



**Connecting
Markets**

Central European Gas Corridor

Natural Gas Market in the V4 Region

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Central European Gas Corridor Gas Infrastructure and projects

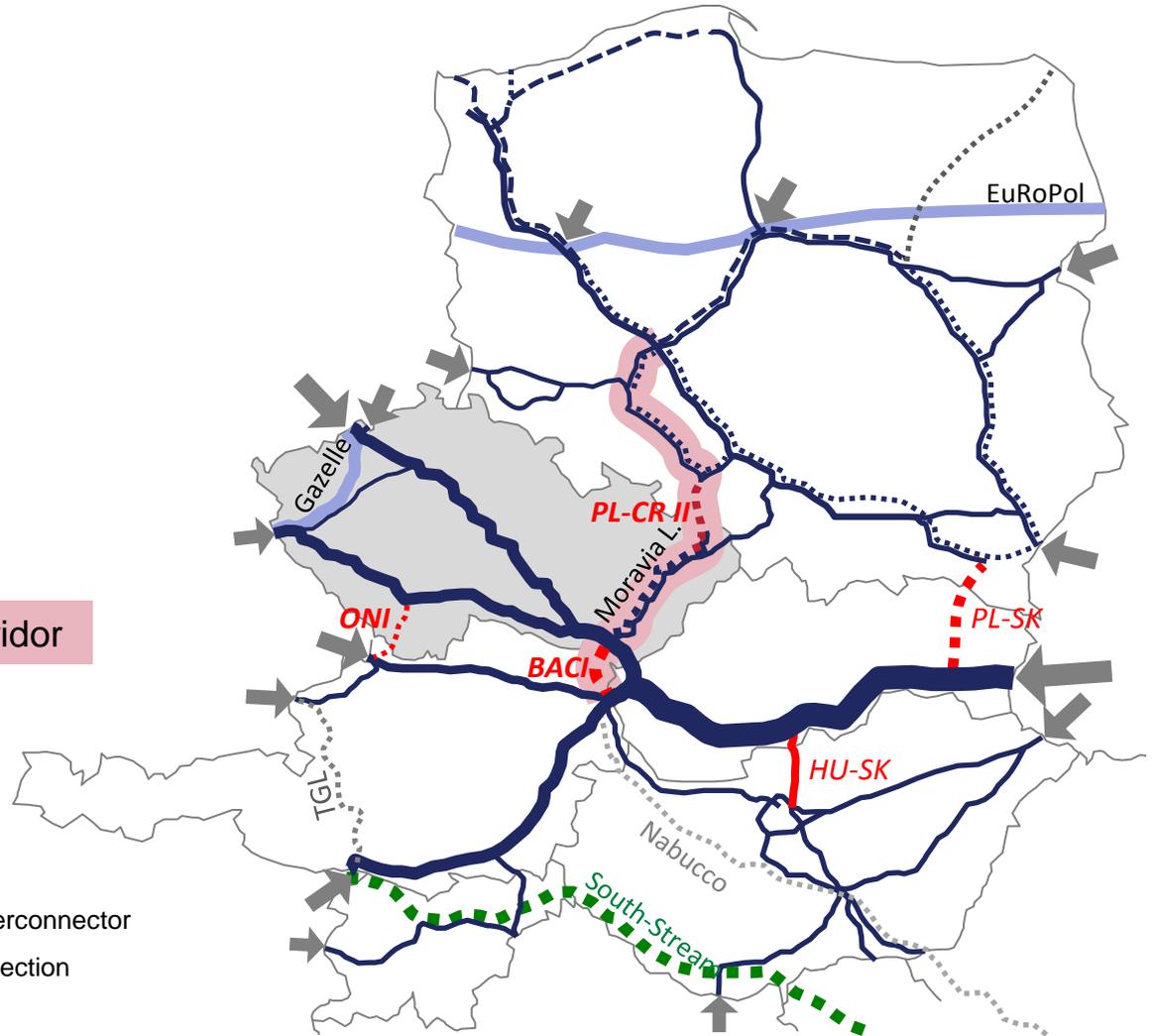
National investments

- under construction
- in planning

Cross-border investments

- under construction
- in planning

Part of the North-South Corridor



BACI: Bi-directional Austrian-Czech Interconnector

ONI: Oberkappel-NET4GAS Interconnection

TGL: Tauerngasleitung



Central European Gas Corridor Planned Major Projects (here: until 2022)

	Project	Main Purpose	Description, techn. Parameter	Planned start of operation	CAPEX
PCI	Moravian Loop	National supply National SoS	Tvrdonice – Libhošť, DN1000, PN73.5, 155 km	Beginning of 2018	6.7 bn CZK
	PL-CR Interconnector II	N-S Corridor, Market Integration, Alternate PL supply	Libhošť – Hať, DN1000, PN73.5, 52 km	Beginning of 2019	2.2 bn CZK
	Addition upgrade of 3 compressor units at CS Břeclav	In connection with the PL-CR Interconnector II	Additional 3 units needed for PL-CR capacities	2018	314 m CZK
PCI	BACI (Bi-directional Austrian-Czech Interconnection)	N-S Corridor, Market Integration	Břeclav – Reintal, DN800, PN74, 12 km	2019	560 m CZK
PCI	ONI (Oberkappel-N4G Interconnection)	N-S Corridor, Market Integration	Vodňany – Dolni Vltavice DN800, PN74, 80 km	2020-2022	3.2 bn CZK
				Total:	13 bn CZK

Note: all projects are in the planning phase, not decided; CAPEX numbers are estimations



PL-CR Interconnector II

Reasons & Benefits

Main Reasons:

- **Supply source and supply route diversification**, especially for Poland
- **Satisfying the capacity need** because of increasing gas demand in Poland
- Contributing to an **increase of SoS**

Main Benefits:

- Enabling a more competitive gas purchase from gas producers, which should lead to **lower gas wholesale prices and subsequently lower gas retail prices** (following the basic idea of liberalization/regulation)
- Creating the possibility to combine national transport and transit investments and share the resulting costs, which will lead to **lower costs** (on both sides) compared to isolated solutions
- Further investments will have a **positive effect on the economy of the CR** (increase of growth national product, stabilization of working paces, etc.)
- Facilitate N4G and the CR to **preserve the status of a transit country** (turn table for physical gas flows in Central Europe)

Note: Under the precondition of a reasonable, fair cost allocation no detriment from the project and for the CR or N4G could be detected so far



PL-CR Interconnector II Status of the Project

NET4GAS in cooperation with **GAZ-SYSTEM** prepared the Investment Request and delivered it on **October 31, 2013** to the respective regulatory offices for approval.

Polish - Czech Interconnector II Project

Business Plan, Project Specific Cost-Benefit Analysis and
Proposal for Cross-Border Cost Allocation, in accordance with
Article 12 of Regulation (EU) 347/2013



Natural gas market in the V4 region

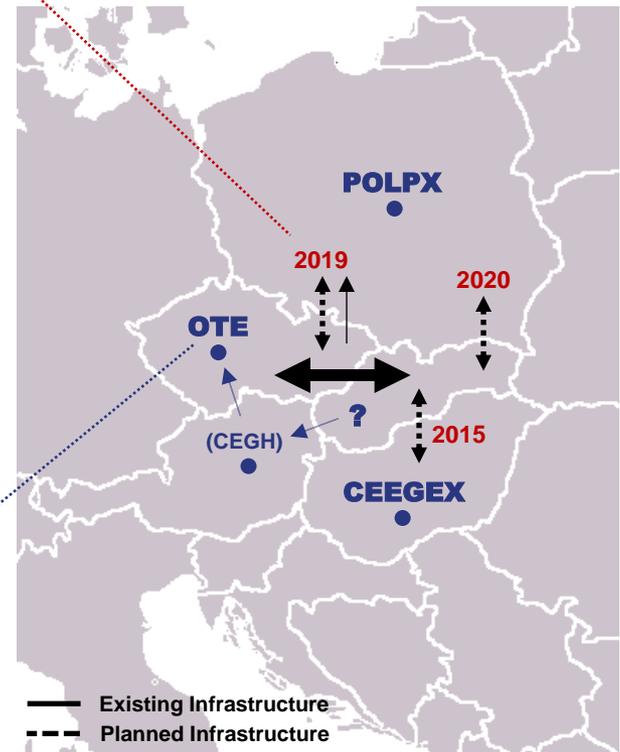
Gas Infrastructure and Market situation

Interconnections between countries

- **Uncongested interconnection** between **CR / SK**
- Limited interconnection between **CR / PL**, congested interconnection under development (*expected in 2019*)
- No interconnection between **SK / PL**, congested interconnection planned *in 2020 at earliest*
- No interconnection between **SK / HU**, congested interconnection under development (*expected in 2015*)

Gas Exchange

- OTE in CR with limited gas exchange
- No gas exchange in SK (eustream shareholder of CEGH)
- POLPX in PL with limited gas exchange
- CEEGEX in HU with limited gas exchange



Natural gas market in the V4 region

Gas Target Model; possible solutions

Pre-conditions for **Market Coupling**

- Congested interconnection between two E/X systems / gas markets
- The two gas markets have to be functional
 - virtual hub + gas exchange
 - sufficient liquidity (please see GTM)
- Establishment of Market Coupling Office

Implementation of Market Coupling between two uncongested connected markets => Trading Region





Gas Target Model, 2015 and beyond

Starting point: V4 Region

Time line as of today

2013

2015 – 2016

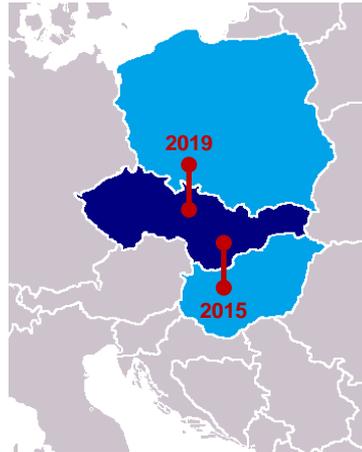
2020

2025



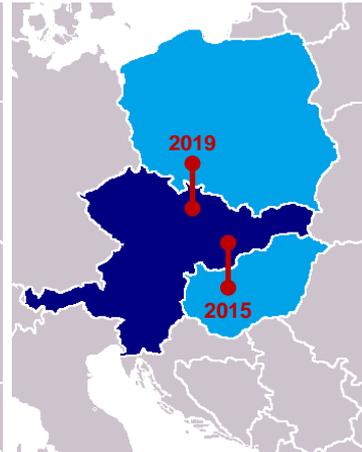
V4 Region

- Explicit capacity booking



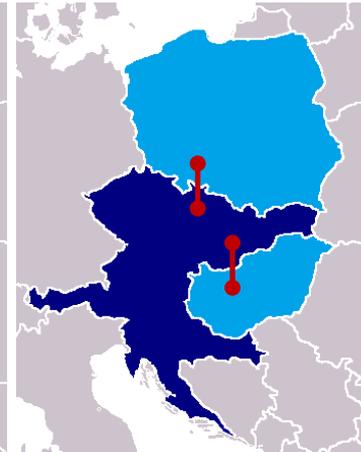
Step 1A

- Trading Region between CZ and SK
- Market Coupling possible between TR and PL (in 2019) and TR and HU (in 2015)



Step 1B

- Why not to add AT and SI and create Trading Region between CZ, SK, AT and SI in order to create bigger market area with more benefits for gas customers



Step 2

- By including HR into the newly created Trading Region, we would be able to strengthen the north-south corridor



Step 3

- With necessary infrastructure development (investments) possible creation of V4+ Trading Region





Natural gas market in the V4 region

Trading Region; basic principles

- Network access to the **Trading Region** is organized as an integrated E/X system that enables a single wholesale market across its members
- Trading Region is a single, integrated balancing zone
- Establishment of the Trading Region is performed by cooperation of TSOs; no joint entity needed
- Gas Exchanges free to decide on integration
- **Virtual Trading Point** is the only point located within the Trading Region where a handover of gas between shippers can be performed
- Virtual Trading Point is delivery point for any hub services and gas exchanges operating within the Trading Region
- Each member is individually balancing its **End User Balancing Zone**
- Shippers can move gas from the balancing system of the Trading Region to a specific End User Balancing Zone based on nominations
- Access to each End User Balancing Zone shall be commercially enabled at the Virtual Trading Point



Thank you for your attention

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Back up slides

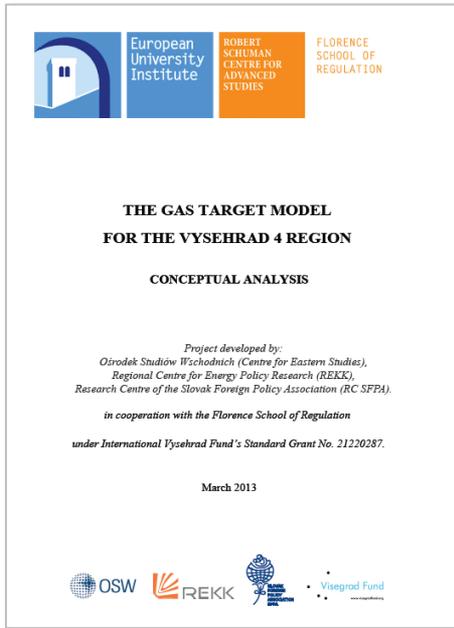
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Natural gas market in the V4 region

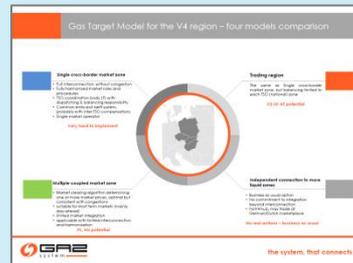
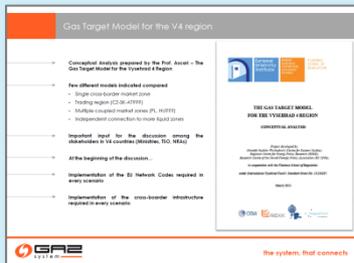
Gas Target Model; conceptual analysis



According to Analysis prepared by Prof. Sergio Ascari, several different models are possible and compared in order to find best possible solution:

- Independent connection to more liquid zones
- Single cross-border market zone
- **Multiple coupled market zone**
- **Trading region**

Based on our expert view, **only two of the solutions are potential for the V4 region** and could be implemented.

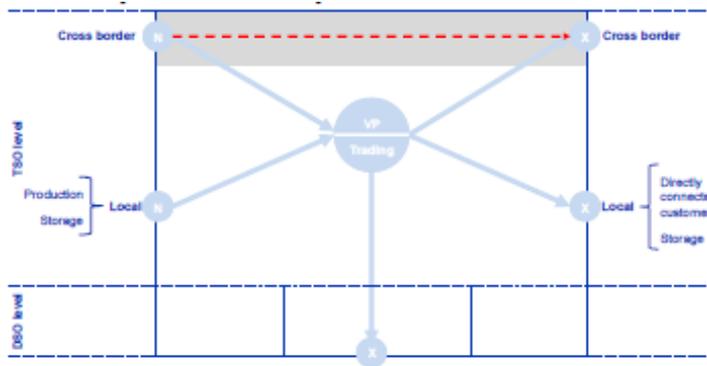


Note: N4G assumptions was also supported by statement of GAZ-SYSTEM (presentation of Mr. Wittmann, held in CEGC 2013, in Bratislava)

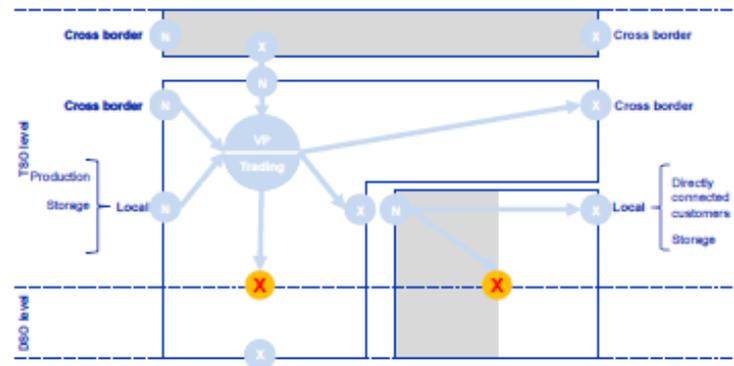
Study on Entry-Exit regimes by DNV KEMA

V4 Region

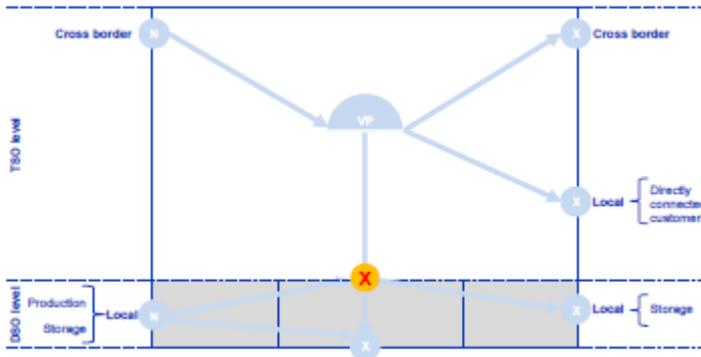
Czech Republic



Poland



Slovakia



Hungary

