



THE GAS TARGET MODEL FOR THE VYSEHRAD 4 REGION

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The Gas Target Model for the Vysehrad 4 Region

developed by:

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WISEHRAD 4 GAS MARKETS: PROBLEMS

- Dominance of Russian supplies under long term, oil linked contracts
- Limited interconnection (except between Czech Republic and Slovakia)
- Overwhelming East-West flows
- Scant, though growing, internal competition - and as a consequence poor market liquidity
- Expected increasing demand, notably in Poland, due to the gradual dismissal of more polluting fuels and more gas penetration in the residential market
- Low security of supply

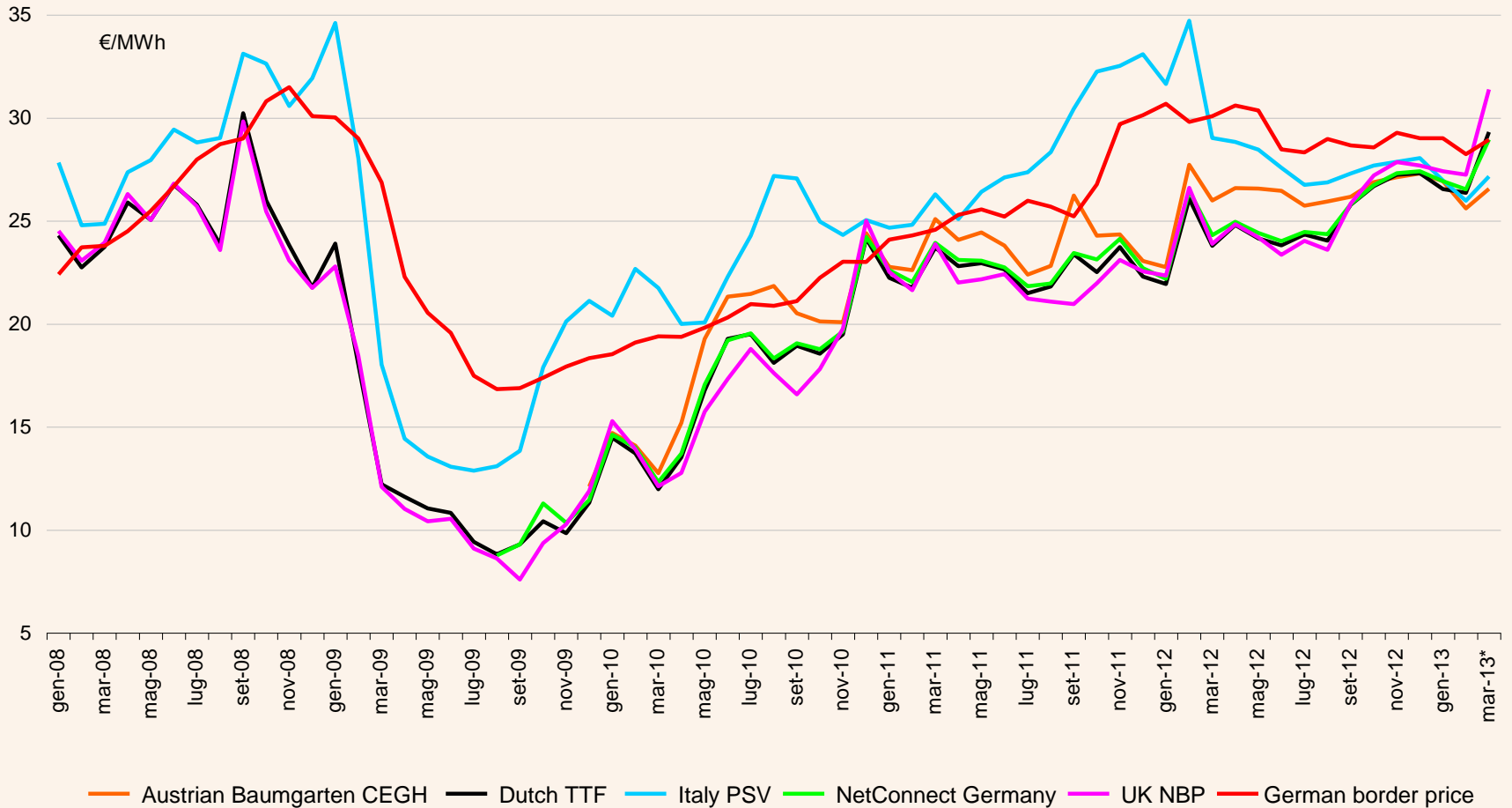


V4 GAS MARKETS: OPPORTUNITIES

- Avoid market segmentation by external suppliers
- LNG currently landed in West Europe, may become available at new Polish LNG terminal
- Nabucco pipeline project from East (Azerbaijan +...)
- Market upheaval due to enforcement of European Network Codes and their implementation
- Storage complementarity (scarce in Poland, abundant in other V4)



Gas prices in some European hubs





V4 GAS MARKETS: FURTHER OPPORTUNITIES

- New production opportunities in the region and in neighbouring countries, notably from unconventional gas plays
- Connection to the North Sea continental shelf through the Baltic
- New LNG terminals in the Balkans (Croatia and others)
- A more aggressive competitive behaviour by companies that sell Russian gas
- Other Mediterranean gas through Greek/Turkish LNG terminals or Italy, TAP, South Stream



GAS TARGET MODEL: MAIN REQUIREMENTS

- Each market zone should be:
 - devoid of internal congestion
 - based on an entry-exit tariff defining a virtual trading point
 - at least 20 Bcm/year market size
 - direct access to at least 3 different sources
 - limited market power ($HHI < 2000$)
- Is this enough?
 - maybe only 2-3 independent hubs will survive in EU, others will be subordinated with limited liquidity
 - V4 hub will be liquid if its supplies are “different” from others
 - Russian supplies should be cheaper in CEE than in West EU

GAS TARGET MODEL: JOINT V4 IMPLEMENTATION

- No V4 country can currently achieve GTM targets if alone
 - except possibly Poland after 2015, but hardly on competition
- Potential joint implementation to create liquid and competitive market

Table 2 – Market concentration indicators in Vysehrad countries, 2011

| | Czech Rep. | Hungary | Poland | Slovakia | V4 |
|-----|------------|---------|--------|----------|------|
| C3 | 59% | 82% | 97% | 95% | 78% |
| HHI | 3905 | 5121 | 9029 | 6199 | 2537 |

- Interconnection required, also enhancing security of supply



GTM JOINT V4 IMPLEMENTATION: PRINCIPLES

- Any market design should be implemented consistently with market opportunities
 - not against business interest and strategies
 - using market tools
 - targeting state-owned companies' behaviour, where available
- Existing cooperation projects, even if extending beyond the V4 region, should be encompassed in the region rather than replaced
- Envisage a process, not an abstract market design, with no-regrets intermediate steps and further decisions



EXISTING / PILOT / PLANNED PROJECTS

- GATRAC (one stop service between DE/CZ/SK)
- PRISMA (West European capacity platform)
- Bundled capacity allocation at Lasow between DE & PL
- Trading region connecting AT / CZ / SK
- Bundled capacity between HU & RO
- Within the framework of Gas Regional Initiative for South-East Europe

APPLICABLE HIGH LEVEL DESIGN MODELS (1)

- *Single cross-border market zone*. Requires:
 - Full interconnection, without congestion
 - Fully harmonised market rules and procedures
 - TSO coordination body (?) with dispatching & balancing responsibility
 - common entry-exit tariff system, probably with inter-TSO compensations
 - single market operator
- *Trading region*
 - as above, but balancing limited to each TSO (national) zone



APPLICABLE HIGH LEVEL DESIGN MODELS (2)

- *Multiple coupled market zones.*
 - Market clearing algorithm determining one or more market prices, optimal but consistent with congestions
 - suitable for short term markets (mainly day-ahead)
 - limited market integration
 - applicable with limited interconnection and harmonisation
- *Independent connection to more liquid zones*
 - business as usual option
 - no commitment to integration beyond interconnection
 - no V4 hub, may trade at German/Dutch marketplace



V4 ROADMAP FOR JOINT GTM IMPLEMENTATION (1)

1. Establishment of working connection among the V4 and with neighbouring countries

- Harmonised market rules
- Develop capacity products connecting zones
 - including virtual reverse flow & connection to rest of EU

2. Development / consolidation of market zones

- Completion of existing entry-exit zones
- May include further merger projects, e.g. proposed AT/CZ/SK trading region
- Connection of Hungary and Poland by Market Coupling



V4 ROADMAP FOR JOINT GTM IMPLEMENTATION (2)

3. Completion of interconnection of the V4 countries

- Reinforcement of CZ-PL link
- New HU-SK and SK-PL interconnectors

4. Joint implementation of the European Network Codes

- Work towards establishment of a single entry-exit zone, including tariff model and inter-TSO compensation
- Coordinated implementation of the Capacity Allocation Mechanism (CAM)
- Harmonised balancing rules would be useful
- Common congestion management criteria



V4 ROADMAP FOR JOINT GTM IMPLEMENTATION (3)

5. Adoption of common criteria for customer protection

- End user price controls (if any) based on wholesale market prices
- Lingering price controls discourage market entry
- Progressive phase-out or limitation to vulnerable customers

6. Decision on final market design

- Probably around 2016-7
- May choose among *single price zones, enlarged trading region or extension of market coupling*
- Choice related progress achieved on interconnection, elimination of bottlenecks, agreement on tariff model



INSTITUTIONAL ISSUES (1)

- Establishment of joint bodies for an enhanced co-operation at the V4 level would improve credibility of market rules and regulatory stability
- Yet, bureaucratisation should be avoided
- Gas Regional Initiative provides suitable framework, but:
 - V4 Sub-region should be established
 - Operational Committees to be set up



INSTITUTIONAL ISSUES (2)

- Each NRA/TSO could lead V4 harmonised implementation of a European Network Code, optimising regulatory resources
 - capacity allocation and congestion management
 - interoperability and business practices
 - tariffs
 - balancing
- TSO coordination body (ISO) may be necessary
- Infrastructure development coordination body useful
- Single market operator likely to emerge naturally



THANK YOU FOR YOUR ATTENTION!

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