GAS DEMAND AND GAS INFRASTRUCTURE - A HISTORY OF OVER-ESTIMATION

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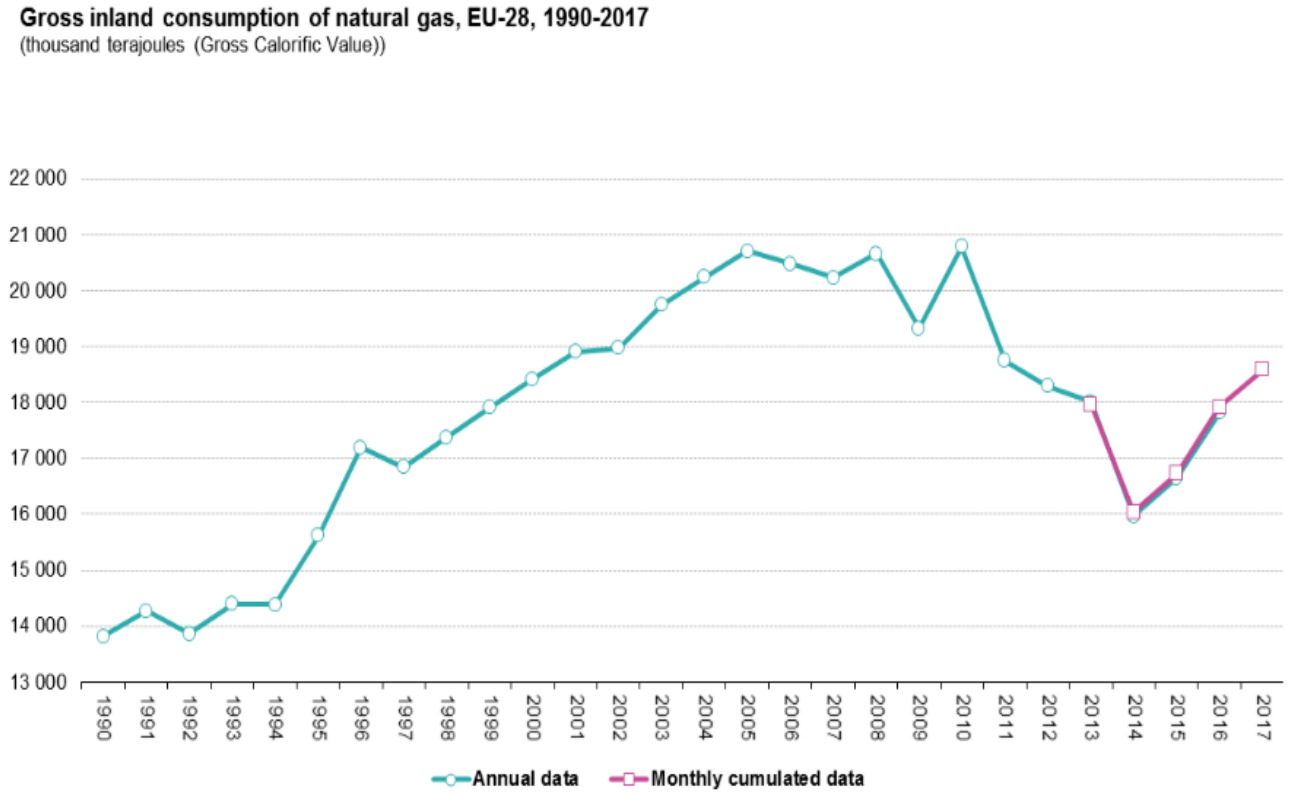
EU Gas demand development

- Demand today ~10% below 2010 peak – significant gas infra-structure build out since then
- 2014-17 rise: temperatures, economic recovery, additional gas use in power sector
- The EU currently has capacity to import ~ 700bcm gas per year (490bcm pipelines, 197bcm LNG terminals)



- *"In 2015, EU gas imports amounted to 300 billion cubic meters.* ***There is thus an infrastructure overcapacity in the EU as it currently imports less than half the gas that it could when using all existing available infrastructure****."*

High gas demand – a choice?

- Opening new gas markets (e.g. Cyprus, Malta)
- Push for gas in other sectors e.g. transport
- Largest share of gas consumption: residential sector - over ~1/3rd of EU gas consumption
  - Building sector: deep renovation scenario: -95% gas consumption, 0% import need by 2050 (Ecofys, 2014)
  - South Eastern Europe building stock: -70% gas consumption equaling 8.2bcm/a within 20 years deep renovation (BPIE, 2016)

Demand projections

- Commission Long Term Strategy scenarios: “Severely reduced” share of fossil gas in all scenarios by 2050
  - Net zero scenarios: fossil gas share down to 3-4%

- Trinomics(2018): *The role of Trans-European gas infrastructure in the light of the 2050 decarbonisation targets*
  - Clear decline of fossil gas in all storylines

- Increasing importance of “renewable gases”/decarbonized gases

”Renewable gas” to justify fossil gas infrastructure?

- <u>High uncertainty</u>
  - Feasibility (CCS, Direct Air Capture etc.)
  - Available volumes of truly sustainable “renewable gases”
- <u>Need for different infrastructure as fossil gas</u>
  - Generation of gas vs. extraction --> other geographical distribution
  - Import of “renewable gas” from North Africa, Middle East?
  - ”Renewable gas” and LNG terminals
  - Hydrogen: adaptation of infrastructure

→ Need for a clear separation of fossil and (truly sustainable!) “renewable gases” for infrastructure considerations

→ If ”renewable gases” don’t deliver their promises, it should not benefit to fossil gas

Infrastructure needs and gas Projects of Common Interest

- List of priority transmission infrastructure – eligible for funding under CEF (so far +1.6bn CEF money for gas)
- Based on TYNDP drafted by ENTSO-G
  - Strong influence by ENTSO-G all along PCI process
- Trinomics (2018): TYNDP is not compatible with Paris Agreement - "*Proposals for new gas infrastructure projects in the context of TEN-E/PCI or CEF funding should be carefully scrutinised in order to avoid overinvestments and cost impacts which might harm the affordability of energy for businesses and citizens*"

Infrastructure needs and gas Projects of Common Interest

- <u>ENTSO-G 2018 TYNDP needs assessment:</u>
  - history of overestimated demand projections
  - No change in 2018: Stops at 2040, doesn't factor in gas system reactions for unusually high demand, inexplicable deterioration of energy security situation, focus on conservative scenarios

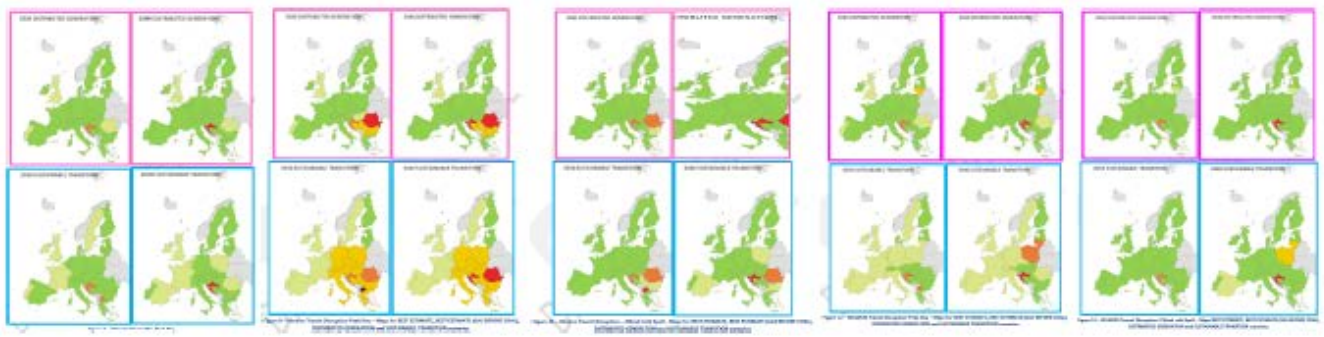
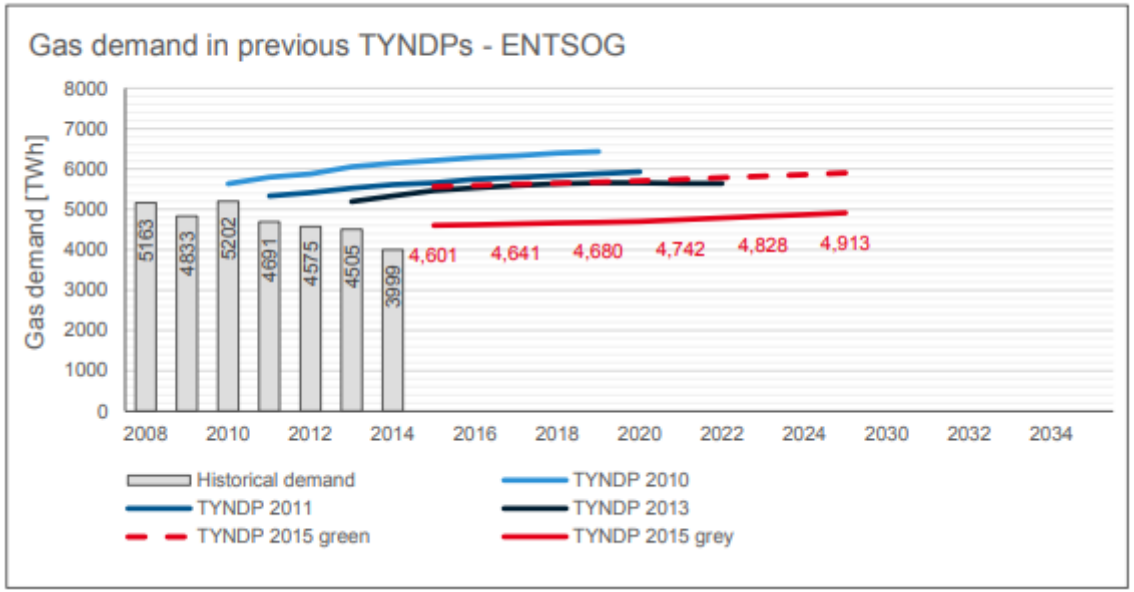


Figure 12: Gas demand in older TYNDP



The result? High underutilization of costly infrastructure

The case of LNG:

- Utilization rate EU LNG terminals: between 2012 and Q1 2019 under 25%
- 150bcm spare LNG import capacity = ~1/3rd of current EU demand
- "*The EU has co-financed or committed to* ***co-finance LNG infrastructure projects worth over €638 million***" – adding another 15bcm
- February 2019 biggest LNG supplier to EU: Russia!

Unneeded gas build-out – some examples

- Gijon/Musel LNG terminal: ”mothballed until demand picks up”
- Klaipeda LNG terminal: gas for energy security or for fertilizers? (PCI)
- MidCat/Step pipeline: no commercial interest, no market need, no benefits outweighing costs (PCI)
- Southern Gas Corridor: corruption, ~€40bn for a pipeline bringing Azeri – and Russian – gas (PCI)
- Member States’ hypocrisy about EU’s diversification policy: NordStream II adding 55bcm, TurkStream adding 15bcm import capacity

Conclusions

- There is **no role for fossil gas** in a (already very close) Paris compatible future – and there is no time for false solutions
- EU gas policies have **devastating impacts outside of Europe** (more gas production projects to serve EU's diversification purposes, including in Global South)
- The EU gas transmission network is **oversized**, further expansion risks European lock in of fossil gas, high costs and limits availability of public money for climate solutions
- Need for a **clear distinction** of fossil gas and different "renewable gases" for future infrastructure considerations
- Need to **limit gas use to a minimum** by exploiting to a maximum energy efficiency, smart demand side measures, energy saving, sector coupling etc.