National Ten-Year Network Development proposal of the integrated Natural Gas System

May 2025

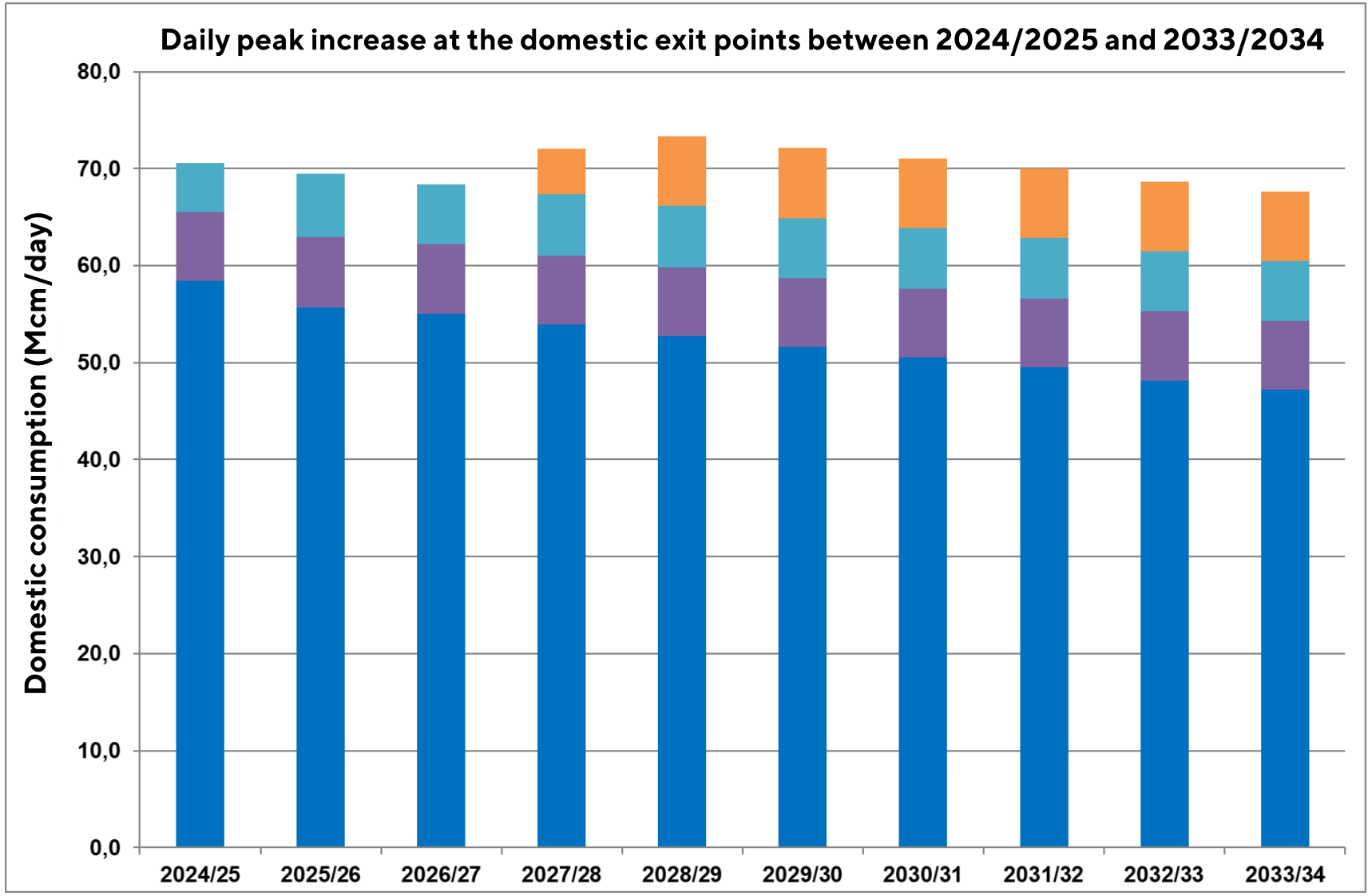
FGSZ

A MOL-CSOPORT TAGJA

Ten-Year Network Development Proposal

- Pursuant to Article 96 § (5) of the Government Decree 19/2009 (I.30.) on the implementation of Act XL of 2008 on Natural Gas Supply (Gas Act) the transmission system operator shall submit its application for approval of the results of the coordinated capacity review pursuant to Article 82 § (2) of the Gas Act and the 10-year network development proposal to the Hungarian Energy and Public Utility Regulatory Authority (hereinafter referred to as the Authority) by 31 May 2025.
- The transmission system operator prepared the coordinated capacity revision and submitted it to the Authority for approval on 03.12.2024.
- On 19.02.2025, the Authority issued the Resolution No. H402/2025 on the subject of "Approval of the 10-year development proposal" (accessible in Hungarian here: 10 éves fejlesztési javaslat jóváhagyása).
- Pursuant to Article 96§(5) of the Government Decree 19/2009 (I.30.) on the implementation of the Act XL of 2008 on Natural Gas Supply (hereinafter the Implementation Decree), FGSZ shall conduct a public consultation over the period of 12th May 2025 – 27th May 2025.
- Having closed the public consultation, the proposal and the relating comments filed thereto will be submitted by FGSZ to the Authority for approval.

Daily peak demands at the domestic exit points

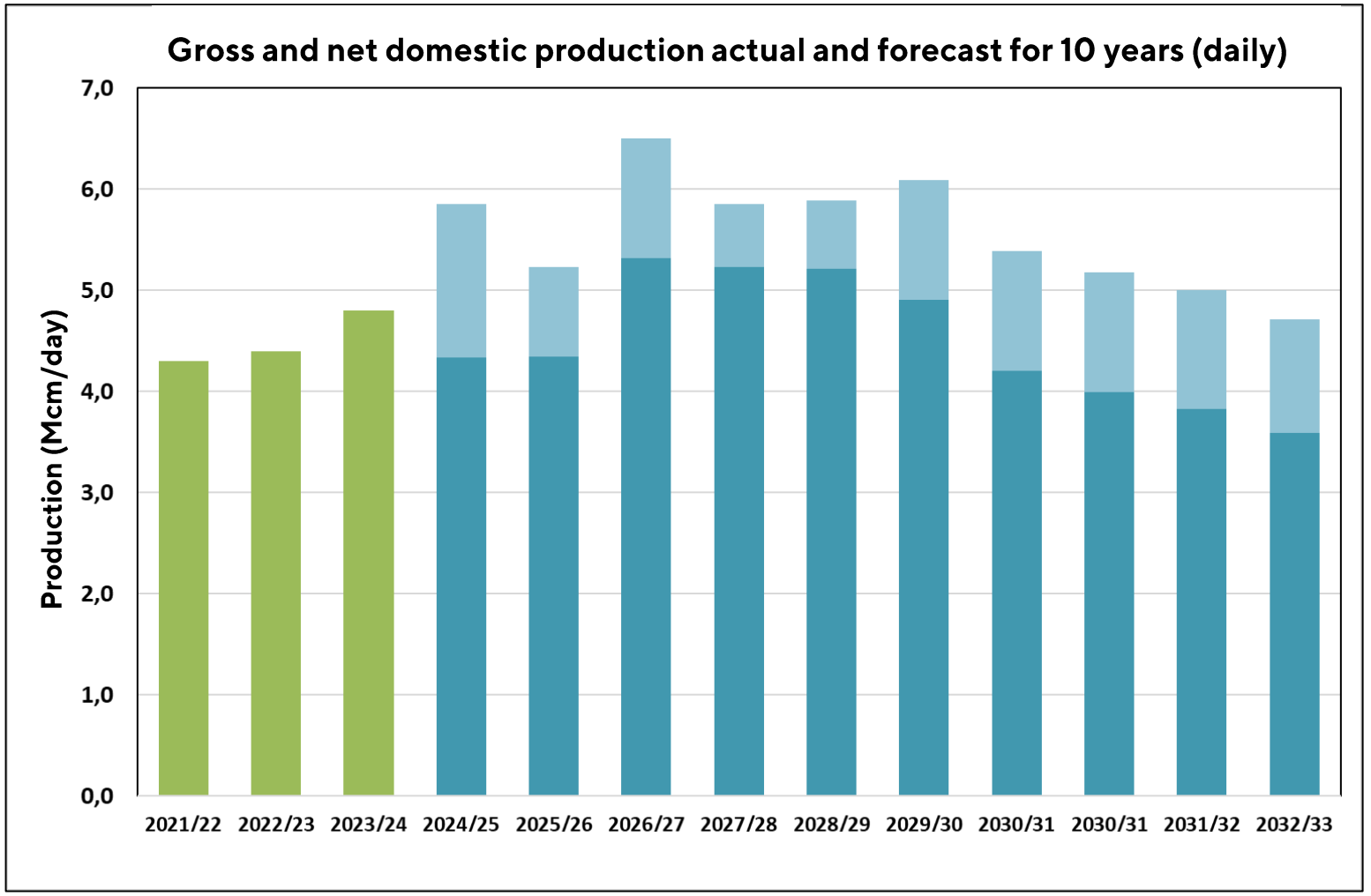


Legend:

- DSOs
- industry
- Power Plant
- New Power Plant

Source: Ten-Year Network Development Proposal 2025

Decreasing indigenous gas production trend

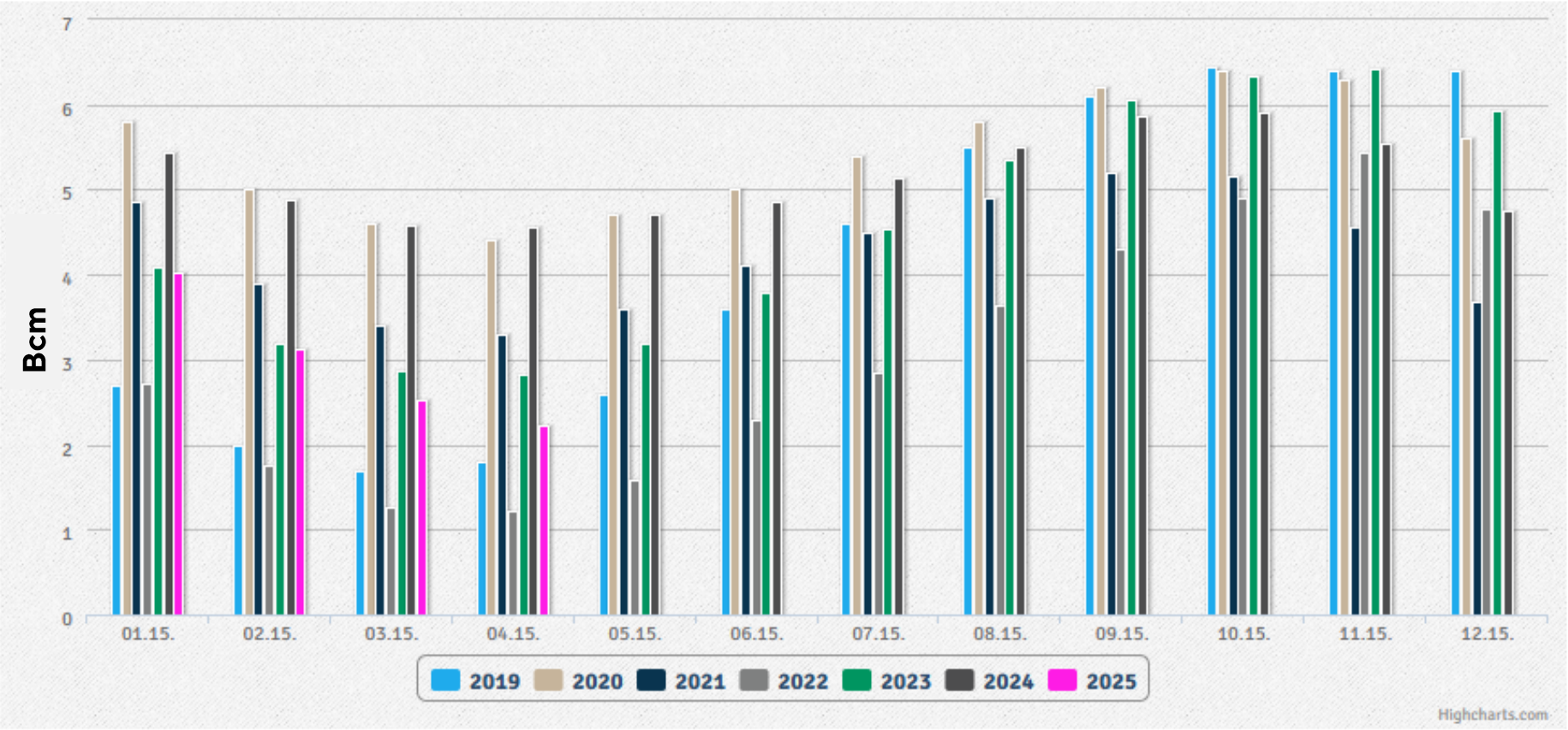


Legend:

- actual
- forecast (min; max)

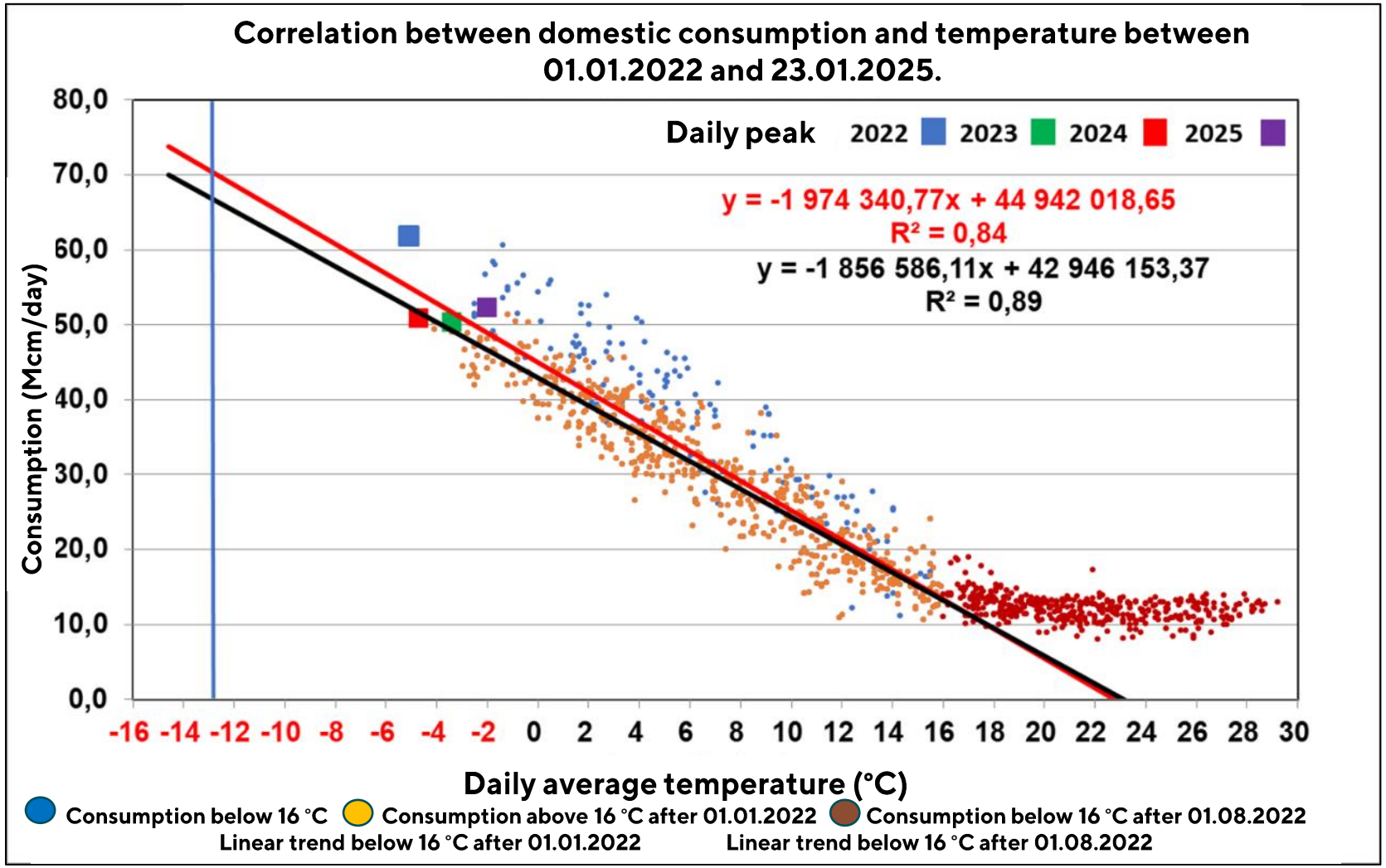
Source: Ten-Year Network Development Proposal 2025

Stock levels in the natural gas storages in Hungary



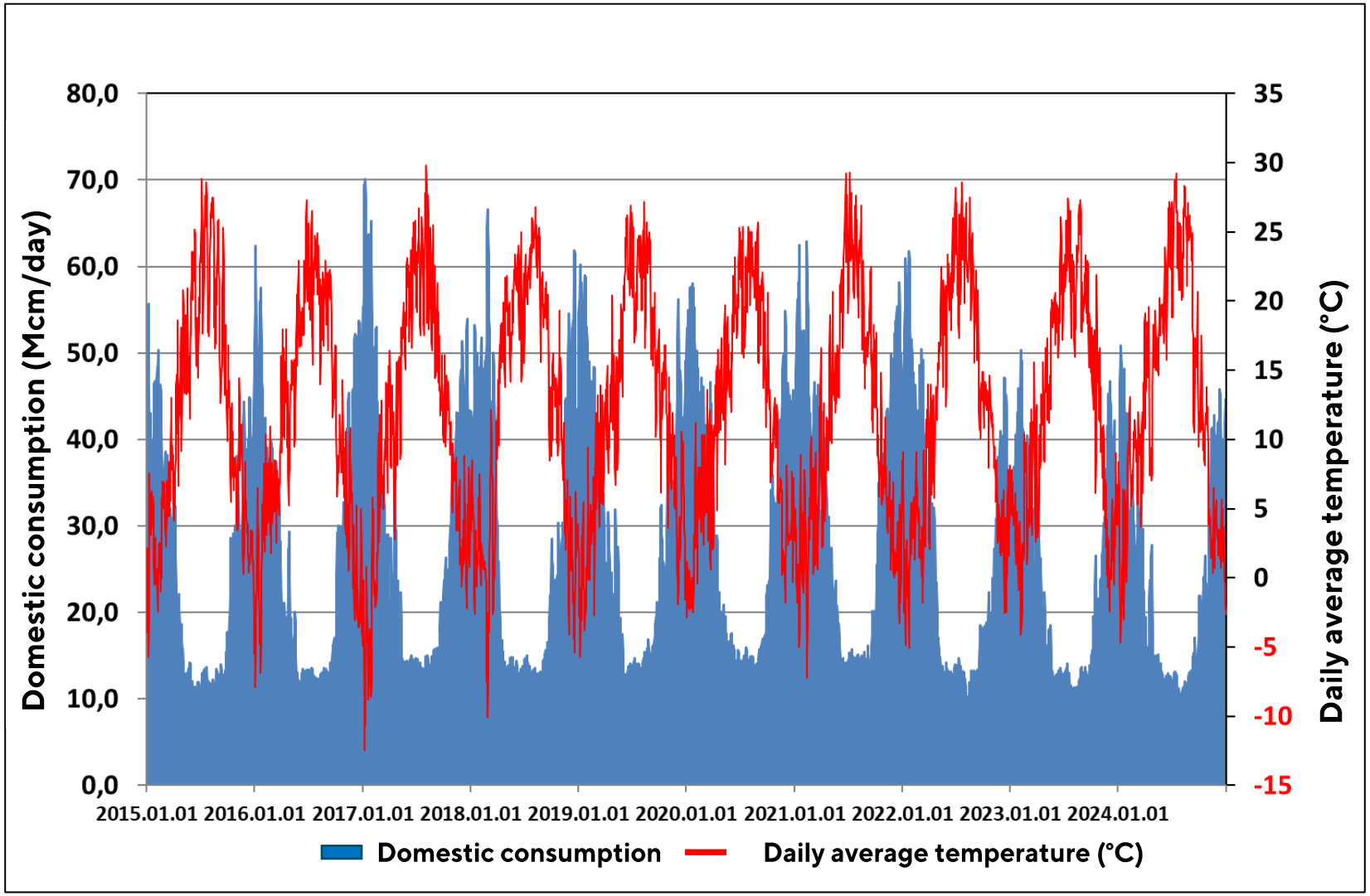
Source: http://www.mekh.hu/magyarorszag-foldgaztaroloinak-keszletszint-alakulasa

Correlation between domestic consumption and temperature I.



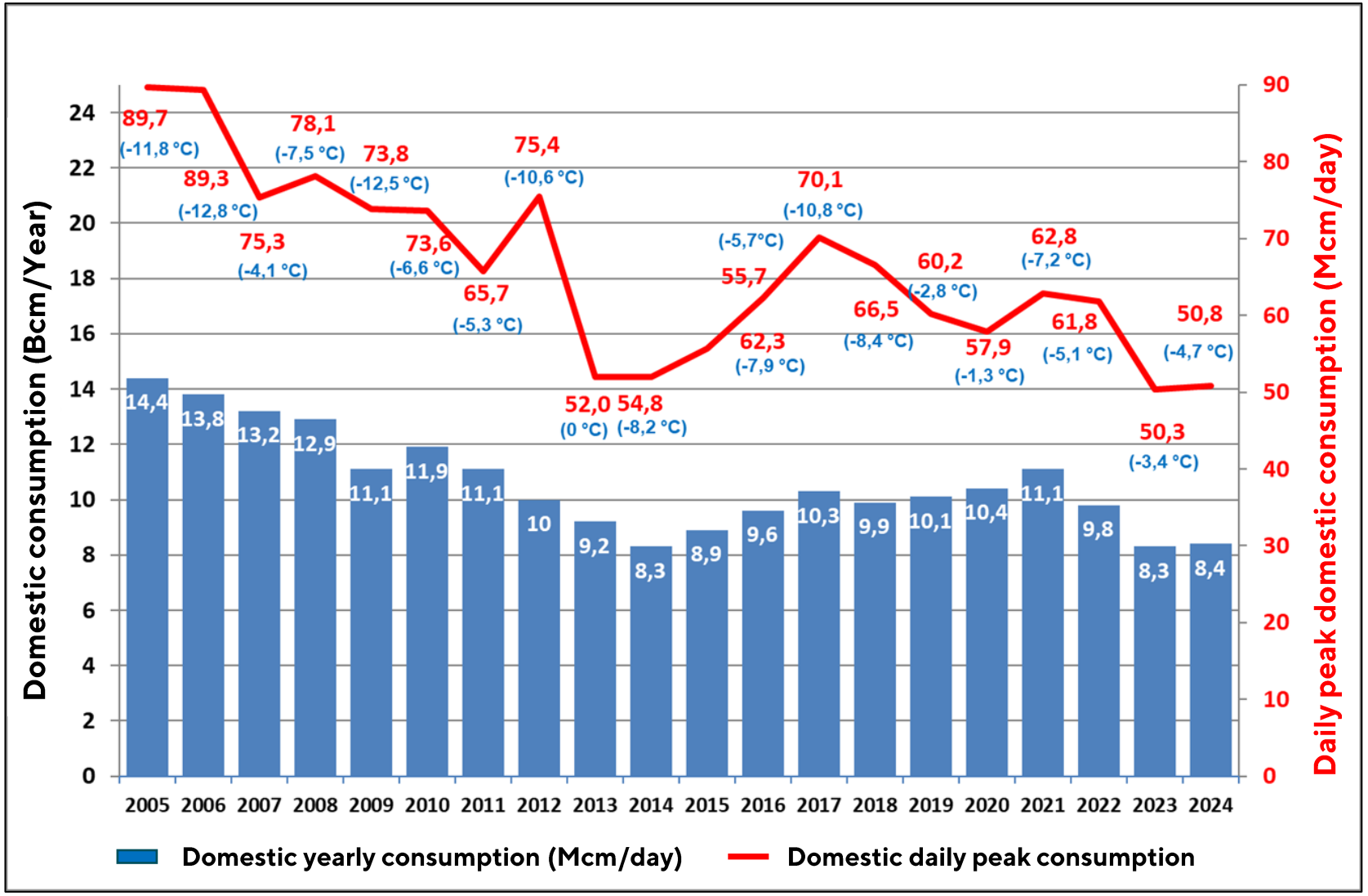
Source: Ten-Year Network Development proposal 2025

Correlation between domestic consumption and temperature II.



Source: Ten-Year Network Development proposal 2025

Annual and daily peak daily domestic consumption



Source. Ten -Years Development proposal 2025

Projects I.

The projects proposals submitted by FGSZ Ltd. are the followings:

A) Developments already implemented under previous decision:

- Compressor unit replacement with an electric driven one in Mosonmagyaróvár (M3 unit);
- Installation of small household-size solar power plants;
- Procurement of leak detection and emission rate measuring handheld instruments for testing above-surface technology („LDAR decarbonization technology", „A" part).

B) Ongoing development further to the previous decision:

- Ensuring firm capacity from Hungary to Ukraine;
- Ensuring delivery demand from Romania to Hungary , expansion of the compressor station in Csanádpalota;
- Hungarian-Slovenian interconnector pipeline route design;
- Városföld-Vecsés pipeline route design;
- Procurement of leak detection and emission rate measuring handheld instruments for testing above-surface technology („LDAR decarbonization technology", „B" part).

Projects II.

C) New projects proposed for implementation in the next 3 years:

- Upgrading the transmission capacity of the compressor station in Szada;
- Connecting Balassagyarmat-Vecsés DN800 pipeline and Alag-Vác-Balassagyarmat DN300 pipeline;
- Construction of Bátonyterenye-Salgótarján DN200, 8 km pipeline;
- Transmission pipeline development and related developments for the capacity demand of MVM Tisza Power Plant;
- „LDAR decarbonization technology", „C" part.

D) New projects proposed for implementation in the next 4-10 years:

- Compressor unit replacement with an electric driven one in Csanádpalota;
- Construction of Algyő-Városföld DN1000, PN75, 70 km pipeline;
- Construction of Városföld-Vecsés DN800, PN75, 78 km pipeline;
- Construction of Slovenian-Hungarian interconnector with the capacity 50 cm/h (0.4 bcma);
- Connecting FGSZ's system to the European Hydrogen Backbone and preparing for the expected supply demand of domestic hydrogen producers and users

Projects III.

E) Developments considered but not recommended for implementation:

- Construction of Kőszeg-Lövő DN200, 25 km pipeline;
- Construction of Kaposvár – Pécs II DN300/DN400, 70 km pipeline;
- Construction of Tatabánya II-Zsámbék DN250, 23 km pipeline;
- Construction of Gyöngyös-Visonta DN200, 15 km pipeline;
- Construction of Eger-Kál DN300, 25 km pipeline;
- Construction of Jászberény-Jászdózsa, DN 200, 15 km pipeline

Ongoing development further to the previous decision V.

PROJECT DESCRIPTION

The LDAR (Leak Detection & Repair) project aims to reduce methane emissions through state-of-the-art technology and to comply with the European Union's methane emission reduction strategy and the proposed methane regulation.

Part of the project is the **development already finalised based on the previous decision (A)**, the **ongoing development (B),** while the other part is a **new investment proposed to be implemented in the next three years (C)**.

PROJECT

Equipment needed for the implementation:

A. Acquisition of manual leak detectors and emission rate measuring instruments for the testing of above ground technology.

B. Acquisition of manual leak detectors and emission rate measuring instruments for the testing of above ground technology.

C. 1. Acquisition of measuring instruments and analysis software together with a transport drone for site level measurement.

C.2. Acquisition of an aircraft (e.g. helicopter) mounted leak detection instrument for the inspection of underground systems, natural gas pipelines

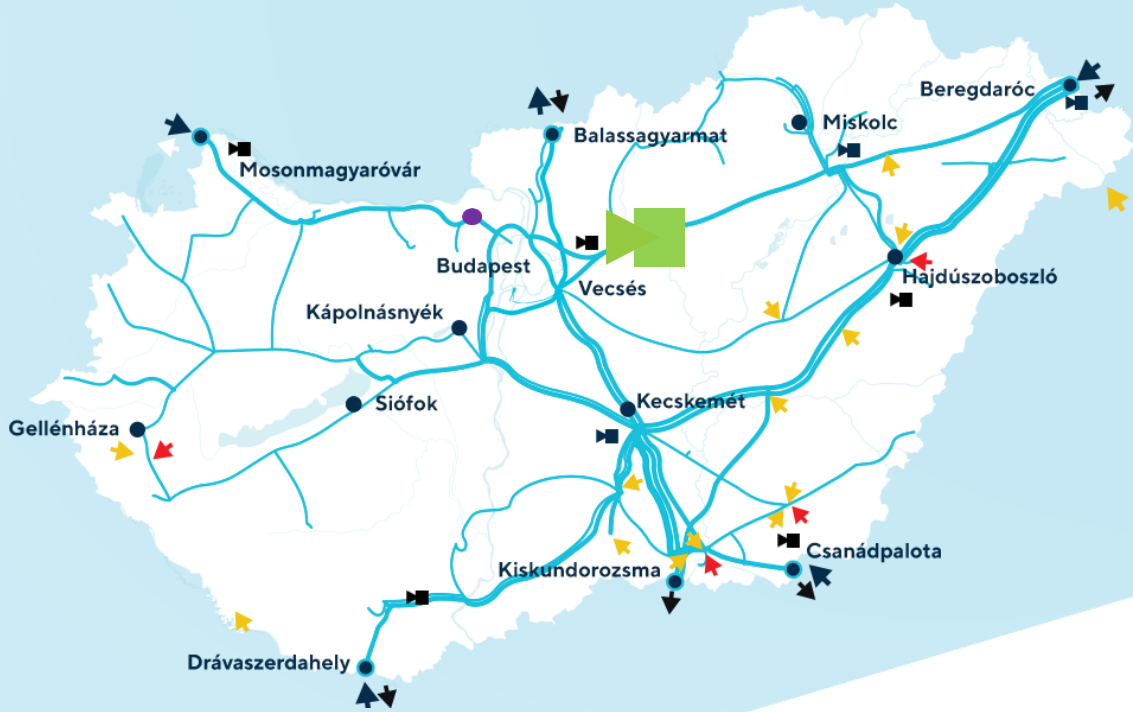
New projects proposed for implementation in the next 3 years I.

PROJECT DESCRIPTION

Upgrading the transmission capacity of the compressor station in Szada

- To increase the transmission capacity of the compressor station in Szada, FGSZ Ltd. has developed a technical solution - by replacing the compressor and gas turbine units with existing ones at other compressor stations and by purchasing new oil coolers - that will allow to increase the current technical capacity level of the cross-border interconnection point Veľké Zlievce/Balassagyarmat in the direction of Hungary>Slovakia from 400,000 cm /h to 500,000 cm /h (from 3.5 bcma to 4.38 bcma)
- The increased capacity is foreseen to be offered via capacity auctions in the calendar year 2025, after the completion of the necessary works and the NRA's approval of the amended operational license hold by FGSZ Ltd.

PROJECT



New projects proposed for implementation in the next 3 years II.

PROJECT DESCRIPTION

Connecting Balassagyarmat-Vecsés DN800 pipeline and Alag-Vác-Balassagyarmat DN300 pipeline

The pipeline of Alag-Vác-Balassagyarmat is currently a dead-end pipeline, supplied from Alag only. The construction of a pipeline (DN300, appr. 2.5 km) connecting the international metering station in Balassagyarmat and the gas delivery station in Balassagyarmat along with the associated modifications will create a looped pipeline system, thus ensuring both the possibility of bidirectional supply to the pipeline system concerned as well as increasing the security of supply to consumers.

- The interconnection of the given pipelines is FGSZ's own proposal to increase security of supply for domestic consumers, the project will neither create new capacity, nor upgrade the existing one.
- The investment can be implemented within 25 months once the Authority approved the amended operational licence of FGSZ Ltd.

PROJECT SESCRIPTION

Construction of Bátonyterenye-Salgótarján DN200, 8 km pipeline

Following the gas release on the pipeline Vác-Romhány (DN 300) in late January 2025, our Company examined the existing dead-end pipelines on the natural gas transmission system and the gas delivery stations with a risk of gas supply failure. As a result, to increase security of supply, increase operational flexibility, carry out operative operations and consider emission reductions, it is proposed to construct a new Bátonyterenye pipeline DN200, 8 km in addition to the currently operating pipeline Bátonyterenye-Salgótarján DN300, PN50.

The investment can be implemented within 26 months once the Authority approved the amended operational licence of FGSZ Ltd.

New projects proposed for implementation in the next 3 years III.

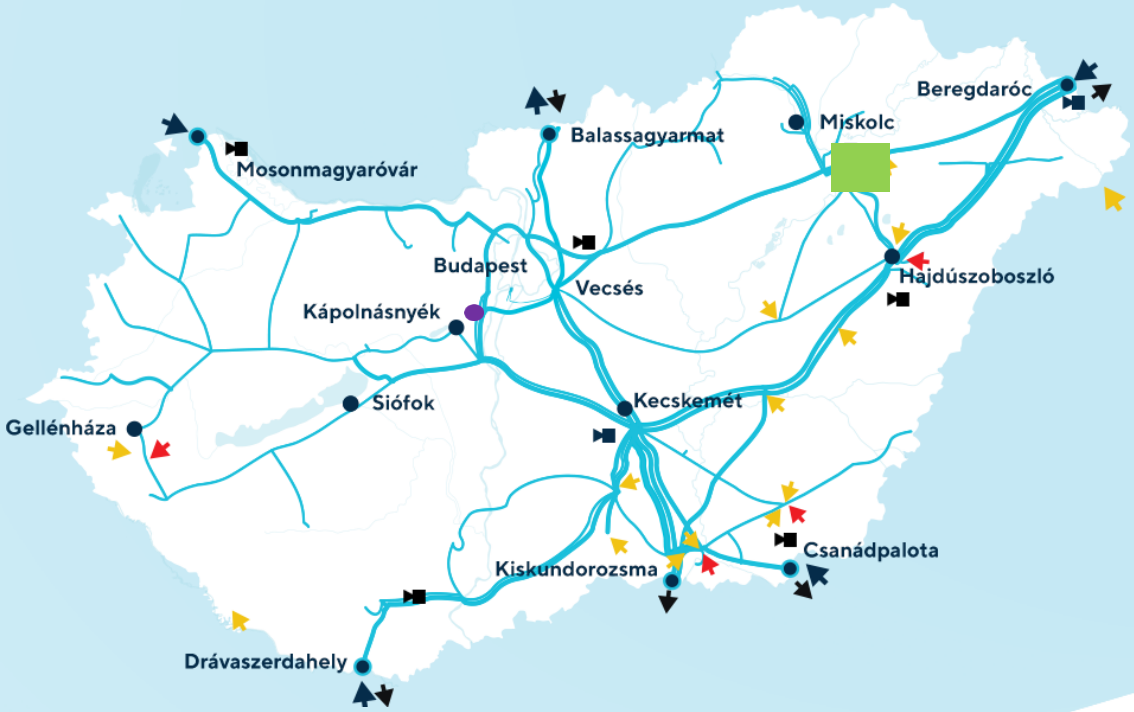
PROJECT DESCRIPTION

Transmission pipeline development and related developments for the capacity demand of MVM Tisza Power Plant

The capacity demands have been submitted to the transmission system operator to secure the required capacity in the natural gas transmission system. The respective investigations are ongoing, the declarations for the provision of capacity are expected to be issued in Q2 2025, after which the connection contract will be signed, and our Company will initiate the amendment of the transmission system operator's operating licence with the Hungarian NRA, MEKH.

To meet the natural gas demand of MVM Tisza Power Plant, a new exit point, a new sectioning station and a new transmission line will need to be constructed.

PROJECT



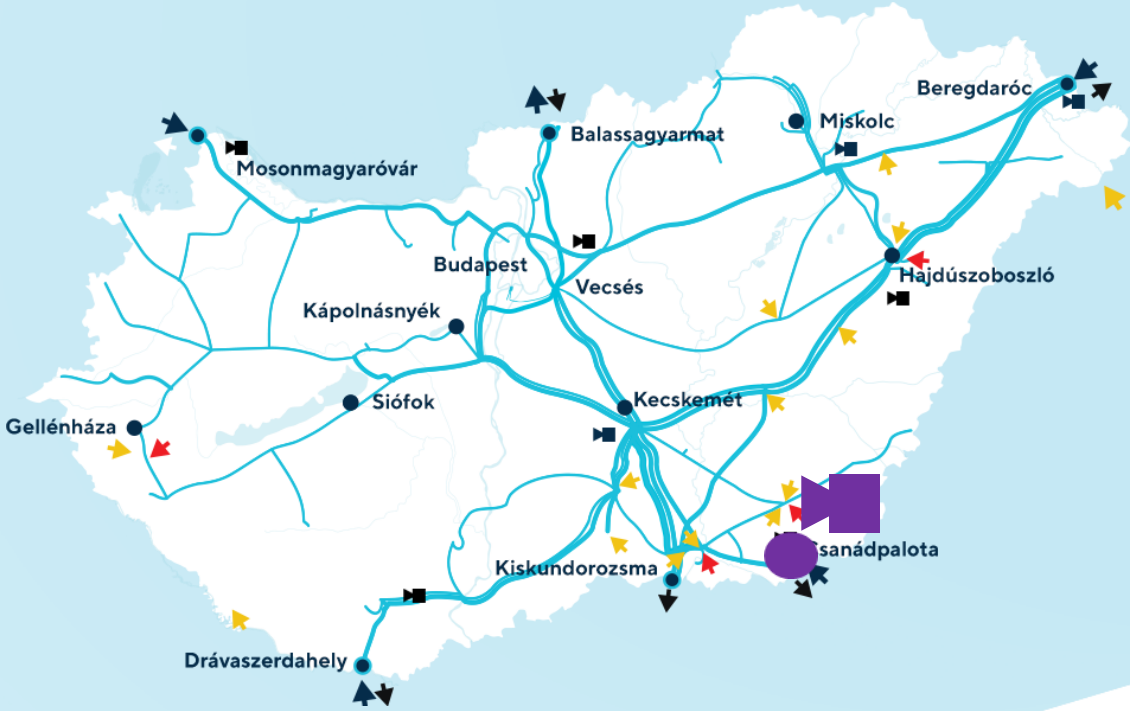
New projects proposed for conditional implementation in the next 4-10 years I.

PROJECT DESCRIPTION

Installation of electrically powered compressor in Csanádpalota compressor station

Replacing the existing compressor unit(s) by new, 5-7 MW electrically powered compressor(s), capable to transport of hydrogen up to 100%.

PROJECT



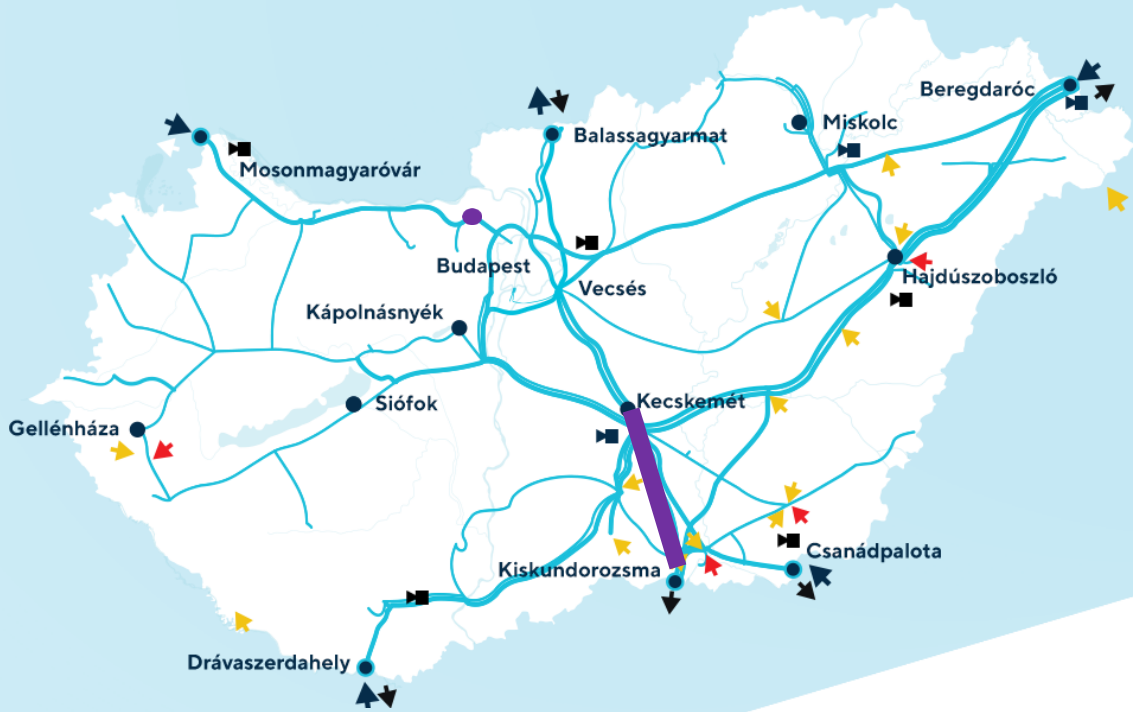
New projects proposed for conditional implementation in the next 4-10 years II.

PROJECT DESCRIPTION

Construction of Algyő-Városföld DN1000, PN75, 70 km pipeline

To increase the capacity in the RO>HU direction, the construction of a 70 km DN1000, PN75 pipeline between Algyő and Városföld may be necessary to maximise the capacity of the natural gas entry points in the south of Hungary (Kiskundorozsma 2 and Csanádpalota interconnection points and the Szőreg UGS). The pipeline will be suitable for integration into the H_2 transmission infrastructure as well.

PROJECT



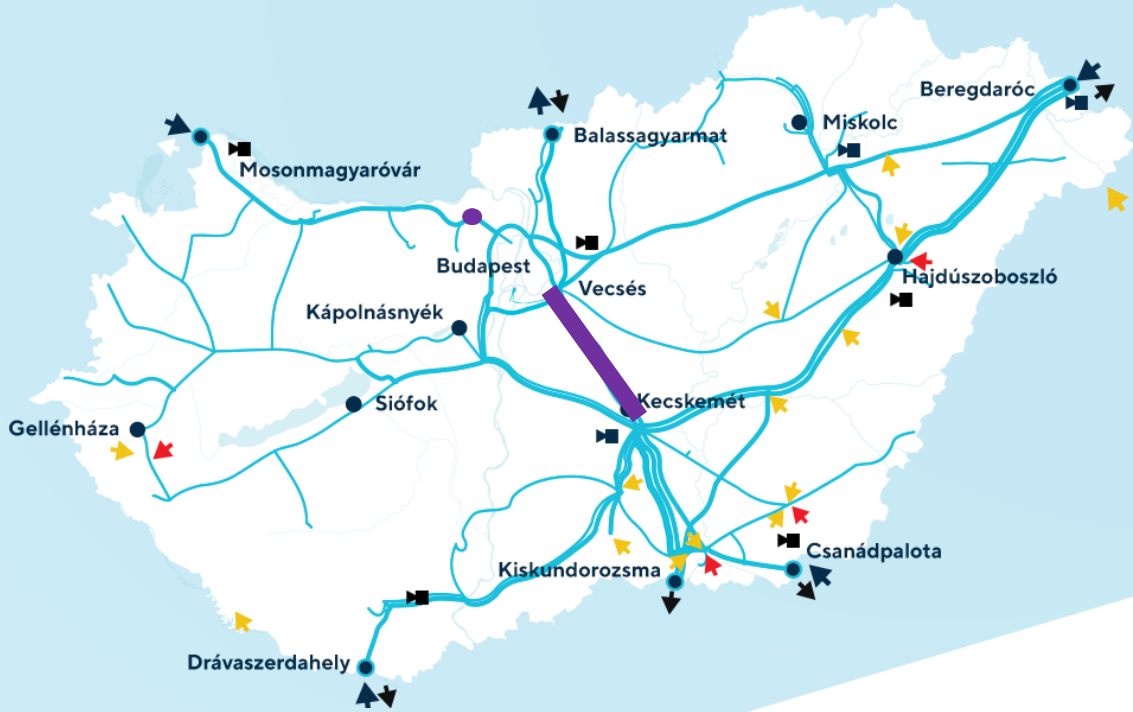
New projects proposed for conditional implementation in the next 4-10 years III.

PROJECT DESCRIPTION

Városföld-Vecsés DN800, PN75, 78 km pipeline construction

As a result of the project, the simultaneous transmission of the maximum volumes coming from the south (the injection from Kiskundorozsma, Csanádpalota, Szőreg, Zsana and Drávaszerdahely) to the node in Városföld will be ensured.

PROJECT



New projects proposed for conditional implementation in the next 4-10 years IV.

PROJECT DESCRIPTION

Slovenian-Hungarian interconnector

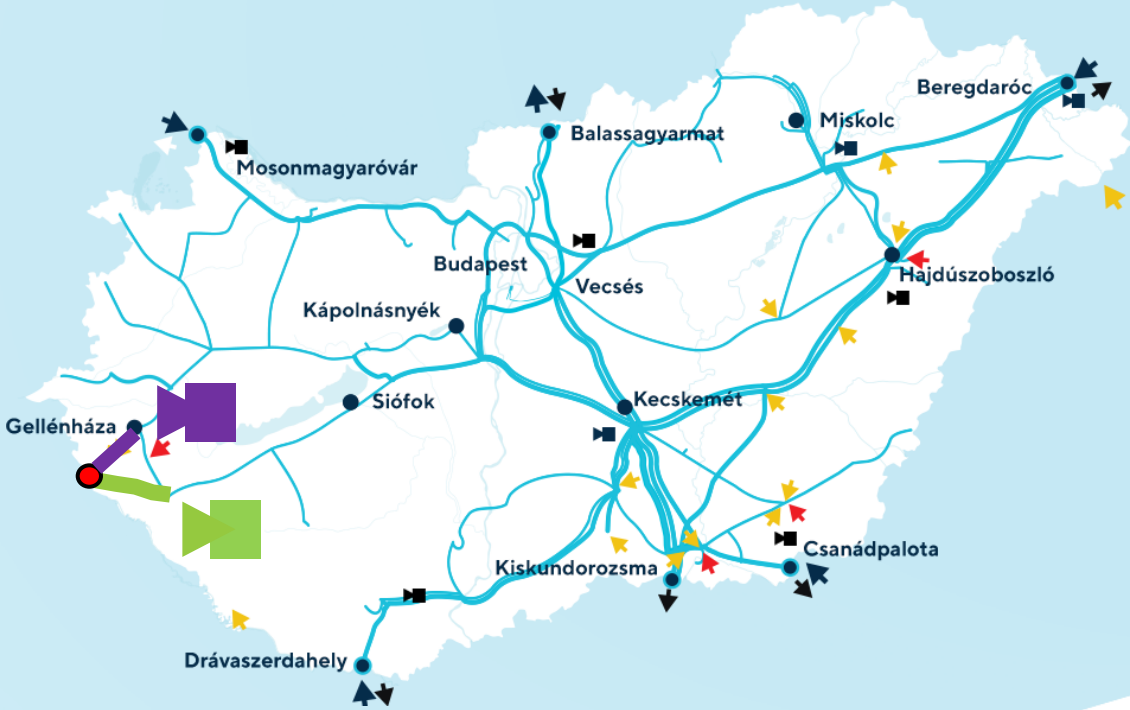
During the consultations with Plinovodi, the adjacent TSO, in 2023 and spring 2024, the Slovenian-Hungarian interconnector was mainly considered with a capacity of 50,000 cm/h (0.4 bcma). The financing issue of the construction is still open, however this development is also subject to the result of the capacity auction under the incremental capacity procedure to be launched in July 2025.

Planned developments:

1. option:
- SI/HU border - Tornyiszentmiklós pipeline (0.7 km, DN500, PN75),
- Tornyiszentmiklós metering station;
- Tornyiszentmiklós - Nagykanizsa pipeline (40 km, DN600, PN75);
- Nagykanizsa gas engine driven compressor station (2 x 1.2 MW). For H2 transmission, new compressor units will have to be installed.

2. option:
- SI/HU border - Tornyiszentmiklós pipeline (0.7 km, DN500, PN63),
- Tornyiszentmiklós metering station,
- Tornyiszentmiklós - Nagykanizsa pipeline (40 km, DN300, PN63),
- Nagykanizsa gas engine driven compressor station (2 x 1.5 MW). For H2 transmission, new compressor units will have to be installed.

PROJECT



3. option:
- SI/HU border - Tornyiszentmiklós pipeline (0.7 km, DN500, PN63),
- Tornyiszentmiklós metering station,
- Tornyiszentmiklós-Pusztaederics pipeline (34.5 km, DN300, PN63),
- Pusztaederics gas engine driven compressor station (2 x 1.5 MW).

New projects proposed for conditional implementation in the next 4-10 years V.

PROJECT DESCRIPTION

Connecting FGSZ's system to the European Hydrogen Backbone and getting prepared to meet the expected supply needs of domestic hydrogen producers and users

The hydrogen strategy foresees first the natural gas + hydrogen blend on the existing natural gas transmission system, followed by the emergence of pure hydrogen pipelines, through repurposing the existing pipelines and constructing new pipelines, subject to the evolution of domestic and transit (import/export) hydrogen consumption needs and the injection needs of hydrogen producers.

Project: investigating the repurposing of the following pipelines and the compressor stations

- HU/UA hydrogen corridor
- HU/SI hydrogen corridor
- HU/SK hydrogen corridor
- HU/RO hydrogen corridor

PROJECT

Developments considered but not recommended for implementation

PROJECT DESCRIPTION

Following the gas release on the Vác-Romhány DN 300 pipeline at the end of January 2025, the transmission system operator examined the existing dead-end pipelines on the natural gas transmission system and the gas transfer stations with a risk of gas supply outages. As a result, the need for the following pipelines was assessed, considering the need to increase security of supply, increase operational flexibility, carry out operational management and reduce emissions.

- Construction of Kőszeg-Lövő DN200, 25 km pipeline;
- Construction of Kaposvár – Pécs II DN300/DN400, 70 km pipeline;
- Construction of Tatabánya II-Zsámbék DN250, 23 km pipeline;
- Construction of Gyöngyös-Visonta DN200, 15 km pipeline;
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PROJECT