

POLAND

KEY FACTS:

- 21% increase of gas demand between 2010 and 2017, a notable exception to the rest of Europe
- Strong (technically avoidable) dependence on Russian gas.
- New gas infrastructures (LNG terminal, transmission capacity with Germany, project to connect with Ukraine gas system) likely to change the balance of power with Russia
- One of the biggest beneficiaries from the gas PCI list projects.
- Very high risk of new fossil fuel lock-in and stranded assets, for the country and the entire region

1. GAS DEMAND

According to EU data:¹

- Gas represented only 9% of Poland's energy mix in 2016 mainly due to the large increase in solid fuels.
- Poland consumed around 17.4bcm of gas in 2016²
- It had a 21% increase in gas demand from 2010 to 2017 which is a notable exception (alongside Greece, Bulgaria and Portugal) in the European Union where gas demand has significantly dropped for most countries since 2010.

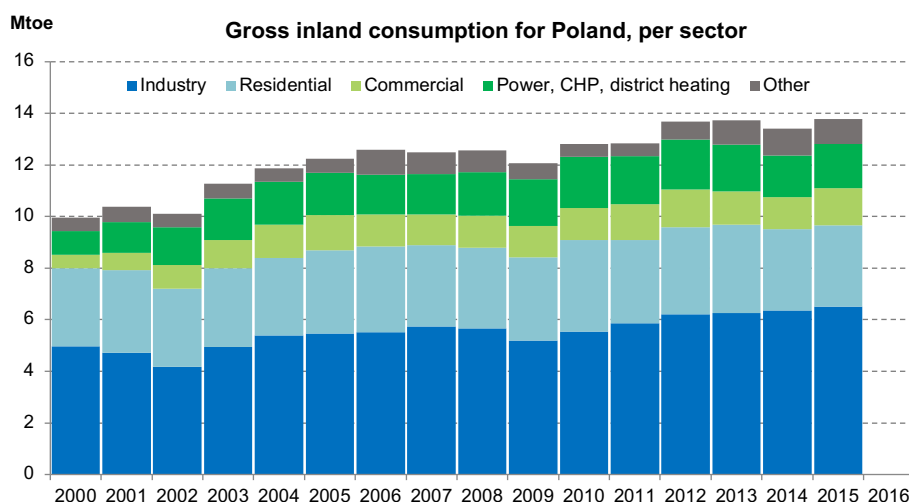
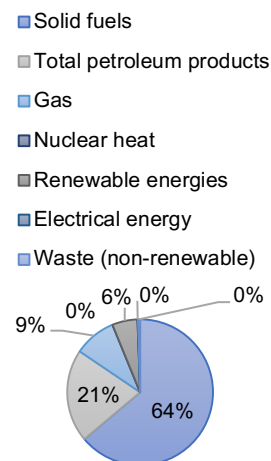
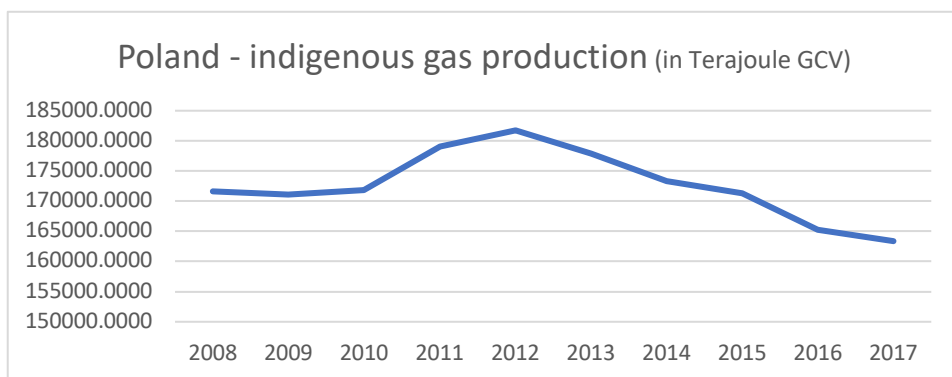


Figure 1: Poland 2016 Energy Mix



2. GAS SUPPLY

In 2016, Poland produced about 4.3bcm of gas, which accounted for around 24.7% of the country's demand, a rapidly decreasing percentage – see graph.³ The rest of the gas needs are imported: According to Eurostat, Russia has been the principal source of natural gas imports, accounting for 74.2% of total gas imports in 2016, while gas imports from Germany accounted for almost 25%. In 2016, final gas imports from Belgium and Norway - see graph.⁴ In 2017, Qatar was mentioned as the third biggest partner for gas imports into Poland, providing almost 10% of the imported gas, while the share of Russian gas fell to about 66%.⁵



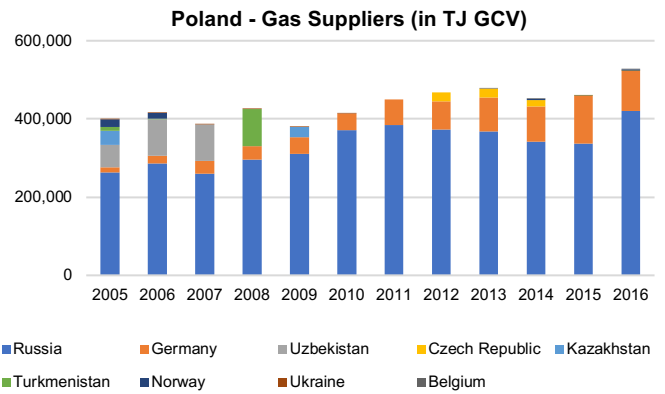
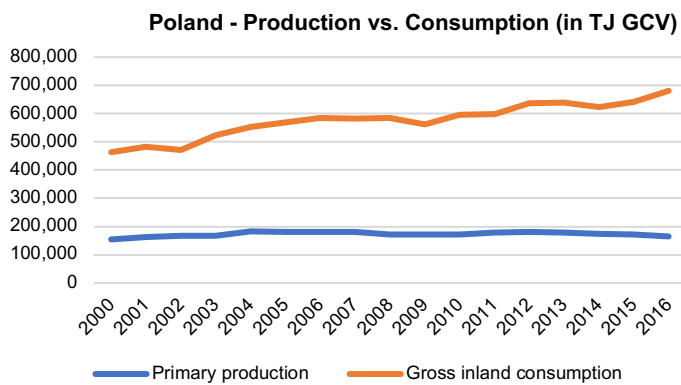
¹ E3G compilation of data extracted from Eurostat & http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_110a&lang=en

² Polish energy company PGNiG talks about a consumption of 15bcm in 2015 and 17bcm in 2017 <https://www.euro-petrole.com/pgnig-natural-gas-consumption-in-poland-is-rising-with-lng-accounting-for-nearly-20-percent-of-imports-n-i-17517>

³ http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_103m&lang=en

⁴ http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports

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



Poland is in the middle of a difficult geopolitical context, where heavy dependence on Russian gas supplies is perceived as a remaining heritage of the USSR era, and where the crises between Ukraine and Russia in 2006, 2009 and 2014 have reinforced nationalism and determination to completely cut the umbilical cord with Russia. This is how diversification of supply sources and routes, development of natural gas infrastructures, expansion of underground storage capacity and an increase in domestic gas production have become key elements of Poland's gas security policy:

- Since 2010, Poland has explored its shale gas potential (reserves were initially thought to equal 300 years of national consumption). However, despite the granting of exploration licences covering one third of its territory to a wide range of gas companies (incl. ExxonMobil, Total, ENI and Chevron), explorations were all unsuccessful. Almost all private companies left one after the other and public ones officially “conceded defeat” in 2016.⁶
- In 2014, Poland significantly increased its capacity to import gas from Germany: with a new reverse flow capacity to sections of the Yamal gas pipeline, it can now direct up to 5.5bcm of gas to Poland via the Yamal pipeline⁷ and 2.7bcm/y via the Mallnow Interconnector.⁸
- After the construction in 2015 of the Świnoujście LNG terminal, Poland signed a 20-year contract with Qatargas to annually supply the country with 1.5bcm of gas⁹ which already shows an impact on the country's gas mix

Considering the yearly import capacity of the Świnoujście LNG terminal (5bcm/y), more contracts could be signed in the future. Poland has started to put pressure on Russia by threatening Gazprom (which provides more than 10bcm/y of gas to Poland) not to renew the long-term contract which ends in 2022.¹⁰ Polish officials have however repeated several times since then, though, that “*if the price of Russian gas is competitive enough we do not rule out buying it*”, which is very likely to happen. As Polish Prime Minister Janusz Piechocinski said, Poland will need “*to be exceptionally tough here, especially because gas from Qatar is more expensive than the gas we buy from different suppliers,*”¹¹ namely Russia.

⁶ <http://www.reuters.com/article/poland-gas-shale-idUSL8N1C13PF>

⁷ <http://www.ceep.be/polands-gas-diversification-nordic-dimension/>

⁸ <http://energypost.eu/quiet-revolution-central-eastern-european-gas-market/>

⁹ <http://uk.reuters.com/article/us-eeurope-summit-idUKKCN0YM2QJ>

¹⁰ <http://uk.reuters.com/article/us-eeurope-summit-idUKKCN0YM2QJ>

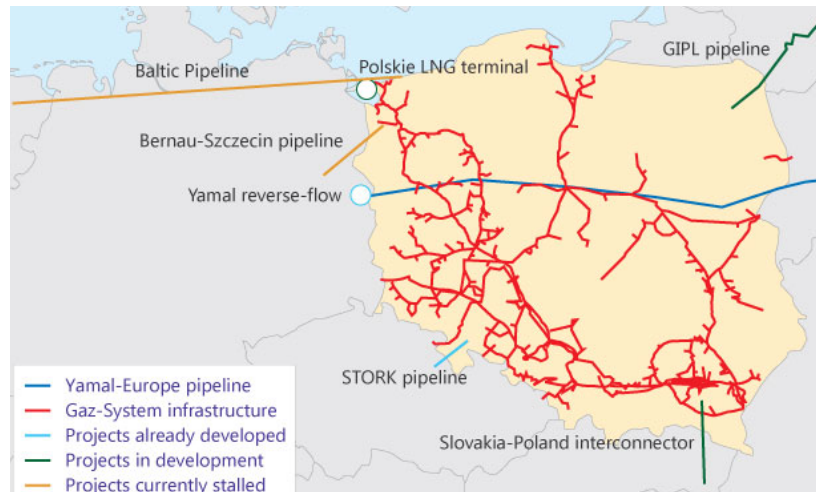
¹¹ <http://www.bloomberg.com/news/articles/2014-08-05/poland-to-get-lng-terminal-on-time-as-costs-discussed-pbg-says>

3. GAS INFRASTRUCTURE

For a long time, Poland was just a transit country to transport Russian gas to Europe via the Yamal pipeline. However, the situation has radically changed over the past few years partly due to the historical geopolitical tensions between Poland and Russia, but also due to the recent crises between Russia and Ukraine, and to the significant and constant increase of gas in Poland's energy mix.

This is what pushed Poland to diversify its gas suppliers and to develop its gas infrastructure with the purpose to become a new central gas hub in the region:

- In April 2014, imports capacities from Germany (with reverse flow technologies in the Yamal pipeline) were increased up to 5.5bcm/y.¹² It comes along with a further 2.7bcm/y of gas which can come from Germany due to interruptible capacity being offered at the Mallnow reversal.¹³
- In 2015, an important LNG Terminal, in Świnoujście was built, with a yearly 5bcm import capacity. This project, able to provide almost one third of Polish domestic gas needs, was built with the support of the EU thanks to its PCI status and received considerable financial support from various sources: €80 million from the EU, €465 million from state aids to nationwide gas infrastructure that will link into the new terminal, a €130 million loan from the EIB and a €80 million loan from the EBRD.¹⁴



Poland today, therefore already has the technical infrastructure capacity to stop importing gas from Russia. Its total gas import capacity amounts to about 43 bcm/y and with the combination of domestic production (~4.5 bcm/y) and gas import capacity, Poland is already able to meet its gas demand without even relying on Russian gas arriving through Ukraine (17.7 bcm/y). With current gas volumes coming from Russia, Poland could even completely get rid of coal to produce electricity (equivalent to ~12 bcm/y of gas) without building any new gas infrastructure.¹⁵

The country has, however begun an even wider and more ambitious development of a new gas infrastructure network connecting the country to all its neighbours, with an important EU support through the list of Projects of Common Interest (PCI) which includes no less than 8 key projects. The following projects are of notable importance (see map):¹⁶

1. **Capacity extension of the Świnoujście LNG Terminal** (currently 5bcm/y) to have a send-out capacity of up to 7.5bcm/y.¹⁷ However, between the 2nd half of 2016 and March 2019, the terminal was only used at under 40% of its capacities.¹⁸ At a time when LNG plants are lying idle (all EU terminals have worked at less than 25% of their capacity since 2012) and when many energy analysts believe that “gas delivered by tanker will never be able to compete with gas delivered by pipeline,”¹⁹ it seems irresponsible to extend (especially with tax payers money) the capacities of a terminal which has just been commissioned and therefore not yet demonstrated its commercial viability. Nevertheless, the extension project was included in the 3rd list and applied for the 4th PCI list. On top of this, Poland also discusses a second LNG import terminal, the “Polish Baltic Sea Coast” terminal.
2. The **Baltic Pipe project, a bidirectional gas pipeline connecting Poland to Denmark** allowing Poland to receive up to 10bcm of Norwegian gas each year (3bcm/y could flow in the opposite direction), while, on the other hand Russian gas and excess gas from the Świnoujście LNG terminal

¹² <http://af.reuters.com/article/commoditiesNews/idAFL5N0MT37020140401>

¹³ <http://energypost.eu/quiet-revolution-central-eastern-european-gas-market/>

¹⁴ <http://abarrelfull.wikidot.com/swinoujscie-polskie-lng-terminal>

<http://www.ft.com/intl/cms/s/0/67308bb8-97f2-11e3-8c0e-00144feab7de.html#ixzz3nG5R0lZw>

¹⁵ https://www.iea.org/publications/freepublications/publication/Energy_Policies_of_IEA_Countries_Poland_2016_Review.pdf

¹⁶ http://en.gaz-system.pl/fileadmin/centrum_prasowe/pci/Broszura_PCI_EN_final.pdf

¹⁷ http://ec.europa.eu/energy/maps/pci_fiches/pci_8_7_en_2017.pdf

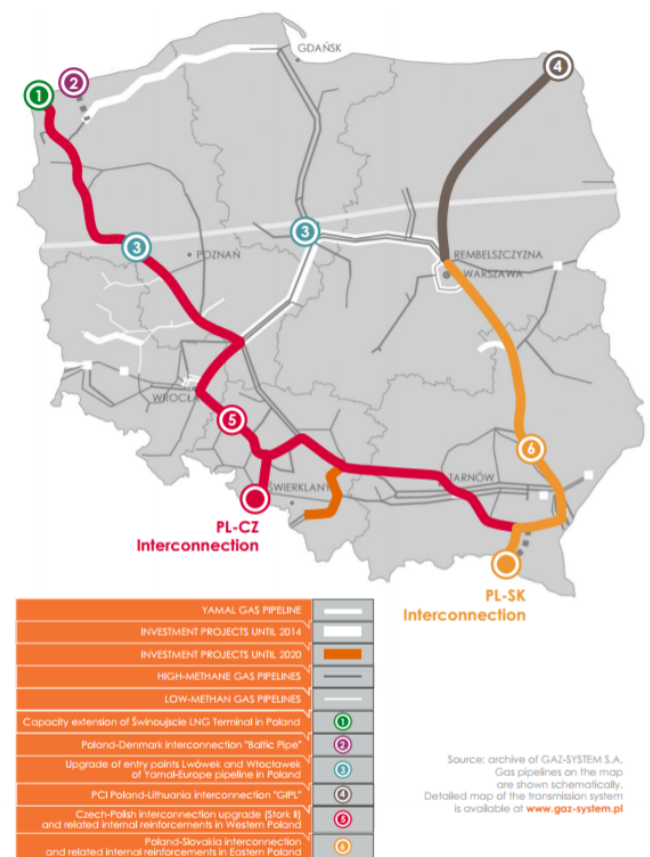
¹⁸ <https://alsi.gie.eu/#/>

¹⁹ <https://www.ft.com/content/67308bb8-97f2-11e3-8c0e-00144feab7de>

can go to Denmark. The project received already around €270million via the CEF.²⁰ An infrastructure upgrade between Denmark and Norway would also be built (different options are being discussed).²¹ Whichever option is eventually chosen, the project does not make any sense: Denmark is currently self-sufficient in gas and Poland is already well-diversified with its connections with Germany, its domestic production and its new LNG Terminal, the country meets the diversification criteria (at least 3 different suppliers). **The necessity to build such project is therefore strongly disputable.** Its economic viability is unsurprisingly questioned by many, including by Norway itself which believes that a “new pipeline is not necessary to manage gas exports” and fears that current decreasing EU gas demand weakens the commercial viability of the project.²² However, the discussions continue and Poland is pushing hard to make it happen. The construction (partly paid with tax payers’ money) **would not address any needs for Poland and would risk a lock-in with Denmark** (a country well-advanced in RES development) **in a long-term fossil fuel cycle.** The project was included in the 3rd PCI list and applied for the 4th list.

3. **The GIPL (Gas Interconnector Poland – Lithuania)** would consist of a 534km bidirectional pipeline with capacity of 2.4bcm/y in the direction PL → LT, and up to 1.7bcm/y in the direction LT → PL.²³ Project promoters aimed at completing the construction in December 2019 but postponed it to 2021.²⁴ All in all, the project already received more than €300million of EU financial support.²⁵ However, once again, this project illustrates a very short-sighted vision of the investments needed to organise the energy transition we need to urgently organise. Densifying the interconnections between gas infrastructures already perfectly able to respond to a decreasing gas demand does not make any sense and contribute to the create of a new long-term fossil fuel cycle. Poland is already well-diversified and unlikely to gain much from connecting its markets to the Baltics.

4. **Two cross-border interconnections: one with Slovakia** (bi-directional gas interconnector between Poland and Slovakia, to transport 4.7bcm/y of gas in the direction Poland-Slovakia and 5.7bcm/y in the direction Slovakia-Poland) which already received over €120million CEF funding²⁶ and **one with Czech Republic, known as "Stork II"** (new onshore pipeline with capacity of 5bcm/y in the direction PL-CZ and of 7.1bcm in the direction CZ-PL), consisting of upgrading around 110km of pipelines and building over 100km of new pipelines. The project already received CEF funding.²⁷ Once more, one can question the commercial viability of another 12.8bcm/y of import capacities for Poland, especially considering its existing capacity. The added value of connecting itself to countries also highly dependent on Russian gas seems also extremely unnecessary and does not provide guarantees that it will contribute to suppliers’ diversification. With such infrastructure which usually lasts at least half a century, Poland would lock itself into a solid dependency on gas, deeply incompatible with the EU climate objectives (80-95% of decarbonisation by 2050) and even more with the Paris Agreement.



5. **The North-South Gas corridor project.** The North-South Gas Corridor in Western Poland would

²⁰ http://ec.europa.eu/energy/maps/pci_fiches/pci_8_3_2_en_2017.pdf

²¹ <http://www.ceep.be/polands-gas-diversification-nordic-dimension/>

²² <http://www.politico.eu/pro/poland-turns-to-norwegian-gas-to-trump-russia-nord-stream-2/>

²³ http://ec.europa.eu/energy/maps/pci_fiches/pci_8_5_en_2017.pdf

²⁴ Information provided by project promoters to ENTSO-G during the 4th PCI list process

²⁵ http://ec.europa.eu/energy/maps/pci_fiches/pci_8_5_en_2017.pdf

²⁶ <https://www.ure.gov.pl/en/communication/news/223.Step-closer-to-the-development-of-the-Polish-Slovak-gas-interconnector.html> &

http://ec.europa.eu/energy/maps/pci_fiches/pci_6_2_1_en_2017.pdf

²⁷ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_2_10_en_2017.pdf & https://ec.europa.eu/inea/sites/inea/files/fiche_6.1.1-0054-czpl-s-m-14_final.pdf

upgrade/expand existing Polish gas infrastructures in order to facilitate gas flows from the Polish Baltic coast LNG terminals and the Baltic Pipe.²⁸ It includes the creation of a 130km long pipeline between Zdzieszowice - Wrocław in South-West Poland. This pipeline project has already received the approval for fundings from the CEF for up to €79 million.²⁹ However this projects and the others included in the North-South corridor don't seem to be necessary for a wide range of aspects. They compete with already existing projects in a country that is today already well connected to an important gas network.

6. **The FSRU Polish Baltic Sea Coast in Gdansk** is a project that failed to receive the status of PCI project in the 2017 list. It envisions to import from 4.1 up to 8,1bcm of LNG per year.³⁰ This represents between a quarter and half of Poland's demand in 2015. Considering the low utilization rate of the already existing terminal and the current predictions that don't foresee any significant decrease in LNG price, the possibility of it being viable economically is very low.

In total, thanks to the PCI list and CEF funding, Poland received already over €410 million from the EU for its energy infrastructure. Only €3.4 million of this money was given to electricity investments – less than 1% of the entire CEF grants for the country.³¹



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²⁸ http://ec.europa.eu/energy/maps/pci_fiches/pci_6_2_2_en_2017.pdf

²⁹ <https://www.neweurope.eu/article/eu-fund-invests-gas-pipeline-poland/>

³⁰ <http://www.polandatsea.com/a-step-closer-to-fsru-terminal-in-gdansk-bay-poland/>

³¹ https://ec.europa.eu/inea/sites/inea/files/cefpub/cef_energy_factsheet_pl.pdf