

ROMANIA

KEY FACTS:

- Gas demand dropped by over 11% between 2010 and 2017. Gas demand peaked in 2003, in 2017 Romania consumed ~35% less gas than in peak times
- Romania has big gas reserves and offshore (Black Sea) gas extraction meeting 95% of national demand.
- Several gas PCIs in Romania e.g. ROHUAT-BRUA pipeline, EastRing pipeline, etc. Posing a real risk of long-term gas lock-in, jeopardizing EU climate objectives in the region and increasing the risk of stranded assets.

1. GAS DEMAND

According to EU data:¹

- Gas represented 27% of Romania's energy mix in 2016.²
- Romania consumed around 10.81bcm of gas in 2016
- Gas demand dropped by 11% between 2010 and 2017.

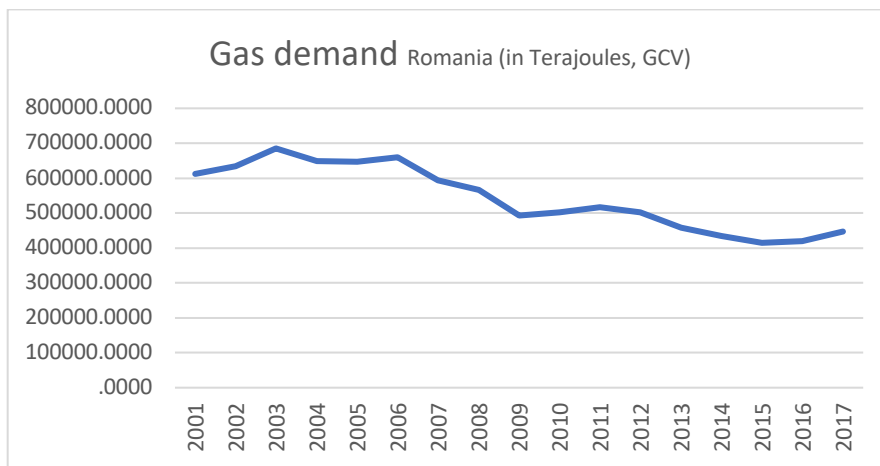
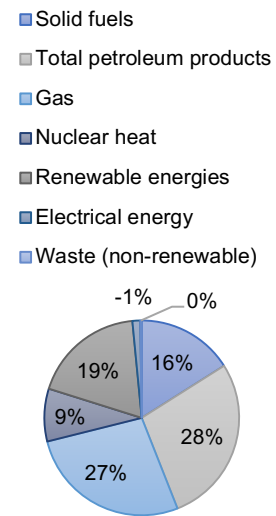


Figure 1: Romania 2016 Energy Mix



2. GAS SUPPLY

With its significant indigenous production, Romania has little import dependency required in order to meet its domestic gas demand. From 2013 to 2016, thanks to a combination of steep gas demand decline and constant domestic production, Romania has become almost self-sufficient in gas. In 2015 a 12% decrease in the domestic production was accompanied by an important drop in gas imports.³

This allows Romania to partly protect itself from a dependence on a single gas supplier as Romania mostly relies on Russian gas for imports, with marginal volumes imported from Hungary, Uzbekistan and Turkmenistan in the past, see figure 2. In 2017, Russian gas accounted for 99% of the gas imported to Romania.⁴

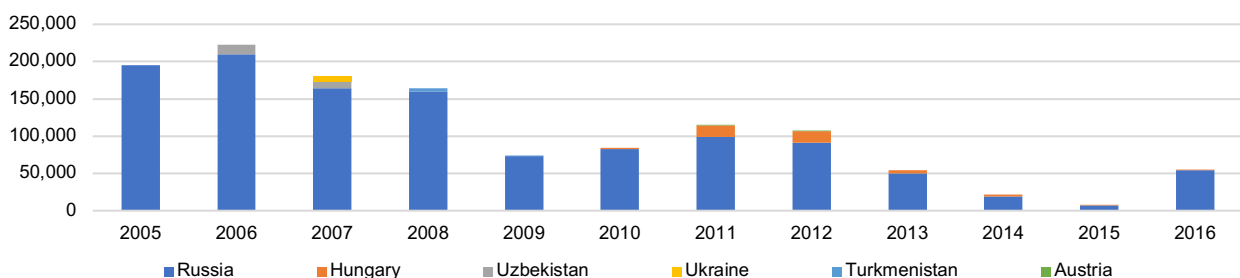


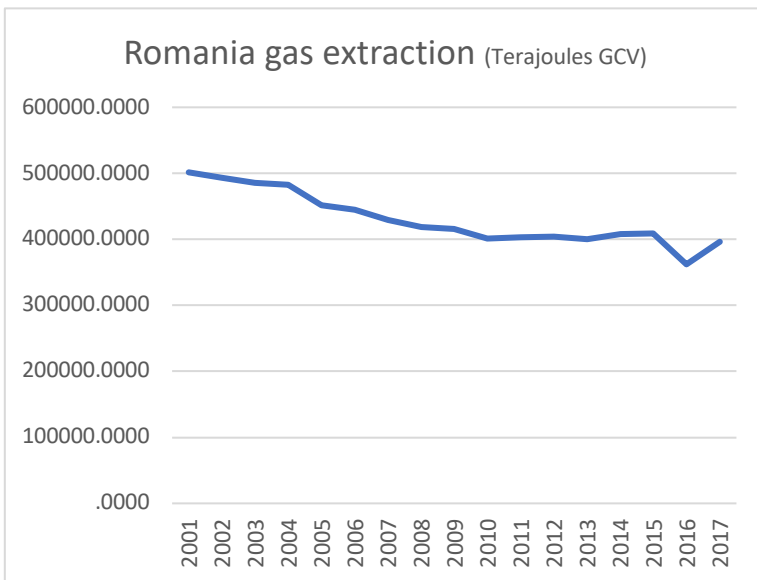
Figure 2: Romania Gas suppliers in TJ GCV from 2005 - 2016

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 http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_103a&lang=en

⁴ <https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html>



While the country was almost self-sufficient in 2015, it could become increasingly reliant on external suppliers due to indigenous production decline. While production has been relatively stable over the last decade, **current output makes up only for 1/4th of production in the 1980s.**

At the beginning of 2017 heavily taxed and declining domestic gas production combined with extremely cold weather led to higher import volumes from Russia⁵ but they make up less than 15% of Romania's gas demand.⁶

This being said, despite a failure in finding economic shale gas reserves,⁷ gas extraction increased again in 2017 and Romania could find new opportunities with

recent offshore discoveries in the Black Sea⁸ led by fossil fuel companies ExxonMobil and OMV.

Romania is the most important producer in all of South Eastern Europe, and yet, Romania has not been sharing a lot of this production with its neighbors: This is why in 2017, the European Commission has opened a formal investigation to check whether Transgaz, Romania's gas transmission system operator, and promoter of this project, breached EU antitrust rules by hindering gas exports from Romania to other EU countries.⁹ However, new energy regulations might also play a role in hampering gas extraction in the Black Sea.¹⁰

3. GAS INFRASTRUCTURE

As a historic gas producer in the region, Romania has a well-developed gas transmission system with 13,112km of main transmission pipelines and connections for gas supply, of which 553km of pipelines are for the international transmission of gas.¹¹

It has four **import interconnections with Ukraine** (capacity 35.6bcm/y) – used to supply gas to Romania, Bulgaria, Greece, Republic of Macedonia and Turkey – **and one with Hungary** (capacity of 1.8bcm/y, upgradable to 4.4bcm/y).^{12,13}

In November 2016, the bidirectional Bulgaria-Romania gas interconnector pipeline (maximum capacity of 1.5bcm/y)¹⁴ was finished after long delays.¹⁵ This project is however just one amongst several others in the region which could be partly built in Romania and which received a PCI status, with all the implications it could have in terms of new carbon lock-in, risk of stranded assets and failure to achieve EU climate objectives:

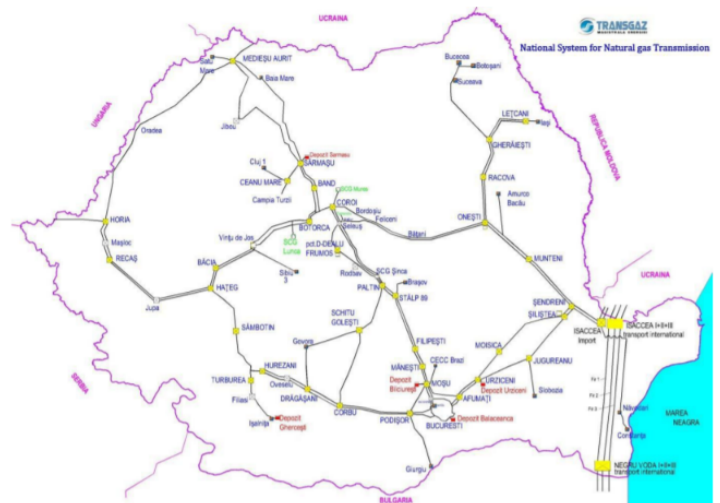


Fig. 3 - Map of the National Gas Transmission System

⁵ <http://www.energyworldmag.com/12/01/2017/romania-gas-imports-increase-almost-500-in-the-first-eight-days-of-2017/>

⁶ <https://www.ft.com/content/09a36204-c8bc-11e8-86e6-19f5b7134d1c>

⁷ <http://www.reuters.com/article/2014/11/10/romania-shalegas-idUSL6N0SZ1A720141110>

⁸ <http://www.offshoreenergytoday.com/lukoil-discovers-large-gas-field-offshore-romania/> & <http://oilprice.com/Energy/Natural-Gas/Romania-Wants-New-Gas-Supplies-To-Break-Russian-Gas-Hold.html>

⁹ http://europa.eu/rapid/press-release_IP-17-1501_en.htm

¹⁰ <https://www.reuters.com/article/us-romania-energy-offshore-analysis/romania-black-sea-gas-projects-hanging-by-a-thread-idUSKCN1RD2HS>

¹¹ http://www.transgaz.ro/sites/default/files/uploads/users/admin/development_plan_for_the_national_gas_transmission_system_2014-2023.pdf

¹² http://new.transgaz.ro/sites/default/files/uploads/users/admin/comunicat_15_10_2010_1.pdf

¹³ <http://www.entsog.eu/maps/transmission-capacity-map/2016>

¹⁴ <http://www.naturalgasworld.com/habau-to-build-a-missing-link-of-bulgaria-romania-interconnector-28996>

¹⁵ <http://sofiaglobe.com/2016/11/11/bulgaria-romania-gas-interconnector-pipeline-finished/>

A new web of gas transmission pipelines connected to the SGC and Black Sea

The arrival of new sources of gas in the region from the East side (via new discoveries in the Black Sea and via the Southern Gas Corridor) is attracting a lot of interest and many NSI East countries are therefore trying to find every possible way to benefit from these sources, involving a series of partly conflicting mega-projects:

- The **'RO-HU-AT/BRUA' bidirectional transmission corridor** is meant to enable an indicative capacity of 1.75bcm/y in the 1st phase¹⁶ and 4.4bcm/y in the 2nd phase¹⁷ at the Hungarian-Romanian interconnection point – see map 1. Over €183 million of EU tax payers' money are already planned to be invested for this project. Phase 2 of the project includes also a new 210km pipeline increasing capacity between Hungary and Romania to over 11bcm/y as well as a pipeline to take over gas from the Black Sea shore. While the project faces difficulties with finding bidders¹⁸ and discussions about a rerouting after Hungary threatened to block the pipeline¹⁹, still, a third phase²⁰ in the planning and received PCI status²¹.
- The BRUA project overlaps with the cluster **Interconnection between Greece, Bulgaria, Romania and Hungary, and necessary reinforcements in Bulgaria**: the cluster would involve a new pipeline between Greece and Bulgaria (3 to 5bcm/y)²², the bidirectional Horia pipeline between Romania and Hungary (8bcm/y)²³ and interconnections between Bulgaria and Romania



- The cluster also contains the extension or creation of three gas storages:
 - **The Depomures Underground Gas Storage (UGS)** that would upgrade the existing storage capacity from 300mcm to 400mcm during a first stage and to 600mcm in a second stage. The whole cost of this investment would be over €136million made by the state owned Romgaz²⁴. Depomures was on the 3rd PCI list and applied for the 4th one.
 - **The Samarsel storage facility**²⁵ upgrading project has been added to the latest PCI list and is in close proximity to the Depomures facility. It aims at expanding the already existing capacity of the storage from 0.9bcm/year to 1.5bcm/year and to connect it to the “Bulgaria-Romania-Hungary-Austria Corridor”. The project was on the 3rd and aims at getting on the 4th PCI list.

These projects would slightly increase the Romanian storage capacity by around 0.7bcm per year but at high cost. There is no need for such investment given the decreasing gas consumption in the country.

The project would mostly aim at connecting Central and South Eastern countries to the Southern Gas Corridor and to a not-yet-built **PCI LNG terminal in Greece**²⁶ through the **PCI Gas Interconnector Greece-Bulgaria (IGB Pipeline)**.²⁷

¹⁶ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_24_1_en_2017.pdf

¹⁷ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_24_4_en_2017.pdf

¹⁸ <https://www.romania-insider.com/transgaz-brua-project-abandon>

¹⁹ <http://www.energynomics.ro/en/ec-and-transgaz-announce-that-brua-will-not-be-affected-by-hungarys-blockage/> and

<https://www.icis.com/resources/news/2017/07/21/10126487/brua-gas-pipeline-at-risk-after-surprise-move-by-hungary/>

²⁰ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_24_10_en_2017.pdf

²¹ https://ec.europa.eu/inea/sites/inea/files/annex_to_pci_list_final_2017_en.pdf

²² http://ec.europa.eu/energy/maps/pci_fiches/pci_6_8_1_en_2017.pdf

²³ <http://www.romania-insider.com/romania-transgaz-to-build-pipeline-hungary/>

²⁴ <https://www.romania-insider.com/romgaz-gas-storage-facility/> and http://ec.europa.eu/energy/maps/pci_fiches/pci_6_20_4_en_2017.pdf

²⁵ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_20_6_en_2017.pdf

²⁶ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_9_1_en_2017.pdf

²⁷ https://ec.europa.eu/energy/sites/ener/files/technical_docu.pdf & http://ec.europa.eu/energy/maps/pci_fiches/pci_6_8_1_en_2017.pdf & <http://www.icgb.eu/home/>

The **'Eastring' pipeline** is an interconnector project, connecting existing interconnection point Velké Kapušany on Slovakian-Ukrainian border, with Ukrainian/Hungarian-Romanian-Bulgarian transit pipeline – See map 3. 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 2028.²⁸ It could potentially bring gas from Western Europe on one side, and from Russia, SGC, Caspian, Iran, Iraq, Egypt and Israel on the other one but the project promoter seems to be unsure/flexible concerning the gas that might actually flow in the costly mega pipeline. Both RO-H-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.

There were also discussions about an **interconnecting Pipeline between Arad (ROM and Mokrin (SERB))**.

All these giant projects present some serious issues which should exclude them from being considered as 'Projects of common interest':

- First because **they compete with each other** to a certain extent, but also compete with other projects in the area.
- Secondly, assuming that one of them would still be needed, it should at the very least ensure that it would bring more diversity in terms of gas suppliers (which is one of the main objectives of the PCI List), however **many of these projects are likely to finally bring significant volumes of gas from Russia** (Eastring, Southern Gas Corridor)²⁹ despite claiming to help against dependence on Russia
- Thirdly, these projects legitimatise other ones which should also not receive any support for various reasons: They would link to and thus **justify the Southern Gas Corridor** (with all the corruption, human rights issues, environmental impacts, dangerous climate implications and poor economic sense involved) **and to the new LNG project in Greece** (while the one that Greece already has was used at only less than 14% in over 7 years from 2012 to 2019).³⁰
- Fourthly, it's seriously questionable as to whether any of these projects would truly improve energy security of Romania. With its current gas system, recent investments and offshore discoveries, and almost self-sufficiency in gas thanks to domestic production, the **country is already well-secured in term of gas**.
- It is transit earnings that are especially interesting for countries building these pipelines, meaning that money is earned by transporting harmful fossil fuels that the country itself does not need.

Finally, it should be added that, since 2003, **gas demand has seriously dropped** in Romania while in the past years additional gas projects have been constructed. With current energy objectives, the demand is expected to continue its decline.³¹ Still, Romania is the country proposing the second highest number of gas projects (10) for the 4th PCI list. New gas infrastructures therefore not only **contradict EU climate objectives** (gas is a fossil fuel emitting important volumes of methane) but also seriously risk **becoming quickly stranded**.



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²⁸ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_25_1_en_2017.pdf

²⁹ <http://www.naturalgasworld.com/qazprom-eyes-tap-for-russian-gas-35548>

³⁰ <http://www.igu.org/publications/2016-world-lng-report>

³¹ Energy Efficiency Communication [COM(2014)520]: "every additional 1% in energy savings cuts gas imports by 2.6%" (https://ec.europa.eu/energy/sites/ener/files/documents/2014_eec_communication_adopted_0.pdf)