

SLOVAKIA

KEY FACTS:

- Gas demand dropped by 17% between 2010 and 2017.
- Almost entirely dependent on gas imports from Russia.
- Recent infrastructure development making Slovakia a major regional gas hub for import and export of gas – Slovakia's transmission grid capacity is ~24x as high as annual demand.
- Slovakia is likely to benefit from even more gas projects (with PCI status and EU financial support).
- Large untapped energy efficiency potential.

1. GAS DEMAND

According to EU data:¹

- Gas represented 21% of Slovakia's energy mix in 2016 (equal to their renewable energy share that has been rapidly expanding the last few years)
- Slovakia consumed around 4.7bcm of gas in 2016.
- Gas demand dropped by 27% from 2010 to 2017 and has declined even further since 2001

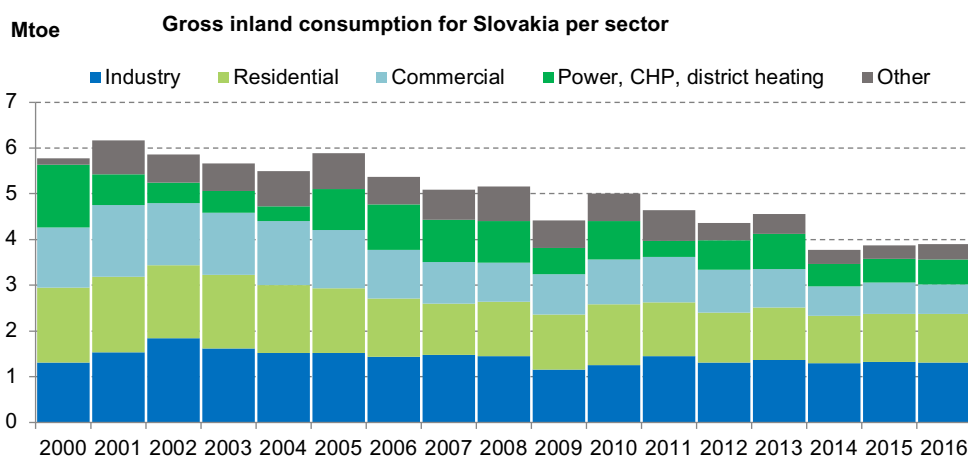
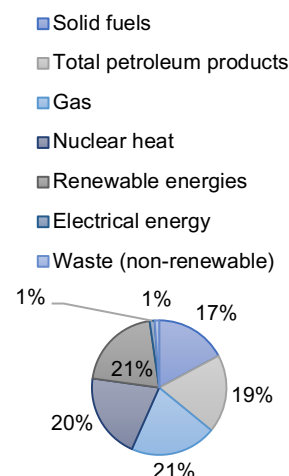


Figure 1: Slovakia 2016 Energy Mix



2. GAS SUPPLY

Slovakia only produces 2% of its gas needs and is therefore **heavily reliant on imports**.²

Until 2014, Slovakia was entirely dependent on Russian gas. However, in 2014, Russia took retaliation measures against Slovakia, in reaction to EU sanctions during the Crimean conflict, and cut its fossil gas flows to Slovakia in half.³

The country adapted to the situation thanks to its existing and under development infrastructure, signed contracts with German gas providers to compensate Russian measures and managed in 2015 to receive gas from Russia (57.3%), the UK (8.3%), France (8.1%), Czech Republic (4.4%) and non-specified EU countries.⁴

In 2016 the imports for Slovakia were again provided at 99% with Russian gas following a trend that has been going on for more than a decade and only in 2017 the share decreased to 85%.⁵

¹ E3G compilation of data extracted from Eurostat

² http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_cb_gas&lang=en

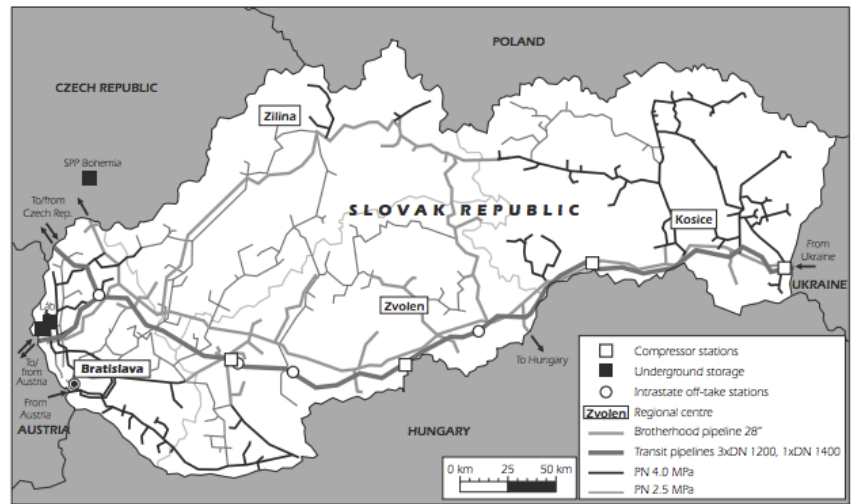
³ <https://www.wsj.com/articles/russia-halves-natural-gas-supplies-to-slovakia-141217795>

⁴ <https://spectator.sme.sk/c/20183244/imports-of-gas-to-slovakia-decreased.html>

⁵ <https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html>

3. GAS INFRASTRUCTURE

Slovakia is today situated at a crossroads of important pipelines, which allows the country to have a massive overall transmission and distribution capacity of 114.11bcm/y: **79.5bcm/y from Russia via Ukraine, 24.2bcm/y from the Czech Republic, 8.6bcm/y from Austria and 1.7bcm/y from Hungary.**⁶ While a large majority of these infrastructures are for transit, this represents around **24 times the amount of gas annually consumed in the country.**



Source: IEA.

This is the result of recent upgrades, renovations and developments of regional gas transmission infrastructures which have directly benefited Slovakia, significantly reducing its dependence on Russian gas and causing price differentials between countries to narrow:

- One of the most profound changes has occurred on the 4,500km long Brotherhood pipeline which traditionally delivered Russian gas via the Ukraine, SK and CZ to Western Europe. In April 2009, Reverse flows were installed to bring ~28bcm/y of gas from Germany to CZ, SK & Ukraine.
 - June 2011: Expansion of **total storage capacity** in Slovakia to 3.12bcm/y in the Láb complex, built with a significant amount of EU money.⁷
 - August 2014: Disused pipeline rehabilitated now able to export up to 14.6bcm/y of gas to Ukraine.
 - July 2015: New PCI bidirectional **interconnection between Slovakia and Hungary** (4.5bcm/y SK →HU, 1.8bcm/y HU → SK).⁸

As a result of these developments, Slovakia is now considered to be the main gas trading hub in the region (particularly thanks to its recent ability to transport gas to Ukraine). Gas prices in the country have even already converged to German gas hub prices, and just like Czech Republic, Slovakia can choose the route for their gas supplies from Russia (via Ukraine through the Brotherhood pipeline or via Germany and Czech Republic through the NordStream and Opal pipelines).

However, despite huge transmission capacities in the country and recent developments, Slovakia is the benefiter of major potential PCI gas projects aiming at increasing the capacities even further⁹:

Eastring Slovakia

The gigantic pipeline creating a new road for gas in the so-called “Priority corridor North South Gas Interconnections” is planned to connect the existing interconnection point Veľké Kapušany on the Slovakian-Ukrainian border, with the Ukrainian/Hungarian-Romanian-Bulgarian transit pipeline.¹⁰ It is designed to transport gas in both directions, with a **planned capacity of 40bcm/y at its final stage** that aims at a starting date in 2028.¹¹ The agreement signed by Hungary and Slovakia would then create a second connection between the two countries adding to the already existing SK-HU PCI project. Here again the dimension and capacity of the Eastring Pipeline (planned capacity of 20bcm/y Stage I and 40bcm/y Stage II¹²) is highly questionable for a region with decreasing gas demand and strong energy efficiency capacities.

Eastring could potentially bring gas from Western Europe on one side, and from Russia, the SGC, the Caspian region, Iran, Iraq, Egypt and Israel on the other side, but the project promoter seems to be unsure/flexible concerning the gas that might actually flow in the costly mega pipeline. Both RO-HU-AT/BRUA and Eastring largely overlap in their route and it is clear that of one of the projects is built, the other one would be even more redundant. The 3 phases of BRUA and Eastring were both on the 3rd PCI list and applied for the 4th list.

⁶ <http://bpie.eu/wp-content/uploads/2016/09/Safeguarding-energy-security-in-South-East-Europe-with-investment-in-demand-side-infrastructure.pdf> (p.15)

⁷ <http://data.consilium.europa.eu/doc/document/ST-15281-2016-ADD-2/en/pdf>

⁸ http://www.eustream.sk/en_transmission-system/en_sk-hu-interconnector/en_project-of-common-interest-pci & <http://energypost.eu/quiet-revolution-central-eastern-european-gas-market/>

⁹ http://ec.europa.eu/energy/infrastructure/transparency_platform/map-viewer/

¹⁰ http://www.eustream.sk/en_transmission-system/en_sk-hu-interconnector/en_project-of-common-interest-pci

¹¹ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_25_1_en_2017.pdf

¹² https://ec.europa.eu/energy/sites/ener/files/documents/pci_6_25_1_en_2017.pdf

Additionally to the capacity increases between Hungary and Slovakia which both the EastRing pipeline as the BRUA mega gas pipe would bring, there is a third new planned pipeline project between the two countries, a capacity increase at the **Hungary - Slovakia interconnector** to up to 5bcm/y in both directions.¹³

The Poland – Slovakia Interconnector

This bi-directional gas interconnector between Poland and Slovakia is aimed at transporting 4.7bcm/y of gas PL -> SK and 5.7bcm/y SK -> PL.¹⁴ This PCI project already received over €112million CEF funding.¹⁵

The project is presented as an opportunity to establish a North-South link in Central and Eastern Europe and connect the Slovakian gas hub to the new Polish LNG terminal of Świnoujście on one side, and to the Southern Gas Corridor via the unbuilt EastRing pipeline project¹⁶ on the other side – see map.

However, both Poland and Slovakia have significant import capacity which already offers them energy security and diversification. This project is therefore just a **business opportunity** densifying the regional gas transmission system but it does **not respond to a need or to a policy requirement**. It only contributes to increase a fossil gas lock-in a region which already struggles to get rid of its coal dependence.



Underground Gas Storage Velke Kapusany is a planned gas storage project only 1km from the Ukrainian border applying for the 4th PCI list. The aim is to create 340mcm of new storage capacity in a depleted gas field.¹⁷



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¹³ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_2_13_en_2017.pdf

¹⁴ <https://www.ure.gov.pl/en/communication/news/223.Step-closer-to-the-development-of-the-Polish-Slovak-gas-interconnector.html> & https://ec.europa.eu/energy/sites/ener/files/documents/pci_6_2_1_en_2017.pdf

¹⁵ https://ec.europa.eu/inea/sites/inea/files/cefpub/cef_energy_factsheet_sk.pdf

¹⁶ https://ec.europa.eu/energy/sites/ener/files/documents/pci_6_25_1_en_2017.pdf

¹⁷ <https://www.nafta.sk/en/underground-gas-storage-velke-kapusany>