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WORKING FOR YOU – WHEREVER YOU NEED ENERGY.



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RO-HU-AT - a pilot project for incremental capacity

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Agenda



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- How to develop functioning markets?
- Infrastructure needs and initiatives for Europe
- RO-HU-AT - a key project for Central and South-East Europe



How to develop functioning markets?



How to develop functioning markets?

- Full Implementation of the 3rd energy package, and in particular the network codes which allows
 - efficient use of existing infrastructures and
 - the developement of liquid trading places
- Tight application of competition rules
- Diversification of gas sources and routes

Implementation of the 3rd energy package, and in particular the network codes



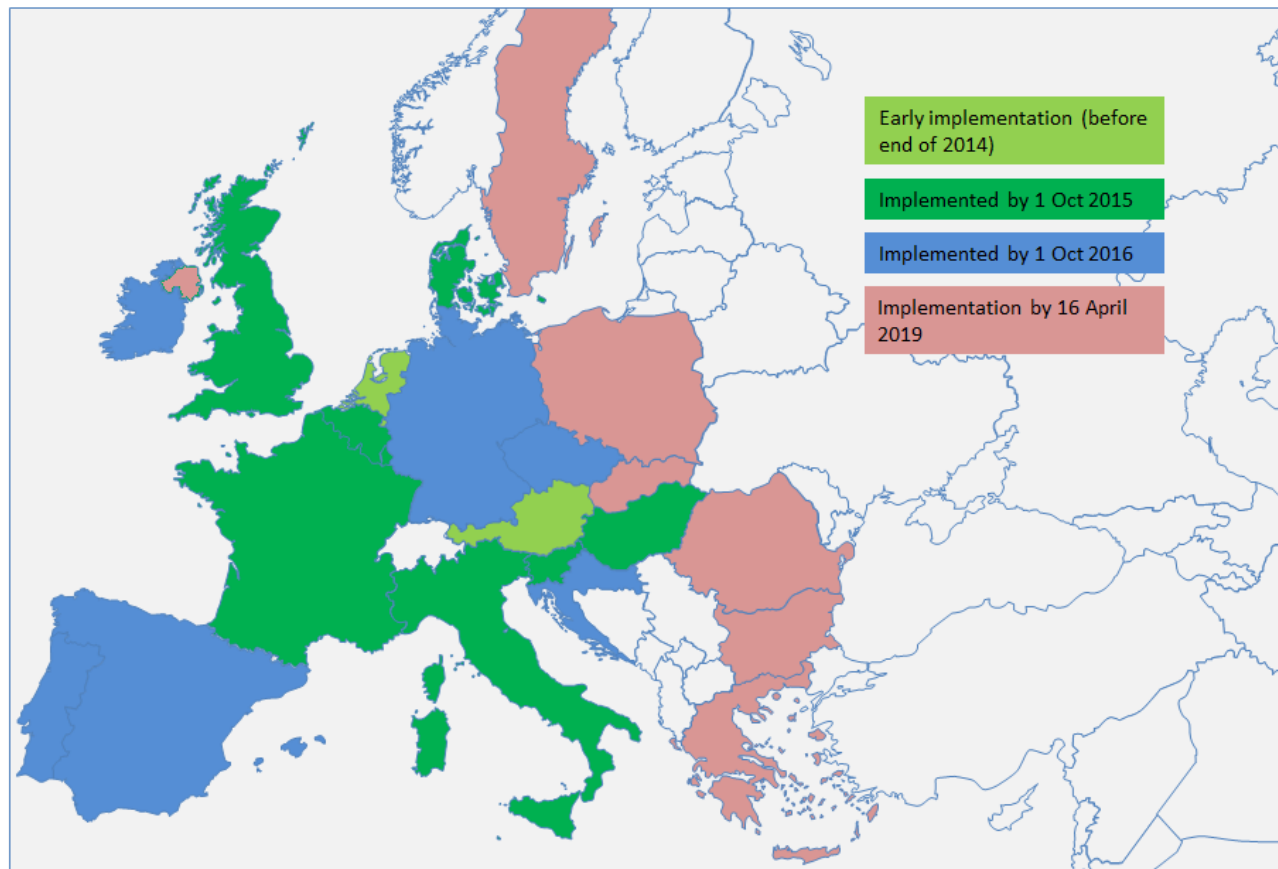
Topic	Application Dates
Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems (COMMISSION REGULATION (EU) No 984/2013)	Adopted: 15 April 2013 Published 15 October 2013 Applies: 1 Nov. 2015
Network Code on Gas Balancing of Transmission Networks (COMMISSION REGULATION (EU) No 312/2014)	Adopted: 2 October 2013 Published 26 March 2014 Applies: 1 October 2015
Network Code on interoperability and data exchange rules (COMMISSION REGULATION (EU) 2015/703)	Adopted: 4 Nov 2014 Published 1 May 2015 Applies: 1 May 2016
Network Code on Harmonised Transmission Tariff Structures for Gas	Comitology: First Half of 2016 Adoption envisaged for: 2016 Application envisaged for: 2018
Amendment Proposal for NC on Capacity Allocation Mechanisms concerning new and incremental capacity	Comitology: First Half of 2016 Adoption envisaged for: 2016 Application envisaged for: 2018

BAL NC

Expected implementation timeline by country



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Since 1 October 2015 => BAL NC implemented in 10 MS only (AT, BE, DK, FR, GB, HU, IT, LU, NL, SI)

Diversification of gas sources and routes



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Results of GTM Update 2015

The following criteria developed in the GTM 2011 were maintained:

- all Member States should try to reach a position in which their Residual Supply Index (RSI) exceeded 110%; and
- 3 supply sources

→ 13 Member States did not meet the GTM target. These include almost all Eastern European states

Member State	Number of sources	RSI
Austria	3	143%
Belgium	8	279%
Bulgaria	2	13%
Croatia	5	125%
Czech Republic	3	159%
Denmark	2	22%
Estonia	1	0%
Finland	1	0%
France	13	137%
Germany	4	116%
Greece	9	131%
Hungary	4	60%
Ireland	2	8%
Italy	12	108%
Latvia	1	0%
Lithuania	1	0%
Luxembourg	4	0%
Netherlands	6	189%
Poland	3	56%
Portugal	2	93%
Romania	4	104%
Slovakia	2	369%
Slovenia	5	74%
Spain	12	159%
Sweden	1	0%
United Kingdom	11	142%
GTM target	≥ 3	≥ 110%



Infrastructure needs and initiatives for Europe

Infrastructure needs and initiatives for Europe



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- **Projects of common interest**
 - New list of PCIs adopted every 2 years; possibility of cross border cost allocation and of EU funding for PCIs;
 - No real selection, rather a compilation of projects stemming from national development plans and TYNDP; the holistic perspective is missing.
 - No differentiation between mature (realistic) projects and projects which are in a very early phase
 - The new list even includes competing projects
- **CESEC**
 - Initiated to fill the gap after the South Stream project was stopped
 - The aim is to accelerate the integration of Central- and South-Eastern European gas markets and to diversify gas supplies by getting political support.
 - Despite a big overlap between PCI and CESEC projects, two separate reporting and monitoring mechanisms were introduced
- **Other infrastructure projects**
 - Some are not included in the TYNDP or the PCI list
 - Potential to change gas flows significantly



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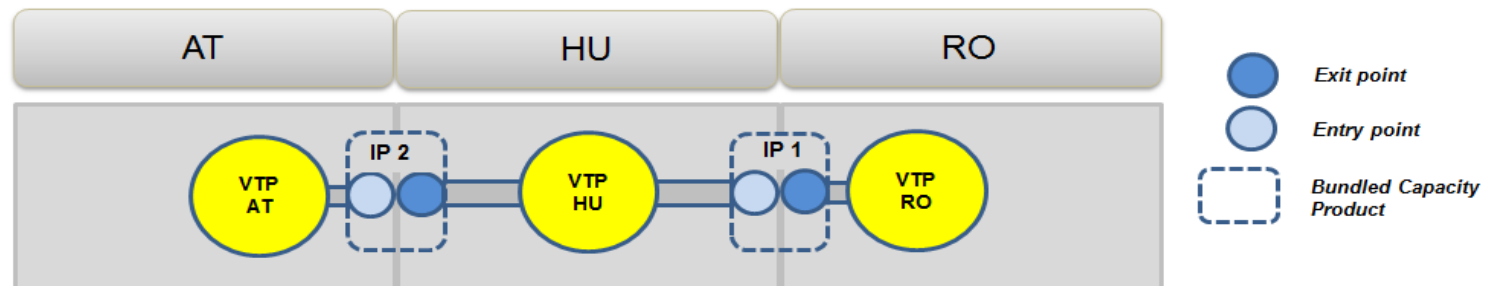
RO-HU-AT - a key project for Central and South-East Europe

Starting Point



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- Network users indicated non-binding demand for **long term transportation services** for potential natural gas supplies originating from an upstream project initiative in the Black Sea
 - from **Romania (RO)**
 - via/to **Hungary (HU)**
 - and further on to **Austria (AT)**
- For service transportation provision the potential network users have approached
 - RO TSO **Transgaz**
 - HU TSO **FGSZ**
 - AT TSO **GAS CONNECT AUSTRIA**
- Relevant interconnection points (IP)
 - **RO/HU border @ Csanádpalota (IP1)**
 - **HU/AT border @ Mosonmagyaróvár (IP2)**



RO-HU-AT Project



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- Pilot project „RO-HU-AT“ for the allocation of incremental capacity, involving TSOs and NRAs from the concerned Member States as well as the European Commission was set up
- „RO-HU-AT“ involves upgrades and new infrastructure along the corridor spanning from the Romanian coast of the Black Sea to Austria, capacity of 4,4 bcm is expected to be available as of 2022.
- The corresponding necessary infrastructure upgrades were granted PCI status in the current PCI list (PCI No. 6.24)
- A market survey on different capacity allocation methods was conducted by the TSOs in February 2016, 13 responses were received.
- The aim of the TSOs is to conduct a binding open season for the booking of new or incremental cross-border transmission capacity at the Romanian-Hungarian border and the Hungarian-Austrian border, in both flow directions in the first quarter of 2017.
- The main challenge was to find a method for the corridor spanning over three countries which is compliant with the CAM NC (and its amendment).

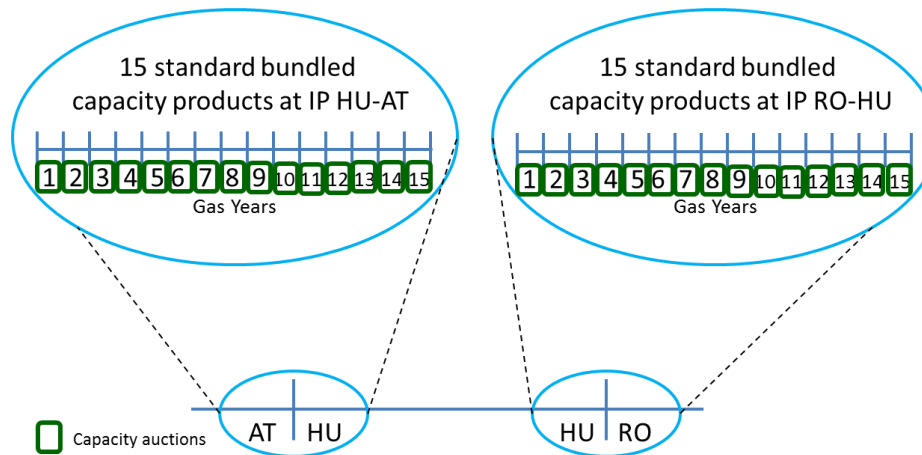
Market survey on different capacity allocation methods



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The following 3 allocation methods have been consulted:

- Method 1:
 - Ascending clock auction algorithm according to Art. 17 of the CAM NC
 - Bundled capacity offered as single years in the auctions



Market survey on different capacity allocation methods

- Method 2:
 - 3 allocation rounds foreseen

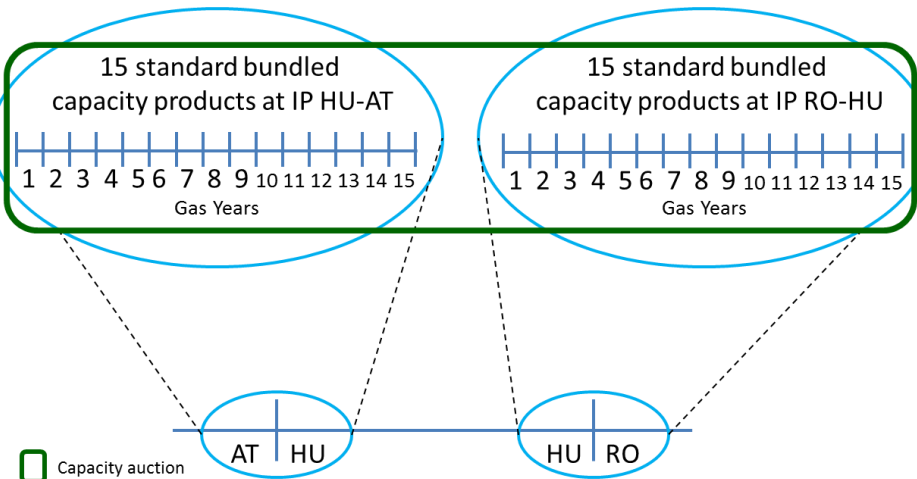
Allocation rule core logic:

Round 1: 15 year commitment for both IPs

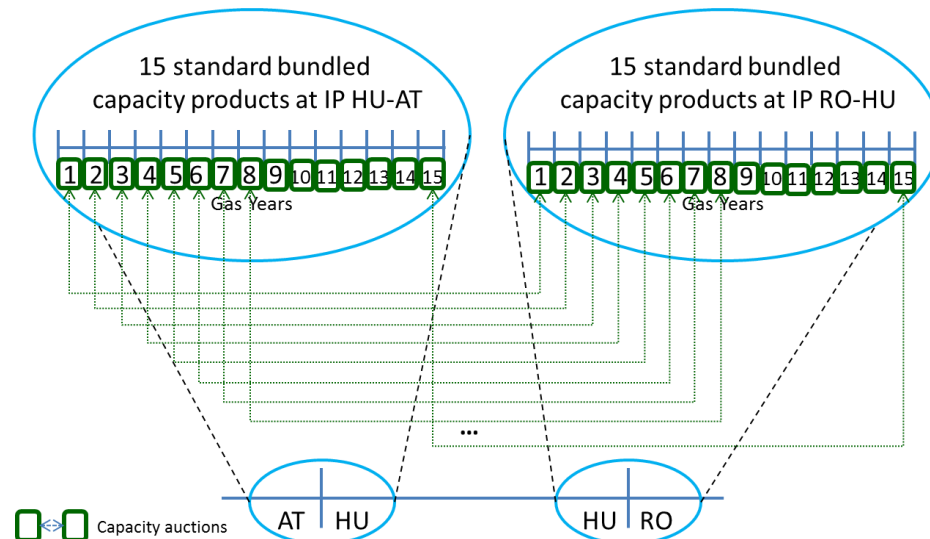
Round 2: 1 year commitments for both IPs

Round 3: 1 year commitments for single IPs (same as Mechanism 1)

Round 1



Round 2



Market survey on different capacity allocation methods

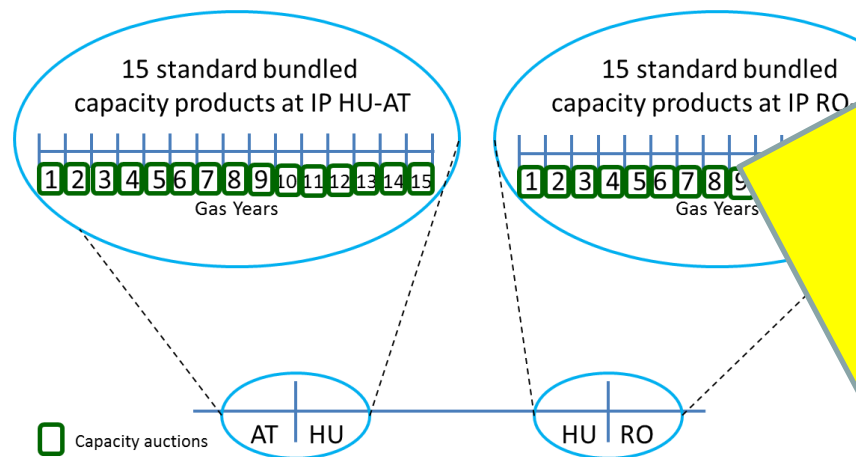


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- Method 3:
 - Bundled capacity offered as single years in the auctions (same as Mechanism 1)
 - If demand > offer, capacities shall be allocated on the basis of the highest individual bidder commitment in all auctions conducted throughout the period of 15 years at IP Csanádpalota and IP Mosonmagyaróvár

Allocation rule core logic:

$$\begin{aligned} \text{NU contribution} = & \text{price IP1} * \text{demanded capacity IP1} * \text{number of years} \\ & + \text{price IP2} * \text{demanded capacity IP2} * \text{number of years} \end{aligned}$$

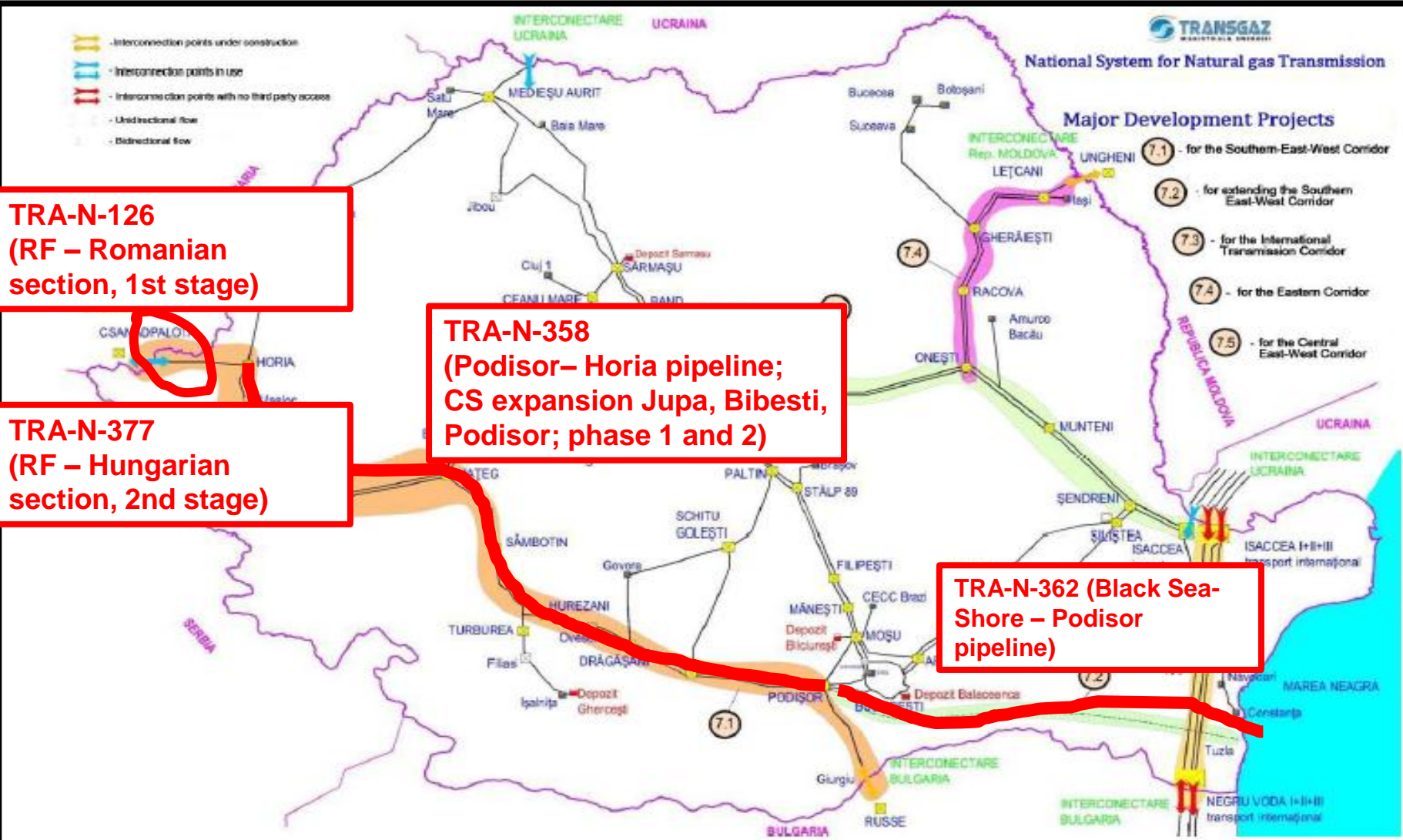


Method 3
preferred option
according to
outcome of market
survey

RO-HU-AT – PCI 6.24



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TRA-N-126
(RF – Romanian section, 1st stage)

TRA-N-358
(Podisor– Horia pipeline; CS expansion Jupa, Bibesti, Podisor; phase 1 and 2)

TRA-N-377
(RF – Hungarian section, 2nd stage)

TRA-N-362 (Black Sea-Shore – Podisor pipeline)

RO-HU-AT – PCI 6.24



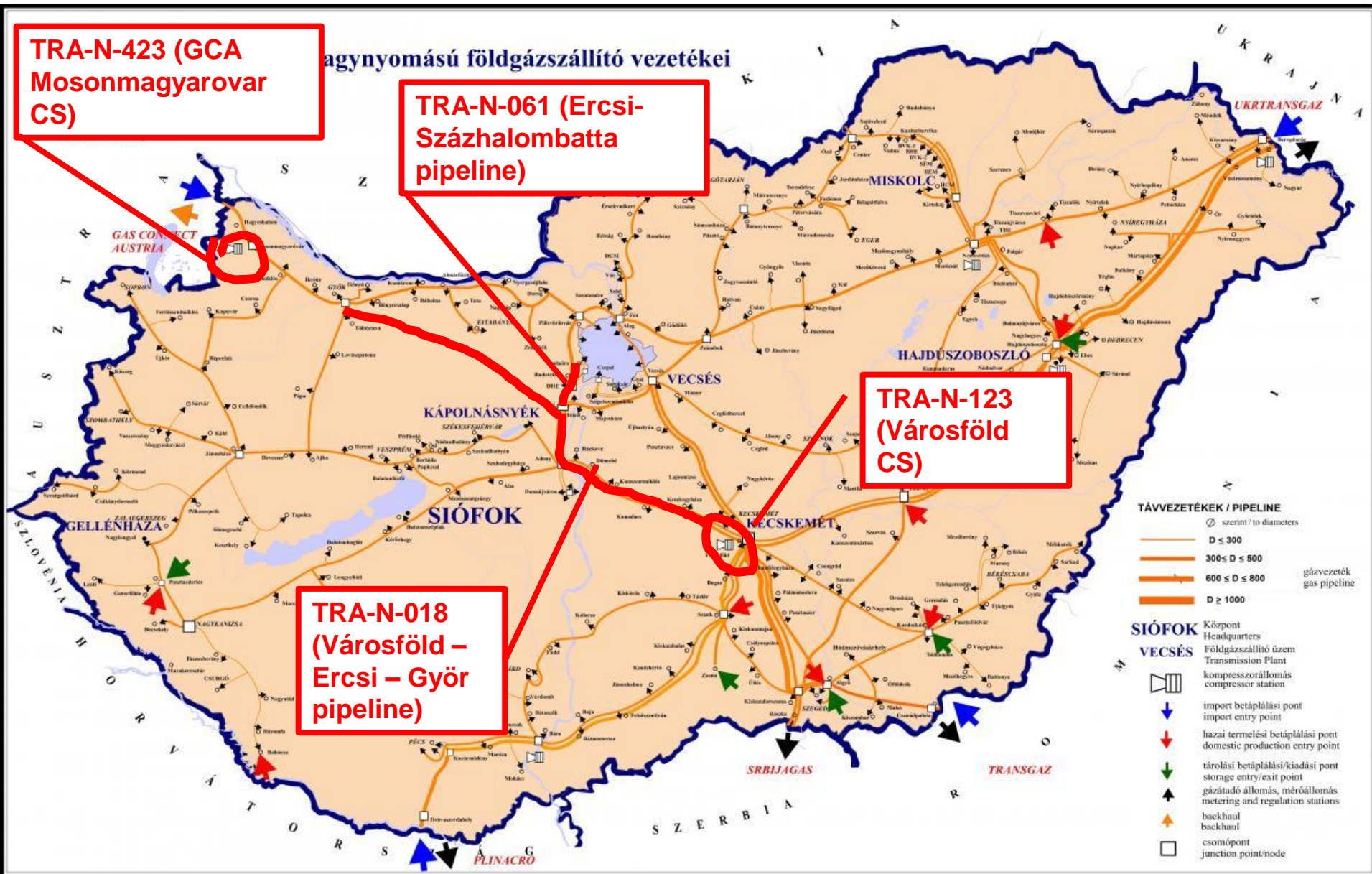
TRA-N-423 (GCA Mosonmagyaróvár CS)

TRA-N-061 (Ercsi-Százhalombatta pipeline)

TRA-N-123 (Városföld CS)

TRA-N-018 (Városföld – Ercsi – Győr pipeline)

Magyarország földgázszállító vezetékai



- TÁVVEZETÉKEK / PIPELINE**
- szerinti / to diameters
 - D ≤ 300
 - 300 ≤ D ≤ 500
 - 600 ≤ D ≤ 800
 - D ≥ 1000
- gázvezeték gas pipeline
- SIÓFOK**
VECSÉS
- Kézpont Headquarters
 - Földgázszállító üzem Transmission Plant
 - kompresszorállomás compressor station
 - import betáplálási pont import entry point
 - hazai termelési betáplálási pont domestic production entry point
 - tárolási betáplálási/kiadási pont storage entry/exit point
 - gázátadó állomás, mérőállomás metering and regulation stations
 - backhaul backhaul
 - csomópont junction point/node



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