Ukraine's gas transmission system:

interconnecting fragmented Europe

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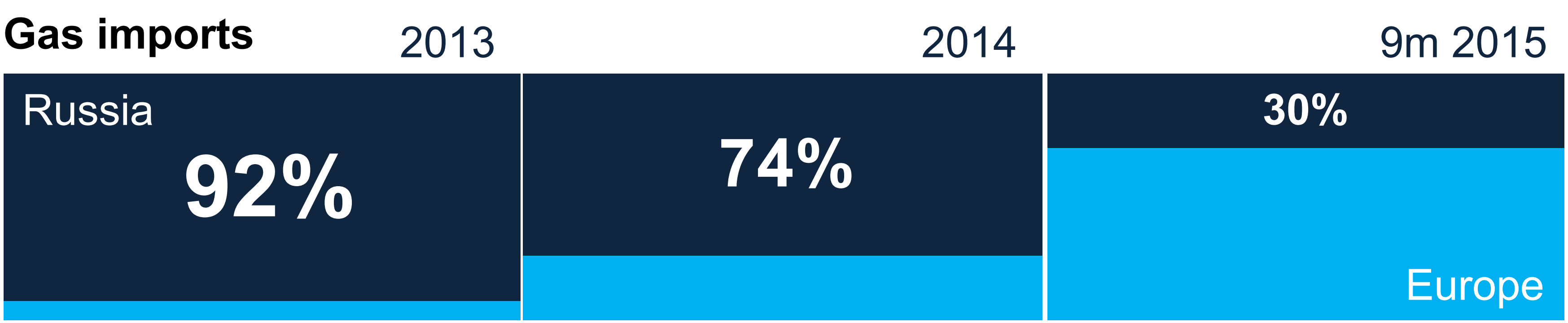
Gas market reform: Gazprom is no longer dominant

Gas market law compliant with EU energy legislation

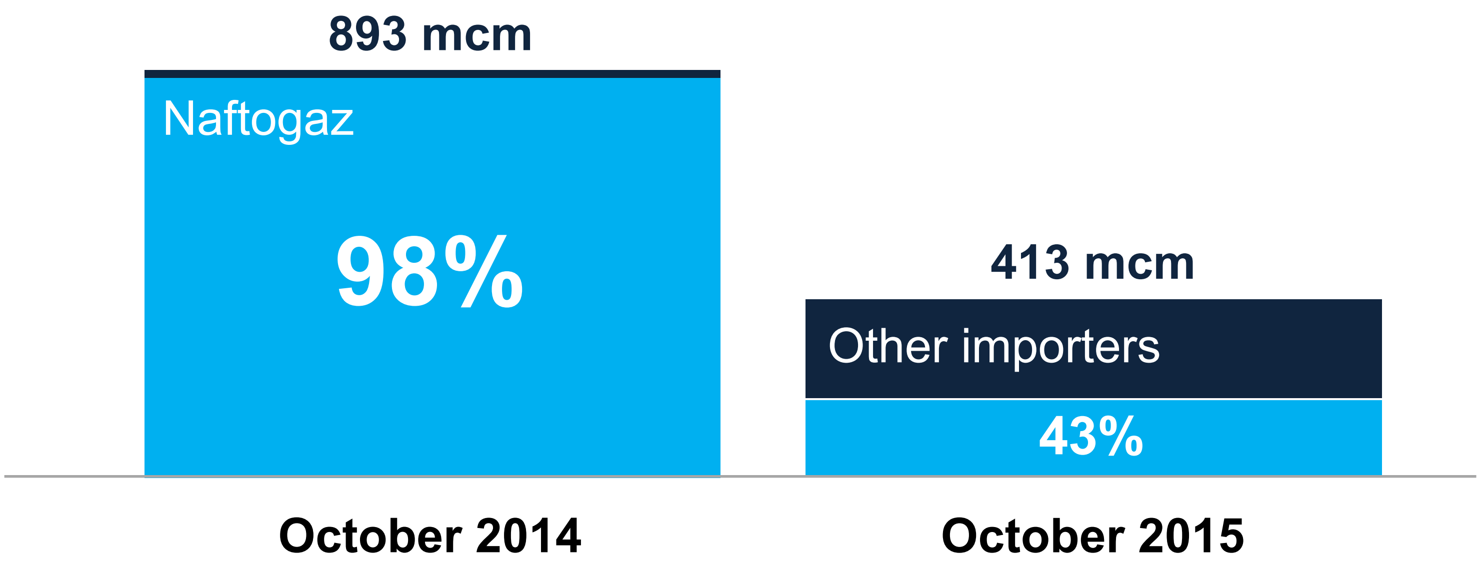
- Nearly US$ 7 billion market unlocked: unregulated prices for industrial and public sector consumers, price liberalization for households by April 2017
- Non-discriminatory 3rd party access to gas infrastructure
- Transparency of TSO, DSO and SSO operations
- Independent regulator and strictly defined role of the state

EU-Ukraine gas network integration for security of supply



Gas market reform: diversification of suppliers

More than half of gas imports from EU – not by Naftogaz



16 times more gas imported by private companies

7 private importers and direct buyers, incl. ENGIE (GDF)/ERU, ArcelorMittal

5+ other companies contemplate entry or direct imports

Ukraine's GTS connects fragmented EU markets

If Russia cuts off gas supply

CEE and SE countries are affected

Bosnia
Bulgaria
Greece
Hungary
Macedonia
Poland
Romania
Serbia
Ukraine

Avoid gas deficit

by expanding UA-EU capacity

Current EU Imports
- **Slovakia (key route)** Hungary, Poland (potentially Romania)

Virtual Reverse (Backhaul)
- EU law enforcement required; **no investment**
- Time to implement: **immediately**

New PL-UA Inter-connector
- Investment: **EUR0.3bn**
- Time to implement: **2-3 years**

Source: ENTSOG, Naftogaz, team analysis

UA system could transmit gas from West to CEE/SE

Backhaul to enable additional West-to-East capacity

- Improves energy security of CEE and SE
- Leads to fair market pricing for buyers in the region
- Opens access to Ukraine’s vast underground storages
- Interconnection agreement (already signed between UA and HU TSOs): an important step forward

Country	Available for backhaul in July 2014	Available for backhaul in July 2015*	Expected in July 2017*
Poland	0	0	4
Hungary	0	6	6
Slovakia	0	0	39
Romania	0	0	16
Total, bcm/y	**0**	**6**	**65**

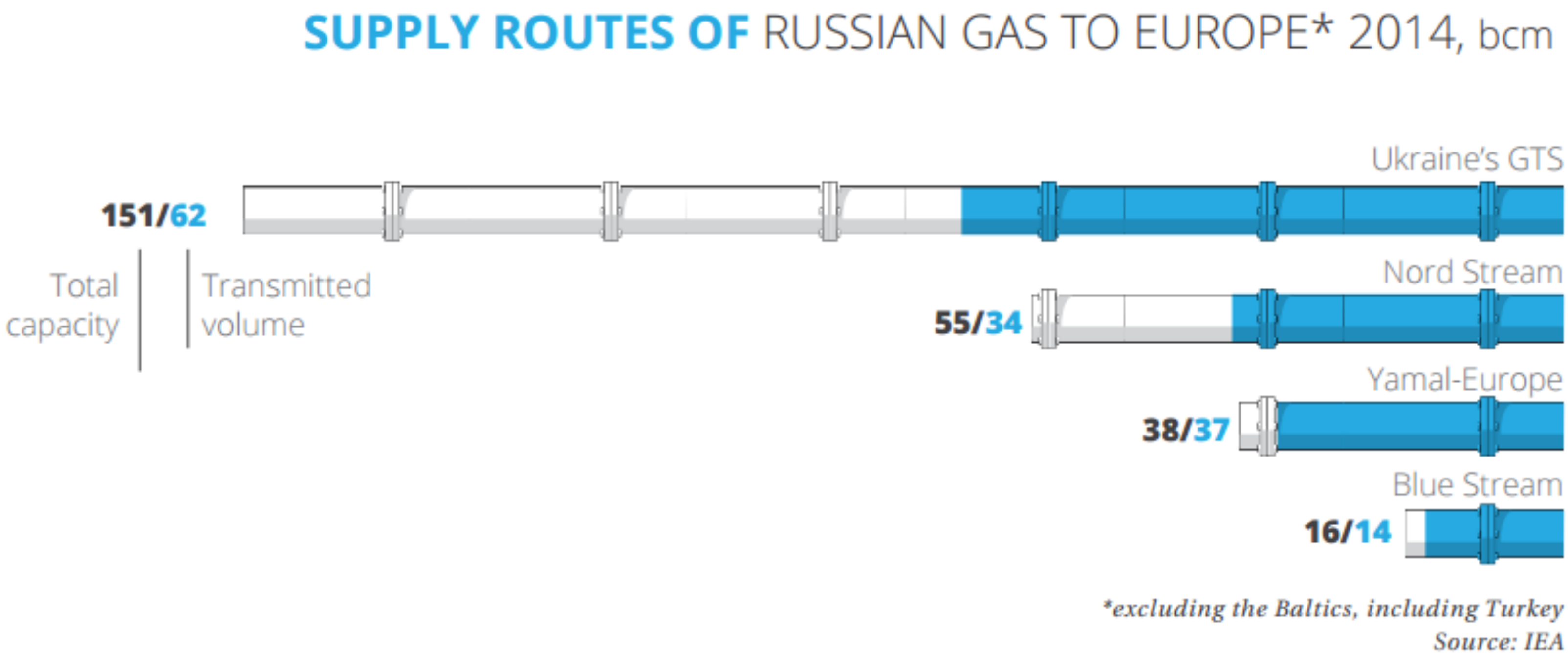
No IAs

IA signed between UA and HU

All AIs signed

Notes: estimates based on expected physical gas flows from Ukraine to Poland, Hungary, Slovakia and Romania in 2015

Nord Stream vs. Direct Stream



Nord Stream

- Requires huge investment to get returns
- Can be blocked by regulators for competition reasons
- Increases EU dependence on Russia

Direct Stream (Ukraine)

- Asset-light model, profit sharing without significant investment
- Not controlled by Gazprom, no potential competition issues
- Competitive and tested route

What we propose

- Coordinate joint PR and strategic communication efforts
- Initiate new stress tests by EC, taking into account backhaul opportunities
- Ensure implementation of relevant EU energy legislation
- Promote Energy Union by making real steps with tangible results
- Demand application of same standards of fairness and good will
- Safeguard solidarity principle
- Achieve maximum returns on existing and new infrastructure of all countries involved
- Improve energy security of the most vulnerable markets of the EU