Energy Regulatory Office

Securing natural gas supplies - solutions applicable in Poland

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Multilateral dimension

Poland is a member of international organizations involved in securing reliable Energy supplies including natural gas.

European Union

International Energy Agency

- Collective approach to security of supplies
- Common legal framework
- Enhanced transparency
- Periodic country reviews pertaining to security of supply and investments

  IEA/ EC/ European Court of Auditors/ European Court of Justice/ ENTSOG/ Regional Groups
- Support for project implementation

  dedicated permitting process for selected projects, financial support

Security of supply measures

- **The measures needed to remove or mitigate the risks pertaining to security of gas supply are specified in a preventive action plan elaborated on the basis of article 8 (2) (a) of regulation (EU) 2017/1938 concerning measures to safeguard the security of gas supply**

- Enabling permanent physical capacity to transport gas in both directions i.e. bi-directional capacity
- Implementation of LNG projects
- Construction of interconnectors with neighboring countries
- Extension of gas storage facilities aimed at increasing of storage volumes as well as injecting and withdrawal capacities

Security of supply measures

- **The measures needed to remove or mitigate the impact of a disruption of gas supply are specified in an emergency plan elaborated on the basis of article 8 (2) (b) of regulation (EU) 2017/1938 concerning measures to safeguard the security of gas supply.**
  - Increase of production elasticity
  - Increase of import elasticity
  - Commercial storage
  - Terminal LNG capacity
  - Diversification of gas sources and routes of supply
  - Physical reverse flow
  - Compulsory stocks of natural gas (**non-market based measure**)
  - Restrictions in the consumption of natural gas by end consumers (**non-market based measure**)

non-market based measures are introduced only when emergency state is announced i.e. in case of exceptionally high gas demand, significant supply disruption or other significant deterioration of the supply situation and also when market measures have been exhausted

Compulsory stocks

- Compulsory stocks of natural gas are maintained in a quantity which corresponds to at least 30 days of average daily import of such gas into Poland. During the 2022/2023 season, the volume of compulsory stocks of natural gas amounts to 15 943 362 MWh.

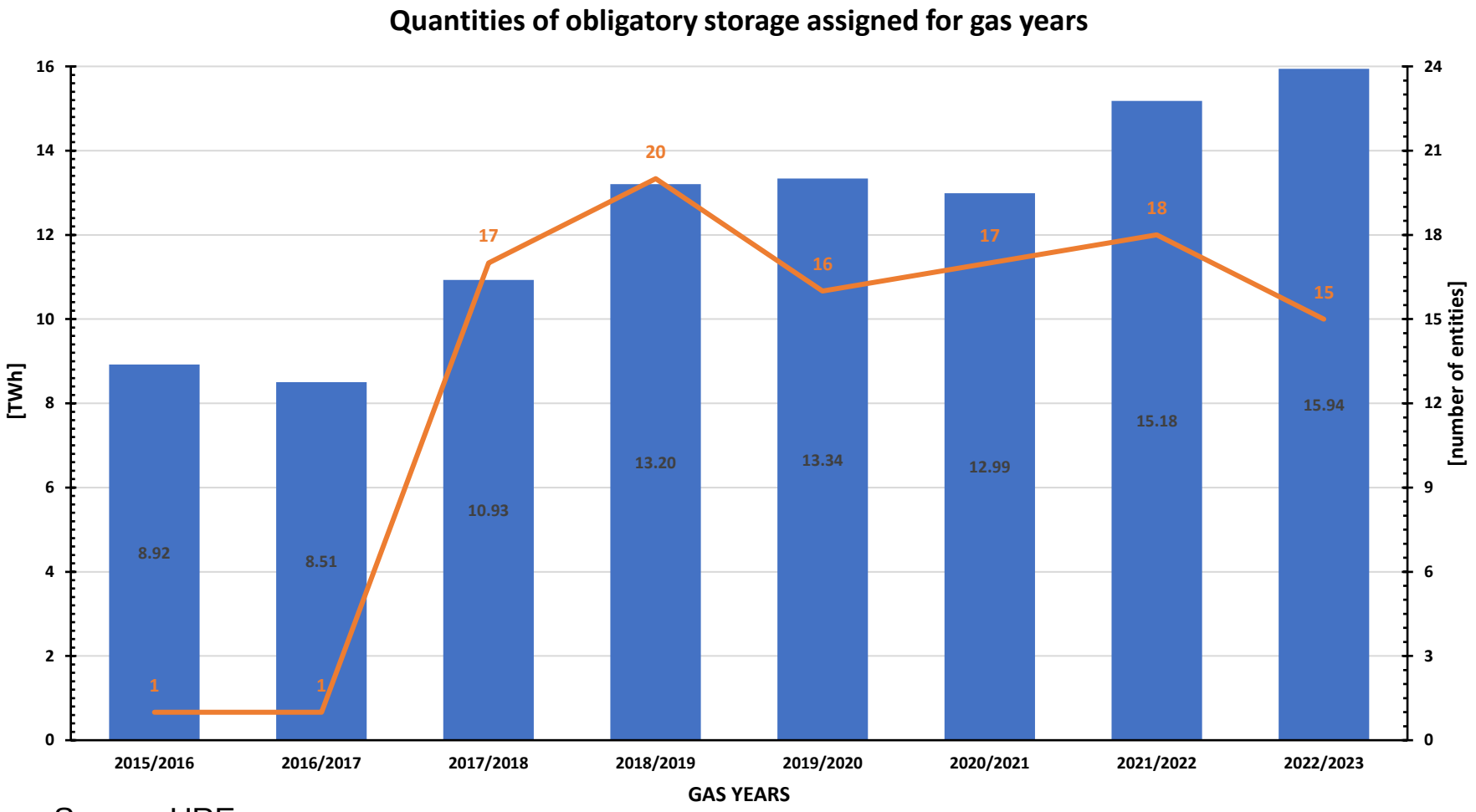
- Compulsory stocks of natural gas may be maintained outside the territory of Poland – within the territory of another member state of the European Union and the member state of the European Free Trade Agreement (EFTA), which is a party to the agreement on the European Economic Area, in the storage installations connected to the gas system which comply with the requirements laid down in the Act on Stocks.

- The technical parameters of storage facilities and gas networks, to which installations are attached, should provide the ability to deliver of the total amount of mandatory reserves held outside the territory of Poland to national transmission or distribution network within 40/50 days* on firm conditions and in any circumstances.

- Relevant obligation can be fulfilled on the basis of agreements with storage system operators or on the basis of ticketing agreements with gas trading entities.

* 50 days applicable for gas year 2023/2024

Compulsory stocks



Source: URE

The restrictions in consumption of natural gas

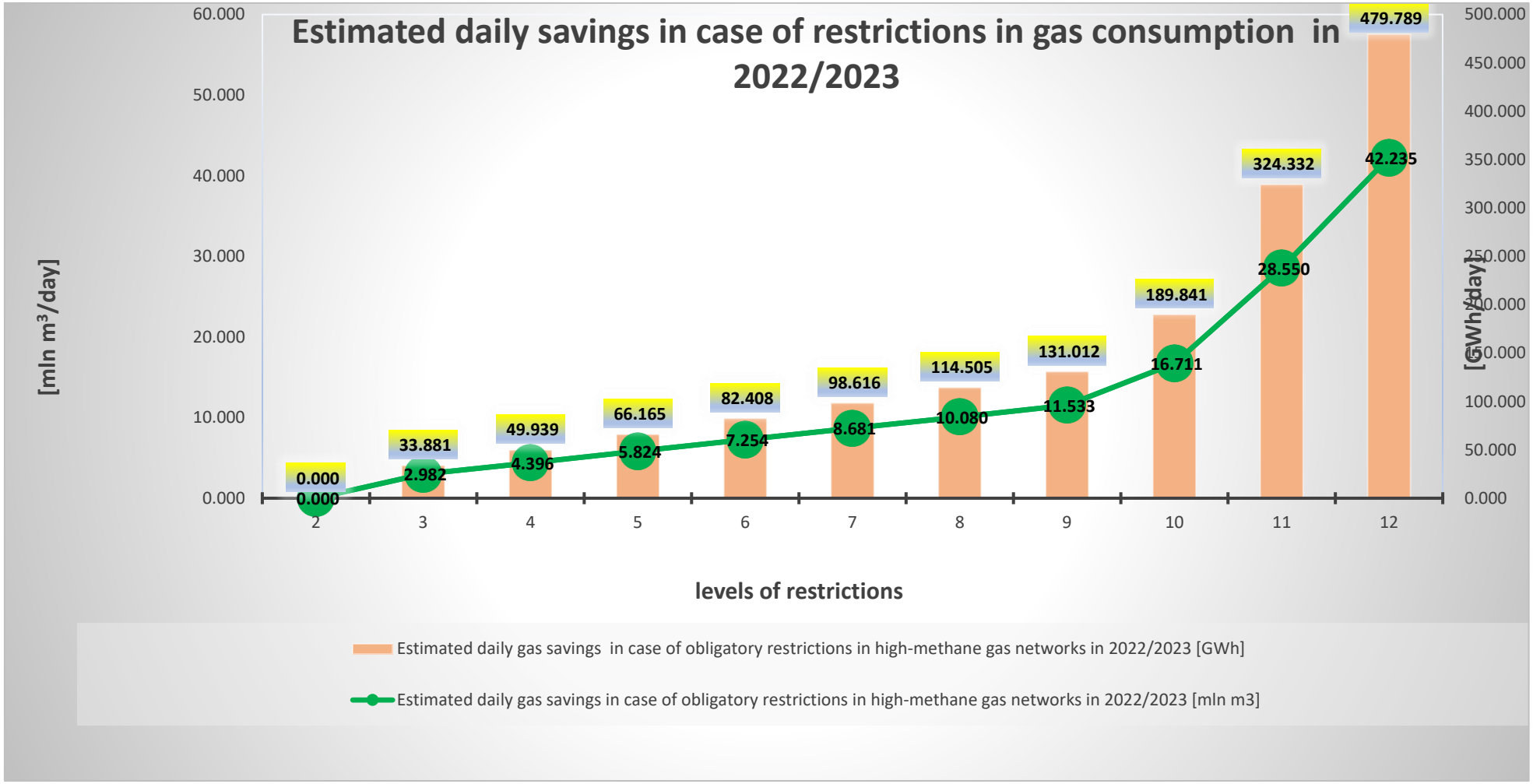
- The restrictions shall be introduced for the fixed-term on the whole territory or a part of Poland in compliance with Restrictions imposing plans approved by ERO.
- Restrictions imposing plans are drafted by TSO and DSOs and include gas consumers other than protected consumers connected to their networks.
- Restrictions imposing plans specify the maximum hourly and daily quantities of natural gas drawn by consumers connected to the network at particular supply levels.

There are levels from 2 until 12:

- 2nd level corresponds to average hourly and daily quantities of natural gas drawn by consumer in yearly period, with exclusion of days with no consumption
- 10th level corresponds to the minimum quantity of natural gas whose drawing will not endanger people's safety nor damage or destroy their process facilities
- 11th level corresponds to zero hourly and daily quantities of natural gas excl. protected consumers
- 12th level corresponds to zero hourly and daily quantities of natural gas drawn by consumers excl. protected consumers covered by the UE solidarity mechanism

12th level was introduced in order to distinguish protected consumers covered by the Union solidarity mechanism from other protected consumers.

The restrictions in consumption of natural gas



Expansion of import capacity

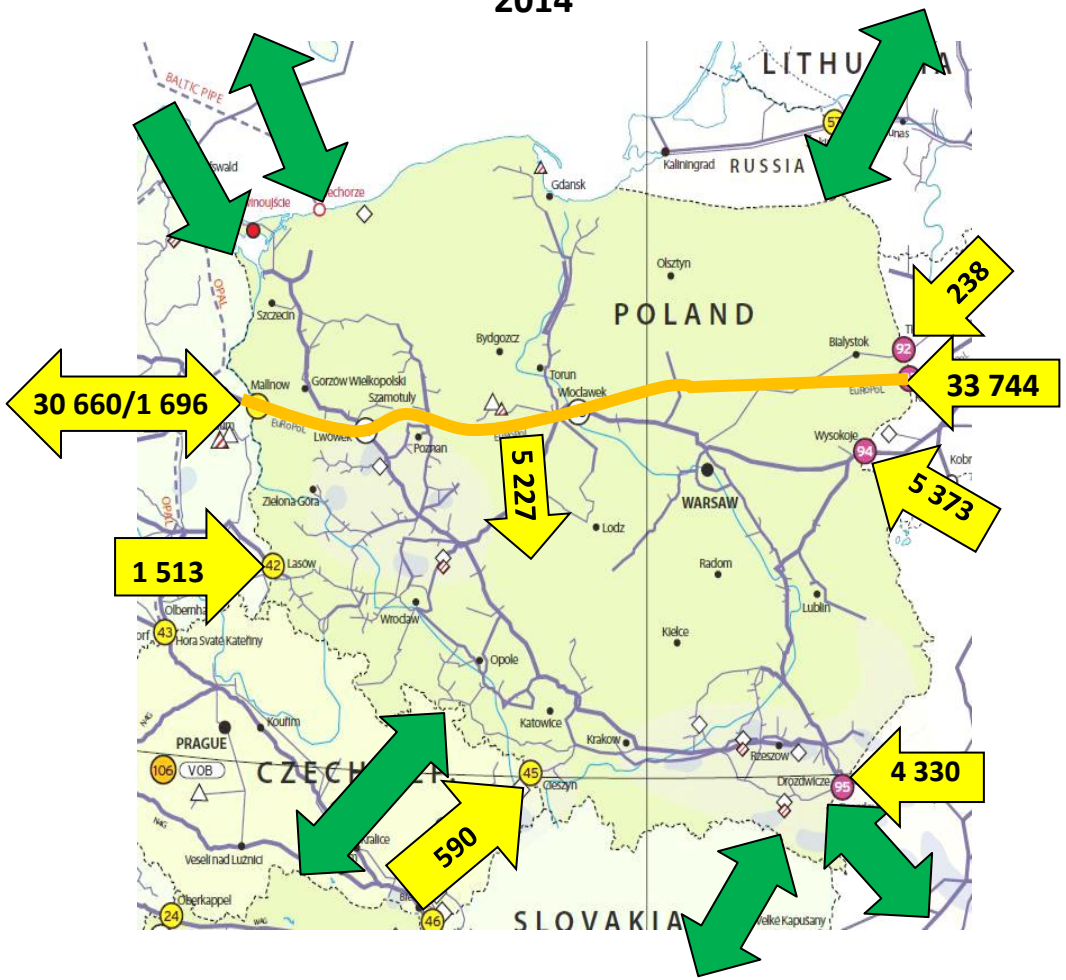
Firm capacity [mcm/year]

existing

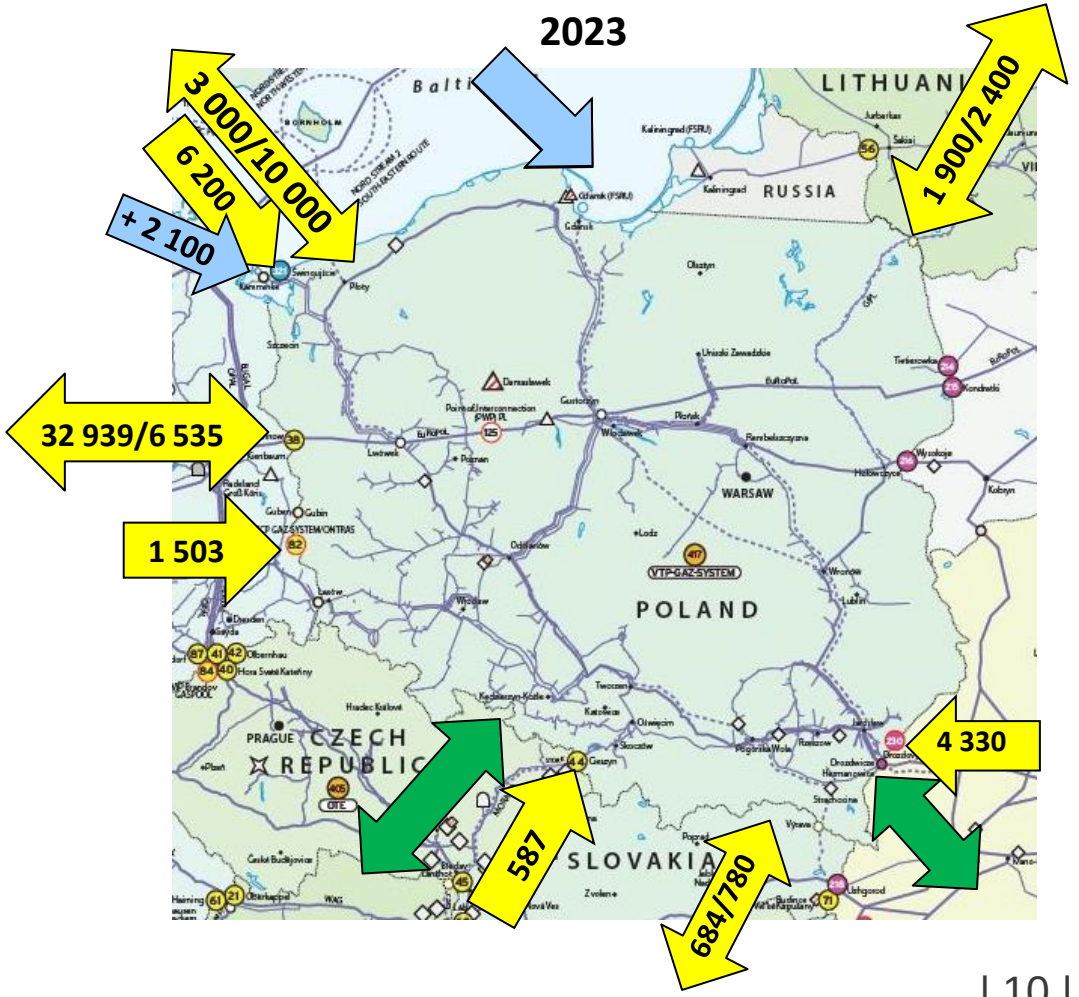
in preparation

planned

2014



2023



Source: Gaz-System

Expansion of import capacity – key initiatives

1. **Introduction of physical reverse flows**
   a. Gradual expansion of capacity at Mallnow point at DE >>PL direction, current capacity is 6,5 bcm per year;
2. **Expansion of LNG import capacity**
   a. LNG Terminal in Świnoujście - expansion to a capacity of 8.3 bcm per year (offtake and regasification, current capacity after 1st stage of expansion is 6,2 bcm per year);
   b. FSRU Terminal in the Gulf of Gdańsk - construction of a new terminal with a capacity of at least 4.5 bcm per year;
3. **Expansion of gas interconnections with neighboring countries**
   a. Baltic Pipe - a connection with Denmark and the Norwegian Continental Shelf, with import capacity of 10 bcm and export capacity of 3 bcm per year;
   b. Poland – Slovakia connection – with import capacity of 5.7 bcm and export capacity of 4.7 bcm per year;
   c. GIPL connection with Lithuania – with import capacity of 1.9 bcm and export capacity of 2.4 bcm per year.

Expansion of storage capacity

Development of the storage facilities from the season 2014/2015 until 2022/2023

Storage	Working volume [million m^3]		Max. injection capacity [million m^3/day]		Max. withdrawal capacity [million m^3/day]	
	2014/15	2022/23	2014/15	2022/23	2014/15	2022/23
CUGS Mogilno	407,89	580,92	9,6	9,6	18	18
CUGS Kosakowo	51,2	299,7	2,4	2,4	4,8	9,6
UGS Husów	350	500	2,78	4,15	5,76	5,76
UGS Strachocina	360	360	2,64	2,64	3,36	3,36
UGS Swarzów	90	90	1	1	1	0,93
UGS Brzeźnica	65	100	1,1	1,44	0,93	1,44
UGS Wierzchowice	1 200,00	1 300,00	6	9,6	9,6	14,4
Total	2 524,09	3 230,62	25,52	30,83	43,45	53,49
Increase		**28%**		**21%**		**23%**

Source: https://ipi.gasstoragepoland.pl

Next steps

- New role of gas as a fuel for electricity production in interim period (until spreading carbon neutral sources –RESs, etc.) requires further investments in infrastructure
- Due to peaks in gas consumption, extension of gas storage facilities is required, aimed at increasing of storage volumes as well as injecting and withdrawal capacities
- Due to EU strategies and commitments securing gas supplies in future requires utilization of decarbonized gases i.e. bio-methane and hydrogen
- Utilization of bio-methane and hydrogen is a part of the Polish strategy to secure energy supplies
  - Covering the demand for natural gas by using the domestic potential of biogas, bio-methane, syngas, synthetic gas and hydrogen production are recognized in „Polish Energy Policy until 2040" and „National plan for energy and climate"
  - Indicative goal to achieve 10% share of gases other than natural by 2030 in gas networks
  - large potential for biogas production at the estimated level of 8 bcm/year

THANK YOU FOR YOUR ATTENTION!

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