in Czechia and Slovakia
- Since end 2011, Nord Stream 1 has enabled to bypass traditional delivery route
- The total CEE reverse flow capacity was about 147 Bcm/y in 2015
- In 2017 capacity increased to around 192 Bcm/y plus the interruptible capacity of some 111 Bcm/y in Brandov

Reverse flows in CE corridor profoundly changed deliveries



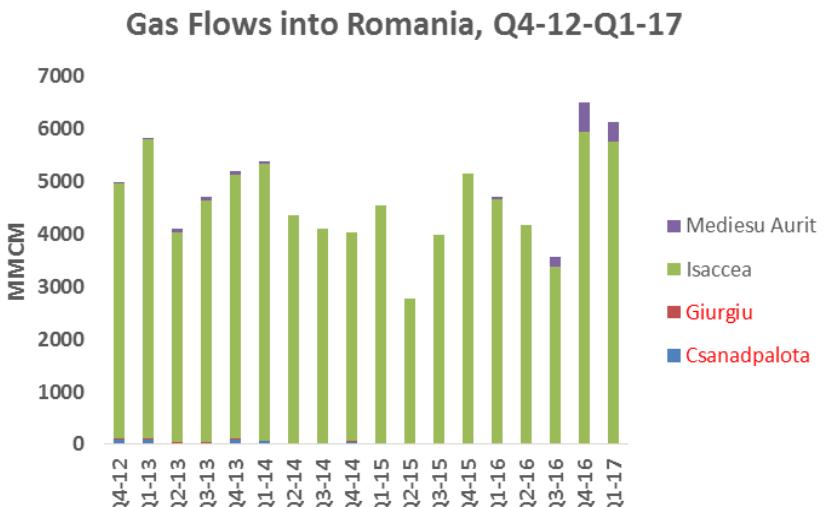
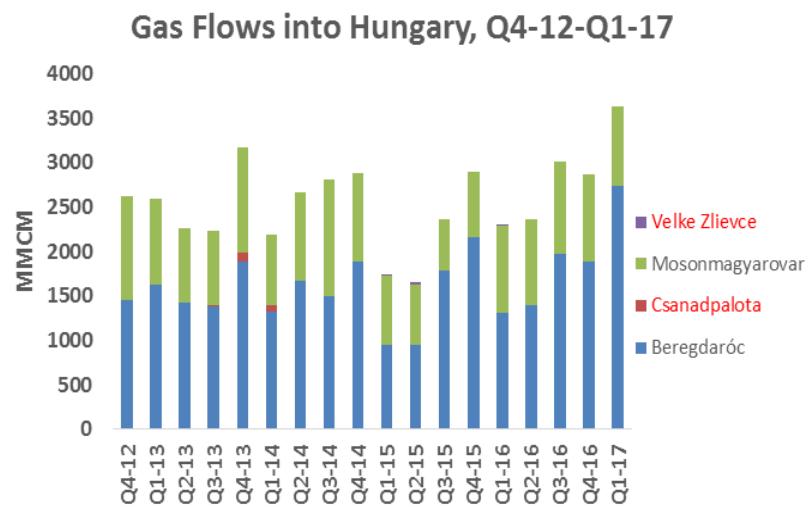
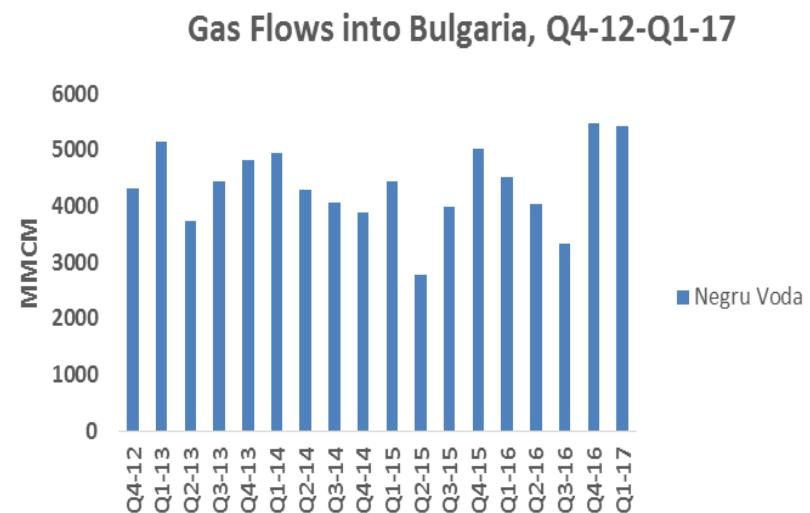
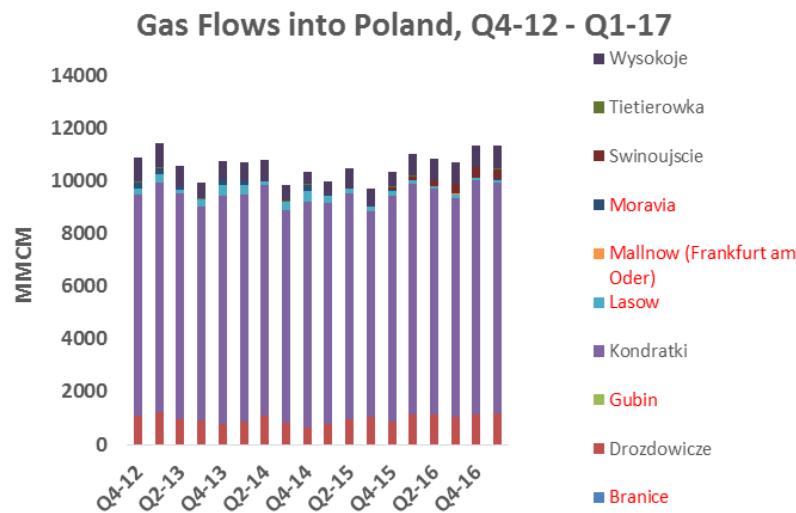
Ukraine: Reverse Gas Flows, Q4-12-Q1-17



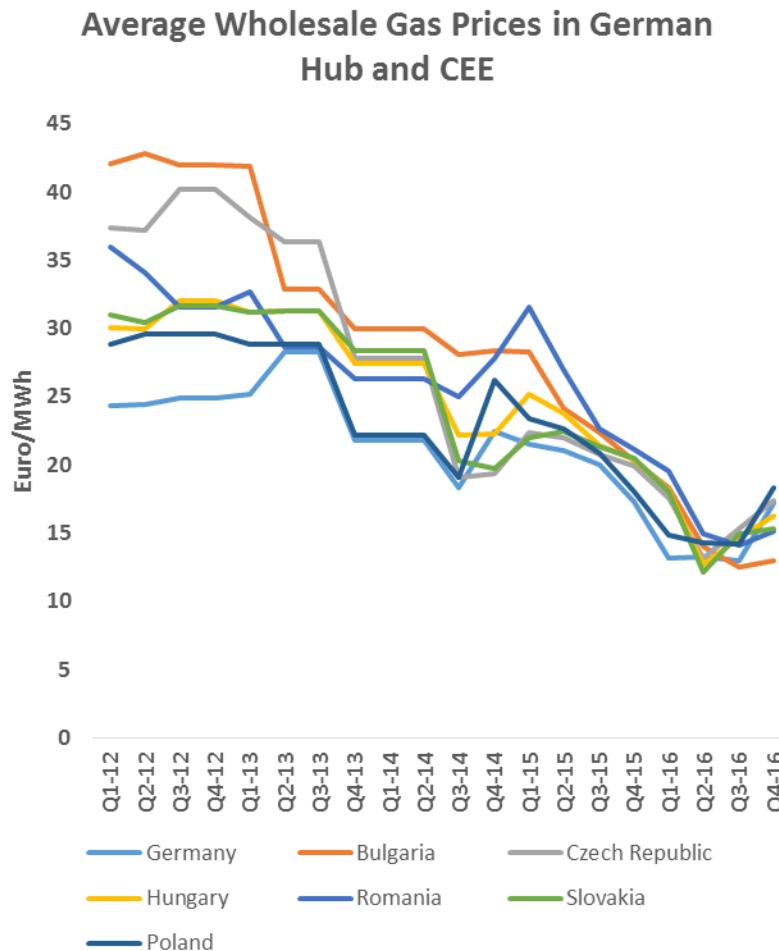
Gas Flows into Slovakia, Q4-12-Q1-17



CEE installs reverse connections but flows are sporadic



CEE gas prices moving towards European gas hub prices

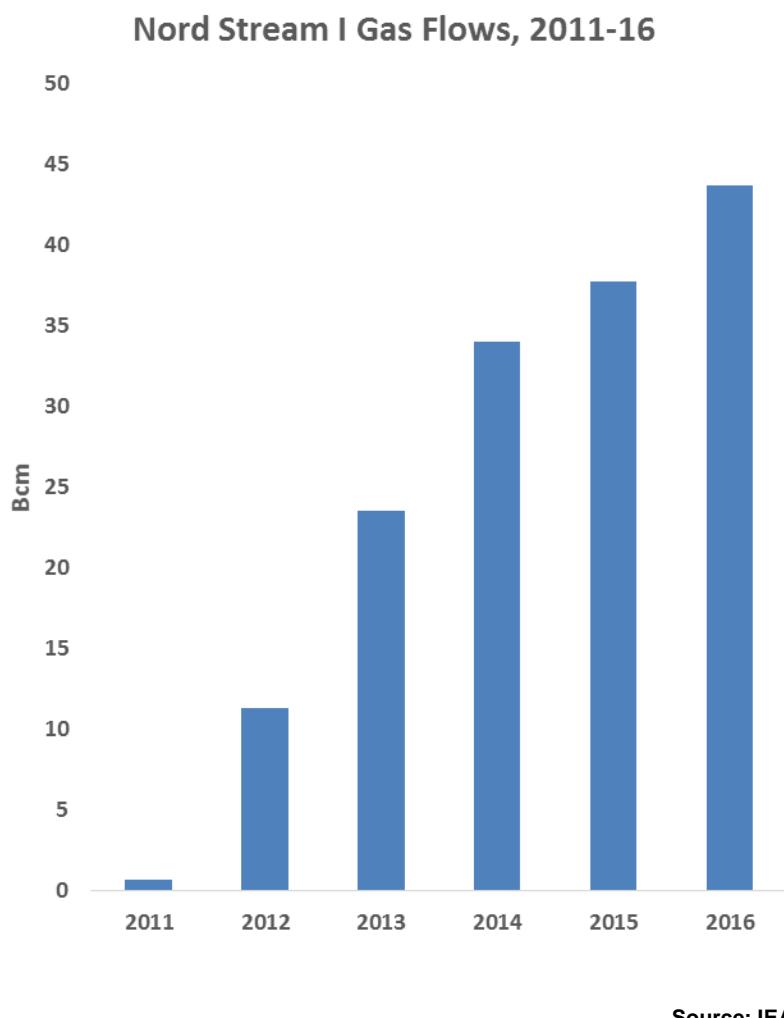


Source: Quarterly Report on European Gas Markets, DG Energy, Volume 9

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- Differences in the speed of convergence have largely been influenced by:
 - Existence of reverse flows although Balkans converged even without new connections;
 - Specific historical arrangements;
 - National regulatory regimes; and
 - Long-term supply contracts with Gazprom.
- After converging in 2015 & 2016, price differences widened slightly in H2-16 as prices started to grow due to:
 - Rising oil prices;
 - Rise in West European gas hub prices due to insecurities of the UK Rough gas storage and low LNG imports in Northwest Europe;
 - Cold weather;
 - Strong demand in the power sector; and
 - The outages of several French nuclear reactors.
- In future, gas prices in CEE will be more and more influenced by:
 - West European hub prices;
 - LNG prices (LNG imports grew by 10% in Q1-17);
 - Growing competition in CEE as destination clauses from LTC are removed;
 - Gazprom losing direct control of the CEE market; and
 - Establishment of more hubs in longer term.

Potential impact of Nord Stream II on the CEE gas markets



- Nord Stream 1 has capacity of 55 Bcm/y and exports reached almost 44 Bcm last year, with utilisation at 80%
- Capacity of Nord Stream II should double the annual capacity to 110 Bcm/y, with planned start date 2019
- Restrictions on the Opal capacity by the EC remains a major problem as Polish objection is upheld due to security of supply concerns
- EU support for Ukraine will be crucial and could determine future transit flows of Russian gas to the region
- Some recent studies (Abrell 2016, TIGER 2013, REKK 2017) suggest:
 - Prices will decline in Western Europe (by about 6%);
 - But Eastern Europe will see prices rising due to bottlenecks as LTC will congest reverse flows;
 - Revenues of some CEE's TSO will shrink; and
 - Additional investment will be needed to avoid the congestion.

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