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TEN-YEAR GAS TRANSMISSION NETWORK DEVELOPMENT PLAN FOR THE 2026-2035 PERIOD



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Preface

This document concerns the development of the Slovenian transmission gas pipeline system in the next ten-year period, from 2026 to 2035.

In accordance with the requirements of the legislation, we have included in the submitted material all infrastructure that will be planned, renovated or built in the next decade, as well as the investments that are in progress and will be completed in the respective period.

We are actively monitoring the situation on the Slovenian gas market, assessing its development and thus the future consumption, while following the forecasts, in particular those made for national strategic documents in the past period. Moreover, we are closely monitoring the regional gas market, thus anticipating the flow of gas across the country and within the scope of EU.

One of the important development trend is supply with 100% green (renewable) hydrogen. By joining the European Hydrogen Backbone initiative, Plinovodi has ensured that Slovenia will make progress jointly and in coordination with other most developed European countries in the field of hydrogen transmission. We actively participate in the process to establish the European Network of Network Operators for Hydrogen (ENNOH). In 2025, our cooperation with networks users was upgraded by establishing the Slovenian Hydrogen Initiative for Users - SLOH2U.

In the next period, we are therefore faced with a complex challenge: to provide reliable and uninterrupted gas transmission for all the existing and new users, adapt the existing system to accept renewable gas (of domestic origin and from neighbouring countries), and at the same time design an upgrade of the current system to transfer renewable hydrogen and establish a hydrogen backbone. In 2024, two key documents were adopted to establish a single EU renewable gas and hydrogen market - a recast directive on the internal renewable gas, natural gas and hydrogen market and a relevant EU regulation.

Strategic guidance documents, namely the Resolution on the Slovenian climate long-term strategy 2050, and the Updated Comprehensive National Energy and Climate Plan of the Republic of Slovenia 2024 (NEPN 2024), adopted with its updated content in 2024, are key to plan the network in Slovenia. The Resolution aims for 2050 to reach net zero greenhouse gas emissions or climate neutrality. The National Energy and Climate Plan sets an indicative objective to have a 10% share of renewable hydrogen or methane in the gas network in 2030. The respective objectives were also fully in line with the guidelines of the European Green Deal. The gas network is gradually becoming a carrier of renewable energy.

Appropriate legislative and regulatory support for these policies is also extremely important for further development. Together with the Ministry of the Environment, Climate and Energy, Energy Agency and all other stakeholders, in particular the existing and prospective network users, Plinovodi endeavours to reach an appropriate arrangement.

We thank all of you who contributed to the creation of the new Ten-Year Development Plan, as well as all stakeholders in the market for your trust.

Matija Bitenc, MA,

Managing Director

Aleš Gruden

Member of Management



Abstract

The Slovenian gas transmission system is part of the energy infrastructure of national importance that runs through 93 Slovenian municipalities (of the total of 212) and is planned to be constructed in 20 municipalities. The primary energy usage trends up to 2030, compared to 2021, indicate the following: strong decrease of solid fuel consumption (coal) until 2030 (almost by 30%) and the departure from solid fuel until 2035, reduction of liquid fuel consumption by 17%, increase of RES use by over 50%, reduction of gas fuel consumption by 1%, and replacement of natural gas with renewable and low-carbon gas. In transformations, the production of electricity is increased by over 30%¹.

Regarding the purpose of the gas projects in relation to security updates, development of domestic gas market and harmonisation with international projects, the transmission system operator (TSO) breaks down the planned infrastructure into four groups. Group A consists of 32 projects to increase operational security and expansion of the transmission system, i.e., loops and adjustments to the pipeline system due to settlement and other circumstances. Group B comprises 44 connections. There are 17 projects in Group C intended to develop interconnection points with transmission systems of neighbouring countries, while Group D includes 10 projects to transmit hydrogen and RES gas.

¹ Updated Comprehensive National Energy and Climate Plan of the Republic of Slovenia (Number: 36000-7/2024/7; Date 18/ 12/ 2024), page 317

1 Introduction

As the TSO in the Republic of Slovenia, the Plinovodi company, in accordance with Article 6 and Article 42 of the Gas Supply Act(ZOP)², is obliged to adopt and submit for confirmation to the Energy Agency a 10-year network development plan every year after consulting the relevant stakeholders. The plan must be based on the existing and expected supply and demand and include efficient measures in order to guarantee the adequacy of the system and the security of supply.

The purpose of the Ten-Year Gas Transmission Network Development Plan for the 2026 - 2035 Period (hereinafter referred to as: the “Development Plan”) is to:

- Determine the main infrastructure for transmission that is to be built and upgraded over the next years for market participants,
- Contain all the investments that have already been decided and identify new investments that have to be carried out within the next three years, and
- Provide a time frame for all investment projects.

When preparing the development plan, the TSO has formed reasonable assumptions on the development of production, consumption within the domestic energy market and exchanges with other countries. It has taken into account the investment plans for regional networks and EU-wide networks, as well as investments for the gas storage facilities and liquefied natural gas (LNG) re-gasification facilities.

In drawing up the development plan, the TSO also followed the guidelines and content of the National Energy and Climate Plan of the Republic of Slovenia (NEPN³) for the gas transmission infrastructure.

1.1 Definitions

Unless the meaning of an expression is otherwise defined in an individual section of the development plan, the expressions and units of measure used have the same meaning as defined in the applicable legislation.

² Official Gazette of the RS, Nos. 204/21 and 121/22 - <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO8376>

³ https://www.energetika-portal.si/fileadmin/dokumenti/publikacije/nepn/dokumenti/nepn_5.0_final_feb-2020.pdf



2 Consultations

2.1 TSO's consultations with stakeholders

Between 17 April and 17 May 2025, the TSO published a proposal of the development plan on its website. Within the public consultation procedure, it invited all interested public representatives to present comments, suggestions, or additions to the proposal. During the public consultation process, which lasted for one month, it did not receive any response.

2.2 Activities of the Energy Agency in relation to network development

After consulting the TSO, the Energy Agency will carry out an open and transparent consultation procedure with all actual and potential network users.

2.3 Legislative updates

Plinovodi d.o.o. carries out the activity of the gas transmission system operator which constitutes a compulsory public utility service. The legal framework of the gas transmission system operator's activity are acts of European Union law (EU), national laws (the umbrella laws being the Gas Supply Act (ZOP) and the Energy Act (EZ-2)), by-laws and Acts of the Energy Agency and the Transmission System Operator.

Objectives of new legislative features in the field of gas supply comprise further provision of reliable gas supply in the region, which has faced several challenges due to geopolitical and price situation in the region, and the challenges of decarbonisation and green transition.

Responding to the issues and disruptions on the global energy market, on 18 May 2022, the European Commission presented a REPowerEU plan aiming at diversifying energy supply (alternative energy supply options to eliminate EU dependence on Russian fossil fuels), saving energy, accelerating green transition and associated incentives for large investments in renewable energy sources. As part of accelerating the introduction of renewable energy sources, the EU established the goal to reach 10 million tonnes of hydrogen produced from renewable energy sources and 10 million tonnes of imported hydrogen by 2030. The REPowerEU plan constitutes strengthening of long-term measures for energy efficiency as part of the legislative package "Fit for 55" to implement the goal of the European Green Deal, by which Europe would become climate neutral by 2050. In line with the set time-line, the European Commission draws up and proposes the adoption of legislative documents that present bases and measures to achieve the plan from REPowerEU.

With the further purpose to accelerate green and fair energy transition for sustainable, reliable and affordable energy, the EU adopted the following acts in 2024:

- Regulation (EU) 2024/1787 of the European Parliament and of the Council of 13 June 2024 on the reduction of methane emissions in the energy sector and amending the Regulation (EU) 2019/942.,
- Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets in renewable and natural gases and in hydrogen, amending the Directive (EU) 2023/1791 and repealing Directive 2009/73/EC (recasting),
- Regulation (EU) 2024/1789 of the European Parliament and of the Council of 13 June 2024 on the internal market for gas from renewable energy sources, natural gas and hydrogen, amending regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision (EU) 2017/684 and repealing Regulation (EC) No 715/2009 (recasting),

- Regulation (EU) 2024/1106 of the European Parliament and of the Council of 11 April 2024 amending Regulations (EU) No. 1227/2011 and (EU) 2019/942 as regards improving the Union's protection against market manipulation on the wholesale energy market,
- Council Recommendation of 25 March 2024 on coordinated demand reduction measures for gas.

Amended European legislation in the field of decarbonisation of the gas sector and establishing the hydrogen market will require the national legal system to be harmonised with the European acquis.

Also, the adjustment of Plinovodi d.o.o. operation is imposed by the recast Energy Act (EZ-2), which entered into force as at 8 May 2024 and gives priority to renewable energy sources and contributes to achieving the objectives of the European Green Deal.

Plinovodi d.o.o. actively participates in procedures to adopt the amended European and national legislation and adjusts its operation to the respective changes.

The legislative framework consists of the following:

Strategic and programme documents

- Updated Comprehensive National Energy and Climate Plan of the Republic of Slovenia,
- Resolution on the Slovenian climate long-term strategy 2050,
- Resolution on the National Energy Programme.

European Union Law

- Regulation (EU) 2024/1787 of the European Parliament and of the Council of 13 June 2024 on the reduction of methane emissions in the energy sector and amending the Regulation (EU) 2019/942,
- Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets in renewable and natural gases and in hydrogen, amending the Directive (EU) 2023/1791 and repealing Directive 2009/73/EC (recasting),
- Regulation (EU) 2024/1789 of the European Parliament and of the Council of 13 June 2024 on the internal market for gas from renewable energy sources, natural gas and hydrogen, amending regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision (EU) 2017/684 and repealing Regulation (EC) No 715/2009 (recasting),
- Regulation (EU) 2024/1106 of the European Parliament and of the Council of 11 April 2024 amending Regulations (EU) No. 1227/2011 and (EU) 2019/942 as regards improving the Union's protection against market manipulation on the wholesale energy market,
- Council Recommendation of 25 March 2024 on coordinated demand reduction measures for gas,
- Council Regulation (EU) 2022/2578 of 22 December 2022 establishing a market correction mechanism to protect Union citizens and the economy against excessively high prices,
- COUNCIL REGULATION (EU) 2022/2576 of 19 December 2022 enhancing solidarity through better coordination of gas purchases, reliable price benchmarks and exchanges of gas across borders,
- Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022 amending Regulations (EU) 2017/1938 and (EC) No. 715/2009 with regard to gas storage,
- Corrigendum to Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022 amending Regulations (EU) 2017/1938 and (EC) No. 715/2009 with regard to gas storage,
- Regulation (EU) of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure, amending Regulations (EC) No. 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No. 347/2013,



- Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending the Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities,
- Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard security of gas supply and repealing the Regulation (EU) 994/2010,
- The Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems and repealing Regulation (EU) No 984/2013,
- Commission Regulation (EU) No 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas,
- Commission Regulation (EU) No 2015/703 of 30 April 2015 establishing a network code on interoperability and data exchange rules,
- Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks,
- Commission Decision of 24 August 2012 amending Annex I to Regulation (EC) No 715/2009 of the European Parliament and of the Council on conditions for access to the natural gas transmission networks,
- Regulation (EC) No 1227/2011) of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency,
- Commission Decision of 10 November 2010 amending Chapter 3 of Annex I to Regulation (EC) No 715/2009 of the European Parliament and of the Council on conditions for access to the natural gas transmission networks,
- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005.

Acts

- Gas Supply Act (ZOP),
- Energy Act (EZ-2),
- Act on Measures for Management of Crisis Conditions in the Field of Energy Supply.

By-laws

- Decree on the operation of the natural gas market,
- Decree on the concession of a gas TSO service of general economic interest,
- Decree on the method of provision of a gas TSO service of general economic interest,
- Energy Infrastructure Regulation,
- Rules on specifications for the construction, operation and maintenance of pipelines of operating pressure up to and including 16 bar,
- Rules on specifications for the construction, operation and maintenance of pipelines of operating pressure over 16 bar and on conditions for spatial intervention in their protected zones.

Acts of the Energy Agency and system operator

- Legal Act on the mandatory content of the network code for the natural gas distribution system,
- System operating instructions for the natural gas transmission system,
- Legal Act on the methodology for drawing up development plans of the gas transmission system,
- Legal Act on the methodology for the preparation and assessment of the investment plan of the gas transmission system operator,

- Legal Act on the methodology for determining the regulatory framework of the gas system operator,
- Legal Act determining tariff rates for network charges for the natural gas transmission system,
- Legal Act on the methodology for determining network charges for the natural gas transmission system - Act amending the Legal Act on the methodology for determining network charges for the natural gas transmission system (Official Gazette of the Republic of Slovenia, No. 103/23), applicable as from 01/ 01 2024,
- Legal Act on the method for the submission of data and documents by providers of energy sector activities,
- Legal Act on the rules for monitoring the quality of natural gas supply,
- Rules on terms and conditions for capacity allocation mechanisms at interconnection points of the transmission system through auction, congestion management procedure and capacity trading on the secondary market,
- Rules on the procedure for the allocation of capacity on the transmission system for the entry and exit points in the Republic of Slovenia,
- Order on the emergency plan for gas supply,
- Order on the preventive measures plan for gas supply,
- Legal Act on the methodology for the calculating compensation in the event of involuntary reduction or interruption of gas consumption,
- Legal Act on the methodology for the calculating price in the event of involuntary reduction or interruption of gas consumption.



3 Supply and demand for transmission capacity of Slovenian gas transmission system and gas supply

3.1 Current situation of the gas transmission system

The geographical position of Slovenia is relatively favourable in relation to the flow of gas in Europe due to its close proximity to the trading hub in Austria, which is connected to transmission routes from North-Western Europe (from Norway through Germany to Austria) and North-Eastern Europe (from Russia through Ukraine, Slovakia and Austria towards Italy and Croatia) and its border with Italy, where the transmission routes from the Mediterranean basin and Northern Europe converge. The Slovenian system is in the vicinity of the existing and newly planned LNG terminals (LNG – liquefied natural gas) in the Adriatic Sea, and the storage of gas in the neighbouring systems.

The Slovenian gas transmission system comprises 1,195km of pipelines, two compressor stations in Kidričevo and Ajdovščina, and 258 metering and regulation stations and 298 other consumption points. The gas transmission system connects most of the industrial and urban centres in Slovenia, with the exception of the Obalno-kraška region, Bela Krajina, and a part of Inner and Lower Carniola.

At key points, the gas transmission system is equipped with devices through which the system can be controlled and maintained. The remote control and monitoring functions are performed by means of an information and telemetry system. The gas transmission system is controlled and operated from the dispatch centre that is connected to the dispatch centres of transmission system operators of neighbouring countries as well as to distribution network operators and major consumers of gas.

Table 1. Main infrastructure - gas transmission pipelines by pipeline diameter and other facilities and equipment

Infrastructure		Status as of 01/ 01/ 2025
Gas distribution network	Total	1,195km
	Pipelines with a diameter of 800mm	167km
	Pipelines with a diameter of 500mm	162km
	Pipelines with a diameter of 400mm	212km
	Other pipelines of smaller diameters	654km
Facilities and equipment	Compressor stations, total power	CS Kidričevo 10.5 MW, CS Ajdovščina 13.5 MW
	Cross-border stations	Ceršak, Rogatec, Šempeter pri Gorici
	No. metering and regulation stations or other stations	258
	No. of consumption points	298

Table 2. Gas transmission network - high and low pressure (as of 01/ 01/ 2025)

Pressure	Low pressure (<16 bar)	High pressure (>16bar)	Total
Horizontal length	206	989	1,195
Share (%)	17	83	100

A major part of the existing gas transmission network is older than 30 years.

Table 3. Gas transmission network - age structure (as of 01/ 01/ 2025)

	less than 10 years	between 10 and 20 years	between 20 and 30 years	more than 30 years
Horizontal length	48	207	30	910
Share (%)	4	17	3	76

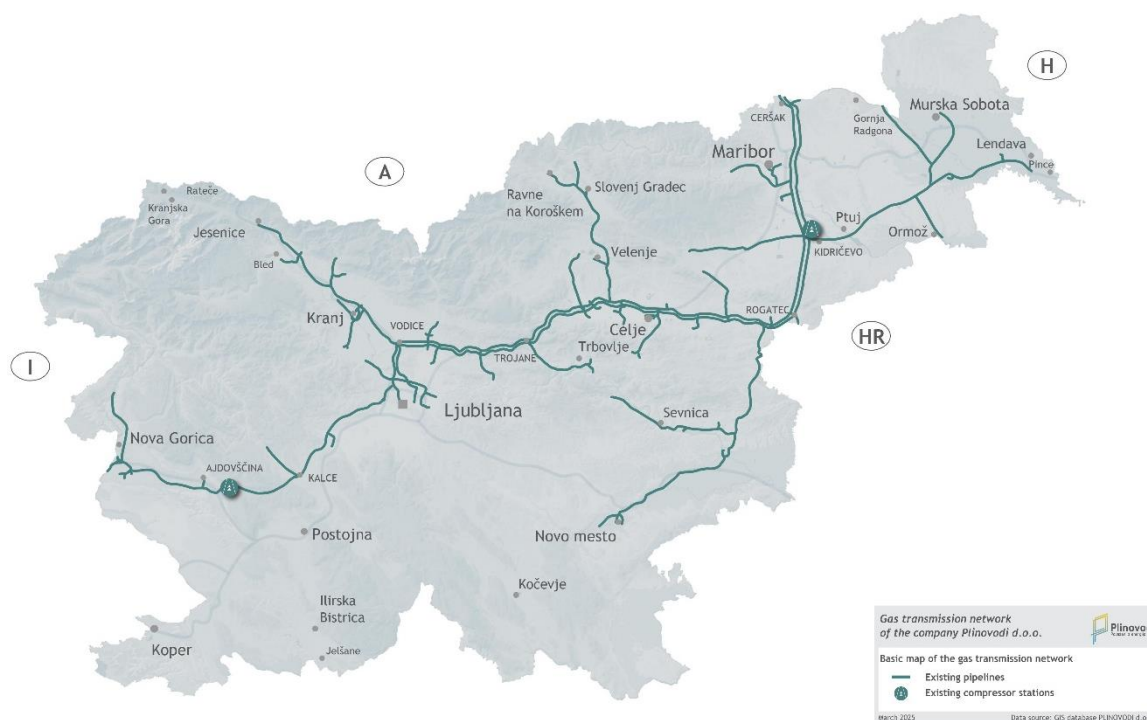


Figure 1. Gas transmission system

The Slovenian gas transmission system began its operations in 1978, and was since then gradually expanded and upgraded. In 2014, the last major investment cycle was completed with the construction of a pipeline from the Austrian border at Ceršak to Vodice near Ljubljana and was upgraded regularly in the next 10 years. In addition to providing additional necessary transmission capacity, the safety and reliability of the transmission system operation were improved.

With regular inspections and regular maintenance work, the Plinovodi company as a transmission system operator ensures safe and reliable operation of the transmission system. The status of transmission pipelines is regularly monitored by supervising pipeline routes, by performing internal inspections of gas pipes, by using various methods of external gas pipeline inspection, and by constantly monitoring the operational parameters via the central control system. Using the cathodic protection system, transmission pipelines are protected against the development of corrosion damage. Based on preventive inspections and maintenance activities, the Plinovodi company estimates that the gas infrastructure is in very good operating condition.

3.2 Domestic market

3.2.1 Supply of gas to Slovenia and access to gas sources

Due to the lack of own sources, the supply of gas to the Slovenian market depends entirely on imports. From Austria, gas flows via the Ceršak entry point, and from Italy, via the Šempeter entry point, and



from Croatia at the Rogatec entry point. Gas, located in the trading hubs of the European market and transmitted to us, is of the European, North African, and Russian origin; since early 2021, due to the construction of the LNG Croatia terminal on the island of Krk, it may also be provided from any of global LNG producers.

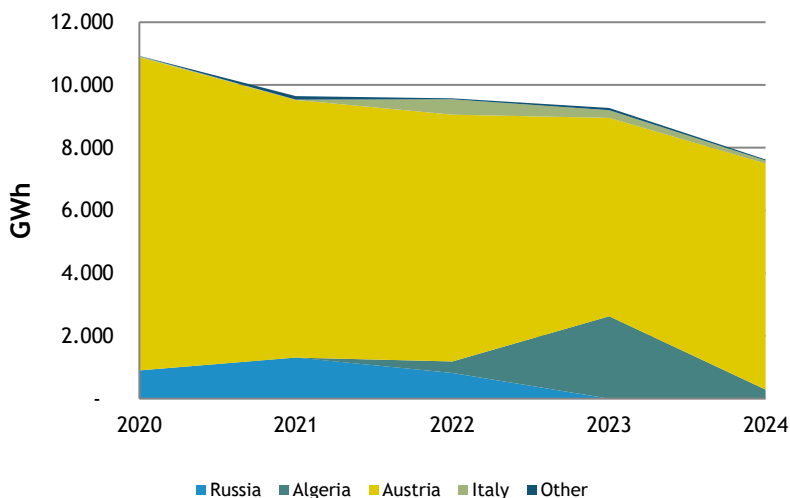


Figure 2. Sources of gas supply to Slovenia

Data source:
Energy Agency

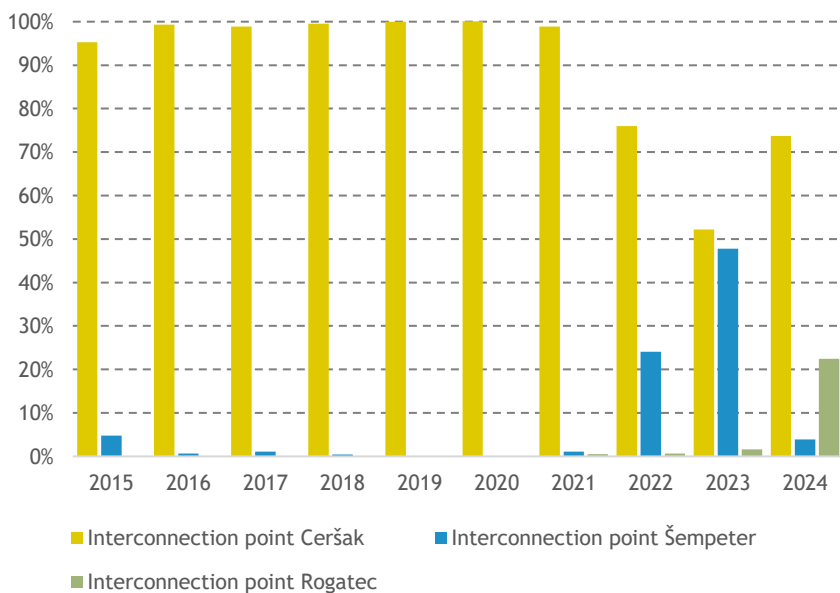


Figure 3. Gas import routes to Slovenia

The TSO can provide supply to all consumers in Slovenia, namely through interconnection points Ceršak, Šempeter and Rogatec, regardless of their location. In previous years, the major gas supply in Slovenia was provided through the Ceršak point. In 2022, and in particular in 2023, the increase in the share of gas supply from Šempeter point is evident, resulting in the proportional decrease in the share of gas transmission via the Ceršak point. In 2024, the supply reduced significantly through the Šempeter cross-border point, while the supply via the Ceršak cross-border point increased, and in particular through the Rogatec cross-border point. Through the three aforementioned interconnection points, the TSO enables the suppliers to provide competitive supply to all consumers where the supply is not limited with the interconnection point.

3.2.2 Comprehensive National Energy and Climate Plan of the Republic of Slovenia

In accordance with the Regulation (EU) 2018/1999⁴, Slovenia adopted the Updated National Energy and Climate Plan (NEPN) on 18 December 2024. The Updated NEPN replaces the initial NEPN adopted on 27 February 2020.

The Updated NEPN specifies more ambitious objectives compared to the initial NEPN. The share of renewable energy sources (RES) is increased in the final energy consumption for 2030, raised from 27% to 33%, while also objective to reduce greenhouse gas emissions (GHG) is increased from 20% to 28% until 2030 compared to 2005. These provisions will also be reflected in the future role of gas. To achieve RES targets in the electricity and heating and cooling sectors, as well as GHG emission reduction targets, the indicative target of 10% of renewable and low-carbon gas provided in the initial NEPN is maintained in the gas supply until 2030. Energy balance sheets in the Updated NEPN show the need of 1.01TWh of renewable and low-carbon gas in the primary energy consumption in 2030. The foreseen quantity is ambitiously increased over the years, whereby a gradual replacement of gas with renewable and low-carbon gas is anticipated. The Updated NEPN recognises two scenarios of development that also have impact on the gas sector. The scenario with additional measures, nuclear (DU-JE) foresees construction of new nuclear power plant, which would start its operation after 2040, while the scenario with additional measures including a prevailing use of RES (DU-OVE) anticipates distributed generation of electricity from RES as an alternative to a new nuclear power plant. The differences between the scenarios are shown already after 2030, and additional increase over time.

In the electricity sector, it is planned to increase the share of RES from 43% to at least 55% and at least 75% of the supply of electricity from sources in Slovenia, while maintaining at least the existing level of the security of supply. In order to achieve these objectives, it will be necessary to build additional generation capacity for the production of electricity from solar energy. Due to the fact that solar energy is a volatile energy source whose availability profile does not follow market needs, it will be difficult to ensure the stability of the electricity system with the additional capacity of solar power plants (SPP). The NEPN envisages solving such problems by using the gas system as an energy storage and storing surplus electricity in the form of renewable and low-carbon gas.

The ambitious targets to phase out coal use are kept. A cessation of operation of coal production units is also foreseen until 2033 at the latest. Slovenia thus loses its major electricity generation unit, and as a consequence the Updated NEPN recognises the need of additional 500MW of strategic reserves. In this regard, the gas power plants are recognised as an optimum solution as they meet all requirements, such as the ability to adjust - flexibility, and the high availability and reliability of operation. The shut-down of coal production units will be compensated also with the increase of RES share, which opens new possibilities to produce renewable and low-carbon gas, in particular hydrogen, from the RES electricity surpluses. The Updated NEPN version also increases the target regarding the share of electricity and power from domestic production sources. At least 85% energy supply from domestic production units is anticipated by 2030, and at least 80% of power required in peaks need to be provided from the domestic production capacities, also after the envisaged cessation of the coal use by 2030; thus additionally justifies the need of additional strategic gas capacities.

The Plinovodi company is prepared for an active role in designing the transmission system to include renewable gases, hydrogen and synthetic methane and analysing the potential locations in the transmission gas system to connect the electricity and gas sectors as well as pilot and large commercial

⁴ REGULATION (EU) 2018/1999 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/ES, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652, and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council

production installations. Appropriate legislative and regulatory support for these policies is extremely important for further development of the supply of renewable gases.

3.2.2.1 Tracking and compliance of the development plan with strategic documents

In all scenarios until the year 2050, which were prepared for the above-mentioned documents and also publicly discussed, the Ministry of Infrastructure (now the Ministry of the Environment, Climate and Energy) took into account the use of gas and biogas. The role of gas in the scenarios under consideration is important, and is particularly important in the production of electricity when its production decreases due to a reduction in the use of domestic coal, also in combination with the nuclear option.

Diverse scenarios for the use of gases are currently difficult to define; to a large extent, the use of energy gases will depend on the development of technologies. All indications show that the Slovenian gas transmission system will get a new role also due to the role of other energy gases, including hydrogen. This is a new development phase of the transmission system, which must follow the preparations under way in the neighbouring transmission systems connected to Slovenia.

Gas enters the transmission system at entry points and leaves it at exit points. Relevant entry and exit points are cross-border interconnection points and a point for aggregate information on the combined exit / transmission for users in the Republic of Slovenia. The so-called relevant points are approved by the Energy Agency and are shown in Figure 4. The TSO publishes on the website publicly available data on capacities, transmitted quantities, calorific value of gas, etc. for all six relevant points shown in the figure below.

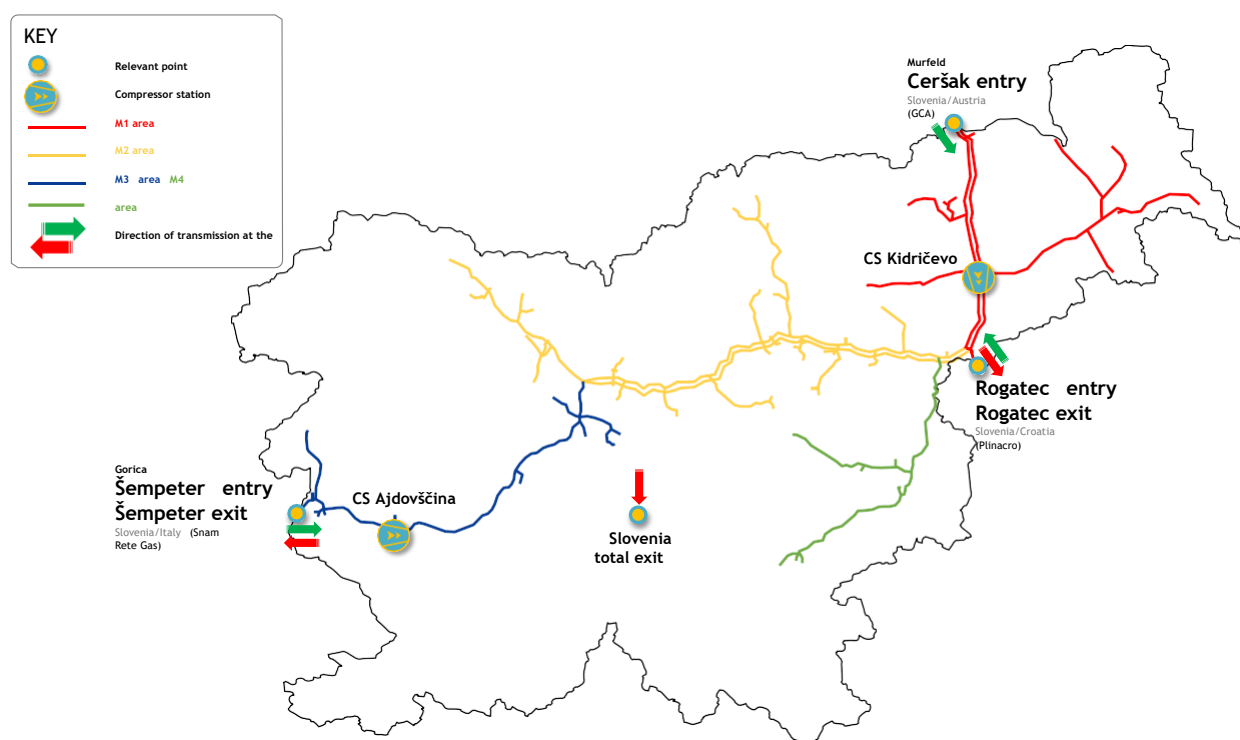


Figure 4. Schematic map of the gas transmission system with relevant points

Table 4 shows data on the capacity of the relevant points as of 01/01/2025, the total contractually booked capacity (available and interruptible capacities) and the usage of technical capacity for different periods.

Table 4. Capacity of the gas transmission system on relevant points⁵

Relevant point	Technical capacity	Total contractually booked capacity	Maximum daily utilisation of technical capacity	Average monthly utilisation of technical capacity	Maximum monthly utilisation of technical capacity
	GWh/day	GWh/day	%	%	%
Ceršak - entry	141.378	39.070	33.5 (12/ 12/2024)	13.8 (year 2024)	21.5 (Feb. 2024)
Rogatec - entry	7.745	8.734	100 (08/ 07/ 2024)	76.4 (year 2024)	95.1 (Dec 2024)
Rogatec - exit	69.693	0.960	1.5 (19/ 06/ 2024)	0 (year 2024)	0.1 (May 2024)
Šempeter - entry	39.234	2.173	35.6 (14/ 01/ 2024)	2.6 (year 2024)	23.3 (Mar 2024)
Šempeter - exit	26.072	0.000	48 (23/ 04/ 2024)	2.1 (year 2024)	10.3 (Jun. 2024)
Exit in RS	92.125	57.466	56.3 (12/ On 12. 2024)	27.9 (year 2024)	41.7 (Feb 2024)

In accordance with the requirements for ensuring the secure supply of gas, the TSO is obliged to develop the transmission system to ensure additional capacities in the domestic gas market and cross-border transmission capacity. Monitoring the demand and dynamics of transmission capacity booking at individual relevant points is the basis for the optimal development of the transmission system.

In accordance with the Regulation (EC) 2024/1789⁶, the TSO allows the use of transmission capacity to network users separately at all entry and exit points of the system (according to the so-called Entry-Exit System). To ensure successful operation of the entry-exit points system, the TSO must provide appropriate technical conditions such as the elimination of bottlenecks on the transmission system in order to enable suitable marketing and booking of capacity under this method and to allow the booking of capacity at entry and exit points in various combinations.

3.2.3 Infrastructure standard and compliance with the requirements of regulations concerning the security of gas supply

The Regulation 2017/1938⁷ addresses the infrastructure criterion N-1 stipulating for the considered geographic area that in the event of interruption on an individual largest gas infrastructure there must be sufficient technical capacity available to meet the entire daily demand for gas, even in cases of exceptionally high demand (peak consumption).

In the respective Regulation, the European Commission has taken into account that the circumstances in Slovenia and in some EU Member States are rather specific compared to other Member States. Slovenia has no gas storage facilities nor liquefied natural gas (LNG) plants and in addition to that, the Slovenian transmission system is connected to foreign transmission systems in only three handover points. For these reasons, Slovenia (along with Luxembourg and Sweden) is an exception and therefore not obliged to meet the criterion N-1. This exception applies as long as Slovenia maintains at least two interconnectors

⁵ The capacity data refer to 01/ 01/ 2025, while the technical capacity utilisation data refer to the year 2024.

⁶ REGULATION (EU) 2024/1789 of the European Parliament and of the Council of 13 June 2024 on the internal market for gas from renewable energy sources, natural gas and hydrogen, amending regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision (EU) 2017/684 and repealing Regulation (EC) No 715/2009

⁷ REGULATION (EU) 2017/1938 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2017 concerning measures to safeguard security of gas supply and repealing the Regulation (EU) 994/2010.



with other Member States, at least two different gas supply sources and no gas storage facilities nor liquefied natural gas plants.

An analysis of the infrastructure standard has been prepared for the Ten-Year Development Plan 2026 - 2035, where the updated information on the development of transmission capacity at cross-border interconnection points was taken into account as a result of changes in characteristics (technical, developmental) of the gas infrastructure projects in the region and changed gas transmission routes due to the crisis in Ukraine. Due to the development of transmission capacities at the cross-border interconnection points, there is an increase in the infrastructure standard in the years from 2026 to 2029.

When calculating the infrastructure standard, only the firm transmission capacities were taken into account as technical capacities of cross-border interconnection points, without taking into account the possible specific measures of the transmission system operator to provide additional interruptible transmission capacity in the event that supply security is threatened. The technical capacities of the respective cross-border interconnection points are defined on the basis of flow-pressure calculations of the transmission system, taking into account the technical capacities of all the transmission system components included in the transmission (gas pipelines, metering and regulation stations, and the two compressor stations), as well as the operational characteristics and operational boundary conditions of the transmission system as a whole.

Given the changed geopolitical situation at eastern supply corridors since February 2022 and EU measures aiming at reducing the exposure to eastern supply sources, the TSO prioritises the plan to increase transmission capacity at the cross-border point with the Italian transmission system, which is reflected also through the improvement of the N-1 infrastructure criterion. As evident from the Graph in Figure 5, in 2026, the infrastructure standard starts to increase from the range of 74% to the range of 130%; in this way the TSO will provide for the fulfilment of requirements laid down in the infrastructure standard.

The TSO assesses that, in the long-term, it could further provide for the fulfilment of requirements laid down in the infrastructure standard with the development of cross-border interconnections, and the reinforce the respective standard in 2028 and 2029 by executing the additional capacities at the cross-border entry points. After the fulfilment of the infrastructure criterion N-1, the TSO will be able to ensure the suppliers full transmission of supply intended for consumption in Slovenia at other entry interconnection points with the neighbouring transmission systems in the event of a physical interruption of the transmission from any of the supply directions, regardless of the system load or the duration of the interruption.

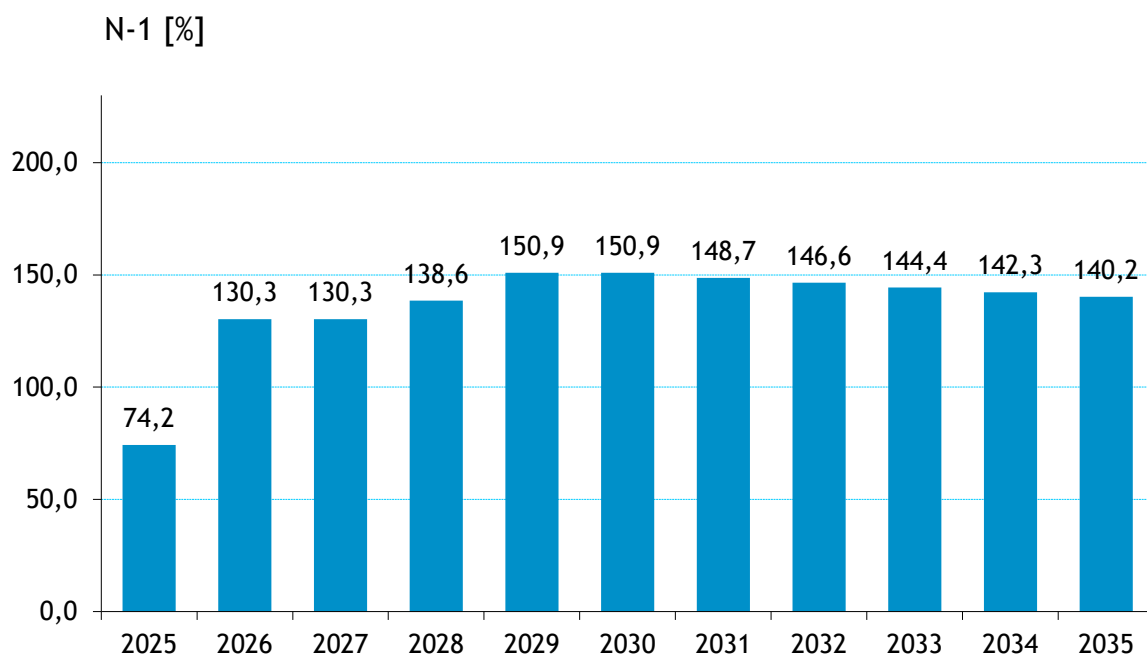


Figure 5. Estimation of infrastructure criterion N-1 development for the Slovenian transmission system (%)

As the TSO, the Plinovodi company will be able to manage the requirements of the infrastructure criterion N-1 in the long term by:

- i. Prioritising the increase in transmission capacity at the cross-border point between the Italian and Slovenian transmission system in 2026 as a response to the changed geopolitical situation at the eastern supply routes, this providing uninterrupted gas supply to Slovenian users via western supply routes;
- ii. An additional connection of the Slovenian transmission system with neighbouring system, which could be realised within the scope of the project of the new connection with Hungary or the project to increase capacity in the transmission direction from Croatia to Slovenia.

The estimations of value increments of infrastructure criterion N-1, inter alia, also depend on the estimated growth of the peak load of the system, which has taken into account the baseline peak load of the Slovenian transmission system, established on the basis of peak consumption data in Slovenia. For coming years, the Graph in Figure 5 takes into account the gas consumption in Slovenia in relation to the NEPN projection for gas supply through cross-border supply points for consumers in Slovenia. Given the limited projections, the Graph takes into account the baseline peak consumption of Slovenian consumers until 2030, and then the increase of peak consumption until 2035 is reasonably taken into account upon a yearly increase of gas consumption.

3.2.4 Supply and demand for transmission capacity - territorial coverage

On 01/01/2025, the TSO concluded transmission contracts with 153 network users, of which 12 are DSOs, 129 industrial or commercial customers, of which there are 5 system users having the status of a closed distribution system, two power plants and 12 domestic or foreign gas suppliers without the booking capacity at the final exit point in the Republic of Slovenia.

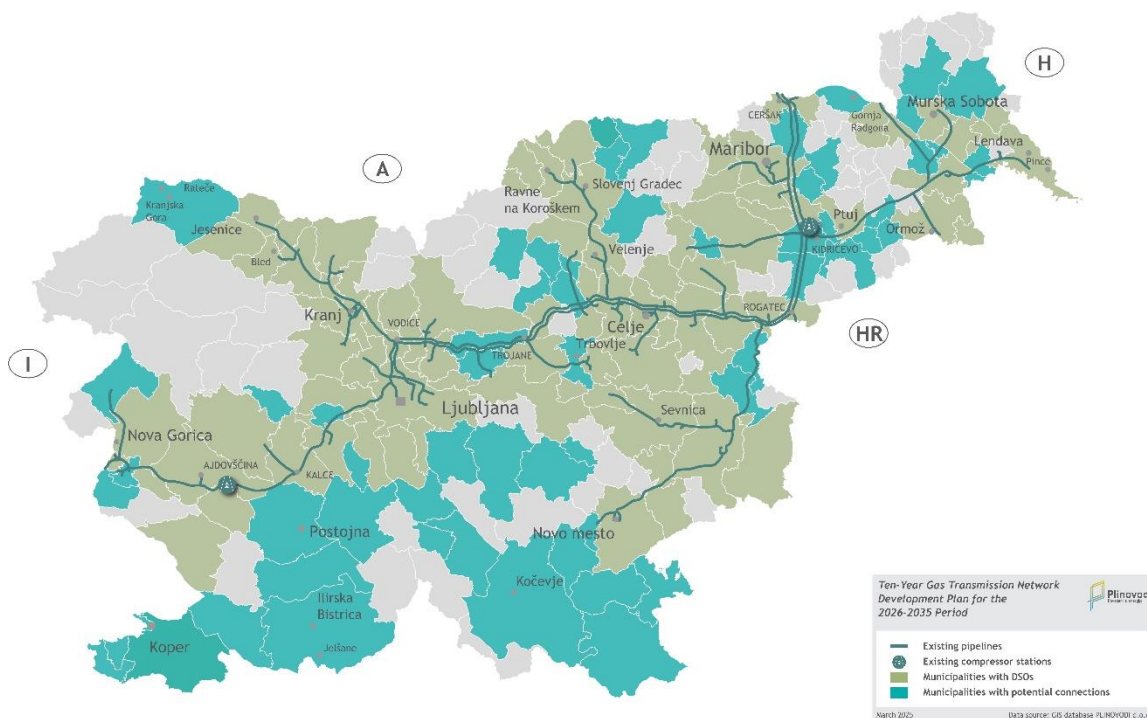


Figure 6. Regional availability of the gas transmission network

In 2024, gas supply via gas distribution systems (DS) was provided in 87⁸ municipalities in the Republic of Slovenia (the municipalities connected most recently are the Municipality of Črenšovci in 2022 and the Municipality of Vrnsko in 2023). A gas network is implemented in the respective municipalities with a possibility to connect to DSO. There are two DSOs in the Municipality of Šenčur, which is divided into 4 areas.

Table 5 shows individual statistical regions in the Republic of Slovenia with the number of municipalities provided with the gas supply through DSO and having a DS constructed (87). Potentially connectible municipalities are classified in Table 5 according to the possibility of connection by using the existing MRSs (11 municipalities) and the existing gas transmission pipeline (16 municipalities), since it is already present in the respective municipality. The Table 5 also shows municipalities where the planned transmission infrastructure runs through (16 municipalities) and also the municipalities where a shorter (31 municipalities) and longer (51 municipalities) connecting pipeline would have to be built. The analysis shows that 74 municipalities have a relatively simple connection of DSO to the gas transmission system, while longer pipelines would have to be constructed for other 51 municipalities.

⁸ <https://www.zemeljski-plin.si/zemeljski-plin/priklop-plina>

Table 5. Regional availability of the gas transmission network and local communities with potential connections

Statistical region ⁹	Municipalities with DSO and DS	Local communities with potential connections and infrastructure required					
		Use of the existing MRS	New constructions: Use of existing pipeline and construction of new MRS	New constructions: Construction of the system pipeline, connection pipeline and MRS	New constructions: Construction of short connection pipeline and MRS	New constructions: Construction of long connection pipeline or system pipeline and MRS	
1	Pomurska (27 municipalities)	Beltinci, Gornja Radgona, Lendava, Ljutomer, CM Murska Sobota, Odranci, Radenci, Turnišče, Dobrovnik, Črenšovci (10)	Velika Polana, Križevci (2)	Razkrižje, Veržej (2)		Apače, Moravske Toplice, Puconci, Tišina, Sveti Jurij ob Ščavnici (5)	Cankova, Gornji Petrovci, Grad, Hodoš, Kobilje, Kuzma, Rogašovci, Šalovci (8)
2	Koroška (12 municipalities)	Dravograd, Mežica, Muta, Prevalje, Ravne na Koroškem, Črna na Koroškem, CM Slovenj Gradec (7)			Mislinja (1)	Ribnica na Pohorju, Vuzenica, Radlje ob Dravi, Podvelka (4)	
3	Podravska (41 municipalities)	Hoče - Slivnica, CM Maribor, Miklavž na Dravskem polju, Ormož, CM Ptuj, Rače - Fram, Ruše, Slovenska Bistrica, Središče ob Dravi, Šentilj (10)	Starše*, Kidričevo (2)	Oplotnica, Pesnica, Sveti Tomaž, Majšperk, Hajdina, Jurišinci, Dornava (7)		Gorišnica, Markovci, Duplek, Videm, Selnica ob Dravi*, Lenart, Destrnik, Kungota, Makole, Poljčane, Sveti Jurij, Žetale (12)	Benedikt, Cerkevjak, Cirkulane, Lovrenc na Pohorju, Podlehnik, Sveta Ana, Sveta Trojica, Sveti Andraž, Trnovska vas, Zavrč (10)
4	Savinjska (31 municipalities)	CM Celje, Laško, Polzela, Prebold, Rogaška Slatina, Rogatec, Slovenske Konjice, Šentjur, Šmarje pri Jelšah, Štore, Šoštanj, CM Velenje, Vojnik, Vranksko*, Zreče, Žalec (16)	Šmartno ob Paki (1)	Braslovče, Kozje, Tabor, Podčetrtek (4)		Nazarje, Mozirje, Dobrna, Vitanje (4)	Dobje, Gornji Grad, Rečica ob Savinji, Ljubno, Luče, Solčava (6)
5	Zasavska (4 municipalities)	Hrastnik, Zagorje ob Savi, Litija (3)	Trbovlje (1)				
6	Posavska (6 municipalities)	Brežice, Krško, Sevnica, Radeče (4)				Bistrica ob Sotli, Kostanjevica na Krki (2)	
7	Osrednje-slovenska (25 municipalities)	Brezovica, Dobrova - Polhov Gradec, Dol pri Ljubljani, Domžale, Ig, Kamnik, Komenda, CM Ljubljana, Litija, Logatec, Log - Dragomer, Medvode, Mengeš, Škofljica,	Moravče (1)	Lukovica, Horjul (2)	M5: Ivančna Gorica (1)	Borovnica (1)	Šmartno pri Litiji, Velike Lašče, Dobrepolje (3)

⁹ <https://www.stat.si/obcine/sl>



		Grosuplje, Trzin, Vodice, Vrhnika (17)					
8	Primorsko-notranjska (6 municipalities)				M8: Postojna, Ilirska Bistrica, Pivka (3)		Cerknica, Bloke, Loška dolina (3)
9	Gorenjska (18 municipalities)	Bled, Cerklje na Gorenjskem, Jesenice, CM Kranj, Naklo, Gorje, Radovljica, Šenčur, Škofja Loka, Tržič, Žirovnica (11)				Kranjska Gora, Bohinj, Preddvor (3)	Žiri, Jezersko, Železniki, Gorenja vas - Poljane (4)
10	Goriška (13 municipalities)	Ajdovščina, Nova Gorica, Šempeter - Vrtojba, Vipava, Idrija (5)	Miren - Kostanjevica, Renče - Vogrsko, Kanal (3)			Brda (1)	Tolmin, Kobarid, Bovec, Cerkno (4)
11	Obalno-kraška (8 municipalities)	Sežana** (1)			M6: Hrpelje-Kozina, CM Koper*, Izola, Piran, Ankaran, Divača (6)	Komen (1)	
12	South-Eastern Slovenia (21 municipalities)	CM Novo mesto, Šentjernej, Škocjan (3)	Straža (1)	Šmarješke Toplice (1)	M5: Trebnje, Mirna Peč, Mirna R45: Metlika, Semič, Črnomelj (6)	Dolenjske Toplice (1)	Mokronog - Trebelno, Šentrupert, Žužemberk, Kočevje, Ribnica, Osilnica, Sodražica, Loški potok, Kostel (9)
	212	87	11	16	16	31	51

* The municipality already has a chosen DSO (Starše, Selnica ob Dravi, CM Koper).

** The DSO is currently connected to the system in the neighbouring country.

3.2.5 Comparison of the role of gas in Slovenia and Europe

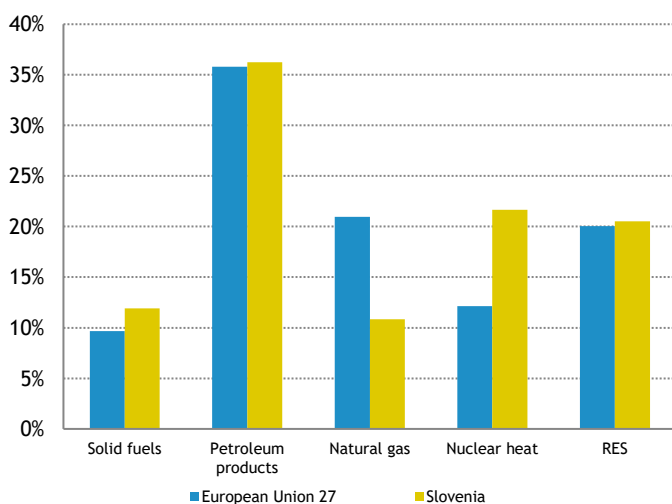
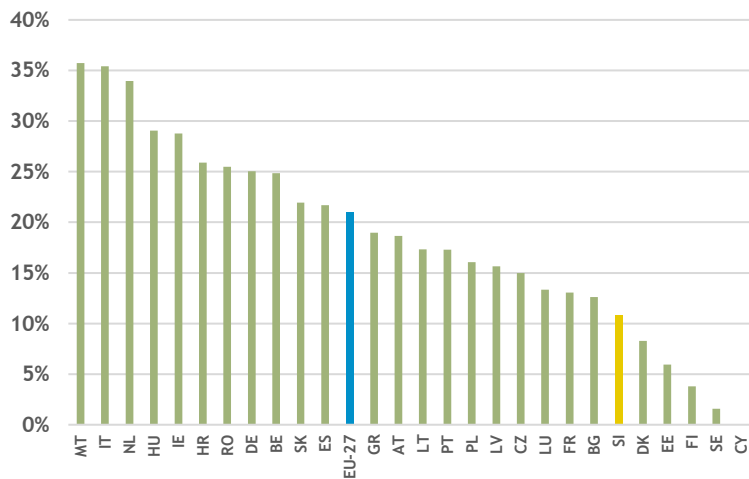


Figure 7. Primary energy in EU-27 and Slovenia

On the basis of the data for the year 2023, the Slovenian energy market differs from the EU-27 average in two out of five elements, namely: gas and nuclear heat. The share of gas in primary energy in the EU-27 countries is 2-times higher than in Slovenia, while the share of nuclear heat is much higher in Slovenia.

Data source: Eurostat, »Energy balance sheets«¹⁰

¹⁰ https://ec.europa.eu/eurostat/databrowser/view/NRG_BAL_S_custom_5057838/default/table?lang=en



In the primary energy consumption structure in Slovenia, gas represented a 11% share in 2023. The average of EU Member States was 21%.

Data source: Eurostat, »Energy balance sheets«

Figure 8. The share of gas in primary energy in EU countries

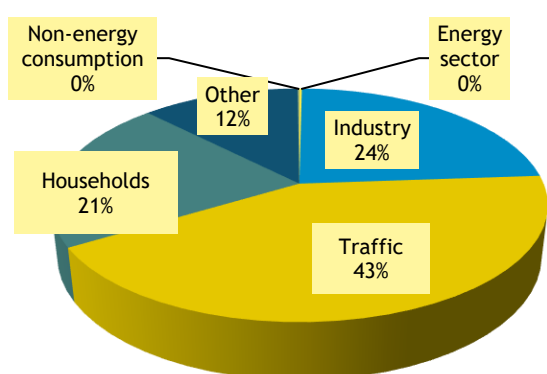


Figure 9. Energy consumption by sector (2023) in Slovenia (Data source: MzOPE-DE¹¹, data for the Energy Balance Sheet of the Republic of Slovenia 2023)

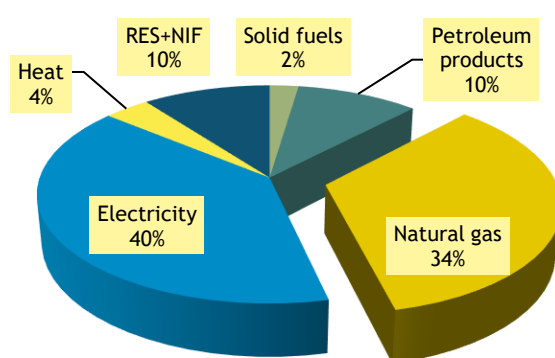


Figure 10. Energy sources in industry (2023) in Slovenia (Data source: MzOPE-DE, data for the Energy Balance Sheet of the Republic of Slovenia 2023)

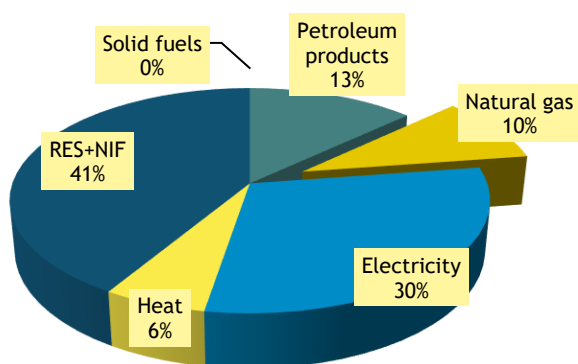


Figure 11. Energy sources in households (2023) in Slovenia (Data source: MzOPE-DE, data for the Energy Balance Sheet of the Republic of Slovenia 2023)

¹¹ Ministry of the Environment, Climate and Energy, Energy Directorate



In 2023, the largest share of energy consumption was in traffic. Industry and households represent an important segment of energy consumption, as well. These three sectors have consumed as much as 88% of all energy, with the remaining 12% in other consumption, non-energy consumption and the energy sector. In the year 2023, gas accounted for 34% of consumption in the Slovenian industry, which is 3 percentage points less than in 2022. One of the most suitable uses for gas lies in households, because it is easy to use, safe, as well as the most environmentally friendly and competitive.

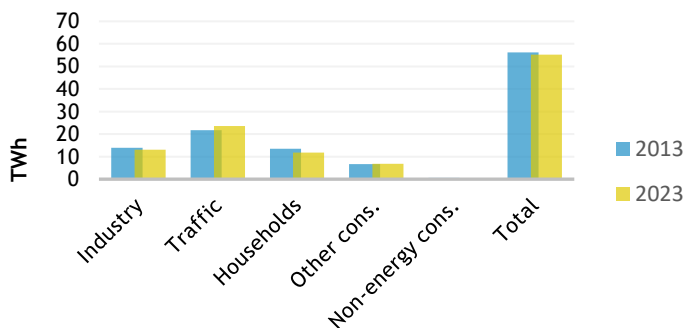


Figure 12. Comparison of energy consumption in 2013 and 2023

According to the energy balance sheet of the Republic of Slovenia for the year 2023, the final energy consumption in the year 2023 amounted to 55TWh, which is 1.8% lower than ten years ago (2013):

- Reduced by 6.0% in Industry,
- Increased by 7.6% in traffic,
- Reduced by 14.8% in households,
- Increased by 2.4% in other consumption,
- Reduced by 815.1% in non-energy consumption.

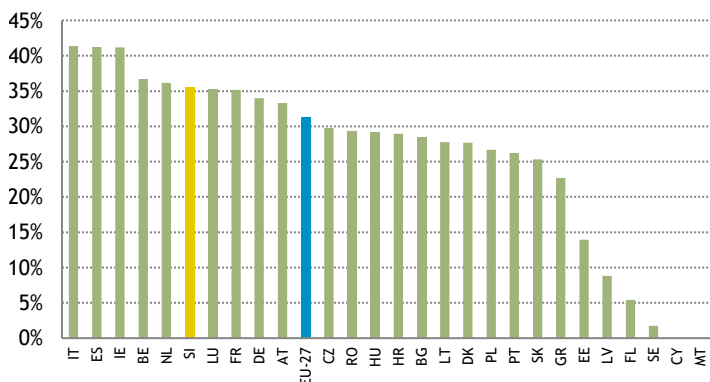


Figure 13. Share of gas among the energy sources in industry

Slovenia is comparable to other EU-27 countries when it comes to the consumption of gas in industry (Slovenia with a 36% share in the year 2023, while the EU-27 with 31%). The reduction in energy consumption in the last ten years affected all energy sources, so gas retained a relatively high share. Italy, Spain and Ireland (41%) have the largest share among the Member States.

Data source: Eurostat, »Energy balance sheets«

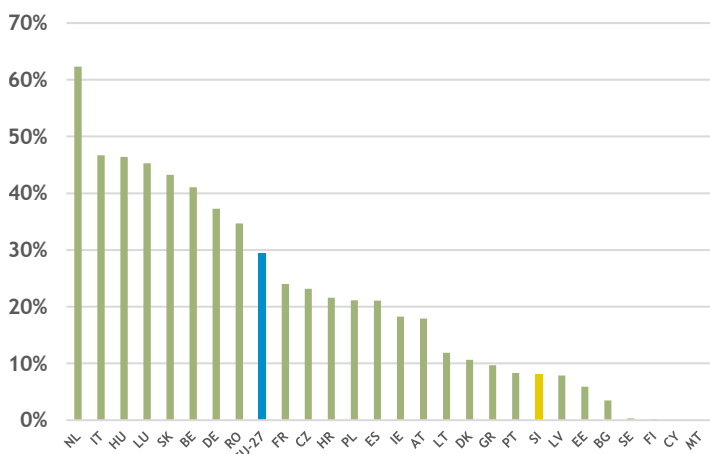


Figure 14. Share of gas among the energy sources in households

In terms of energy sources in households, gas has 8% share in 2023 in Slovenia, which is over three times less compared to 29% in EU-27 countries.

Data source: Eurostat, »Energy balance sheets«

3.2.6 Past gas consumption and booking in the country

The past consumption of gas represents an important indicator used for the future forecasting of the booking of transmission capacity. The gas consumption trend in the 2020-2024 is volatile in Slovenia. In 2021, the consumption was over 10TWh for the first time after 2013, and then it dropped below 9TWh. A drop in consumption in 2022 and 2023 is a result of the war in Ukraine, which caused an increase in gas prices, reduction of Russian gas supply and implementation of the measure of voluntary consumption reduction from August 2022 on. In 2024, the gas consumption in Slovenia returned to the figures over 9TWh.

In the segment of households and small business consumption, the gas consumption trend is comparable to the overall trend. The consumption increased to the highest recorded consumption in 2021, and then reduced and was the lowest in 2023 in the whole 5-year period; last year it was somewhat higher than before.

The gas consumption in industry does not have such pronounced trend, but nevertheless it dropped to the lowest level in the past two years, mainly due to high gas prices and the replacement of gas with substitutes, such as fuel oil. The gas consumption in the industry sectors records several fluctuations according to the economic activity and the implementation of measures for efficient use of energy and optimisation of work-flow. Also in this sector, the consumption somewhat increased in 2024.

In the segment of other use, including essential social services (hospitals), CNG filling stations, public utility companies and commercial customers connected to the transmission system, the trend was negative throughout the 5-year period, with the exception of 2021. The drop in consumption in 2022 is 7.2% compared to 2021. The TSO attributes the decrease mainly to high gas price, uncertainty in the supply of Russian gas and streamlining of gas consumption. The gas consumption in the previous year was the lowest in the entire 5-year period.

In the field of electricity production, both electric power facilities are quite unpredictable since they mainly operated according to the tertiary needs or reserve, while in recent years also for commercial needs. In 2022, the consumption was the highest in the last 9 years, in 2023 the consumption dropped by 31% compared to the year before, while in 2024 it was higher by 26%.

The gas consumption in the CHP area is unpredictable as is in the field of electricity. In 2022, a sharp decrease is seen and is attributed to the already stated causes, and then in the next two years it is followed by an increase in gas consumption, namely by almost 300% in 2023 and by 51% in 2024.

In the 2020-2024 period, the gas consumption varies at the level of the entire transmission system. In 2021, the consumption in the industry sector and other consumption segment was the highest in the last 9 years, exceeding 10TWh for the first time, while it was somewhat lower in the electricity segment compared to the previous year. Due to the consequences of the war in Ukraine, the gas consumption decreased in 2022 (by 11.3% compared to 2021). In 2023, this was followed by a 2.3% drop in the gas consumption compared to 2022. In 2024, the consumption is again higher, almost by 8%.

Table 6. Gas consumption in Slovenia in the 2020 - 2024 period (GWh/year)

Sector	2020	2021	2022	2023	2024
Household and business consumption	3,701	4,028	3,541	3,386	3,461
Industry	4,940	5,220	4,643	4,256	4,528
Other	391	394	366	341	305
Generation of electricity	249	93	278	192	243
Co-generation of heat and electricity	314	392	152	597	901
Total	9,596	10,127	8,980	8,772	9,438

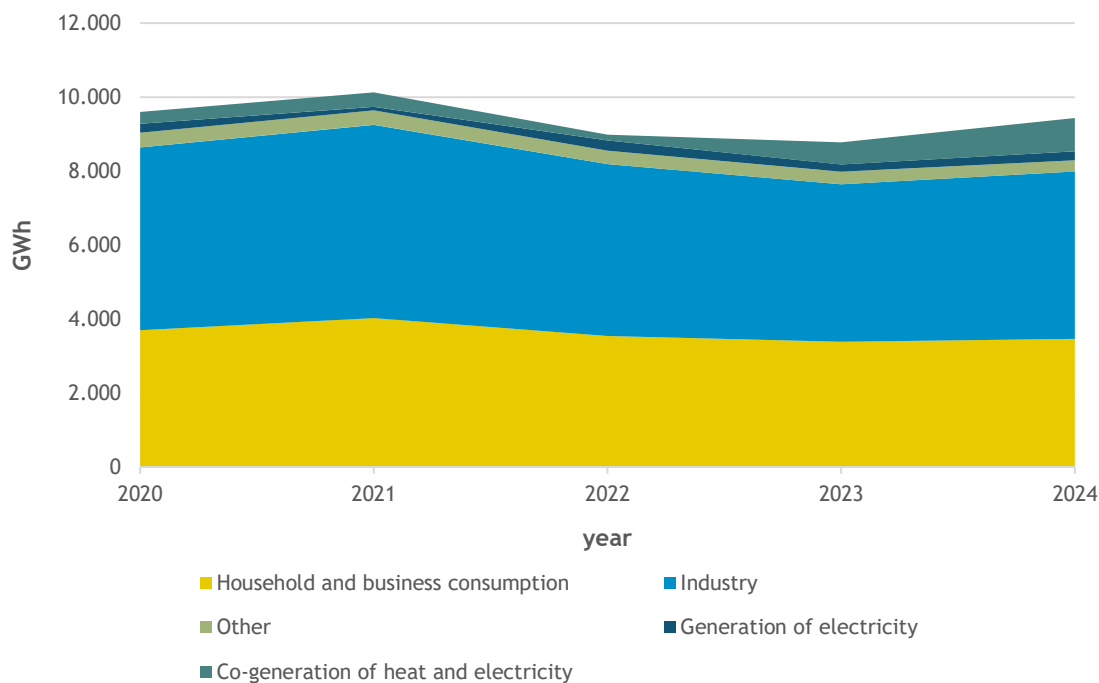


Figure 15. Gas consumption in Slovenia in the 2020 - 2024 period (GWh/year)

The booking of transmission capacity at exit points in the Republic of Slovenia followed the opposite trend of gas consumption. In 2020 and 2021, the booking of transmission capacity at the aggregate level decreased, i.e. a 2% drop in 2021 compared to 2020. In 2022, the booking somewhat increased, followed by a decrease in 2023 and 2024. In 2024, the booking was 1% lower than in 2023.

The booking of capacity in the segment of households and small business consumption decreased in all 5 years in question, and was for the second year in a row lower from 18GWh/day/year in 2024, which is 2% less compared to 2023.

The booking in the industry segment follows a similar trend. In all 5 years, a trend of decreasing booking is noted, first as a consequence of COVID-19 measures, and later as a result of the war in Ukraine, the increase of gas price and streamlining the consumption and booking the capacity.

The booking in the segment of other use also decreased by years, except in 2023, when the booking somewhat increased compared to the previous two years. In 2024, the booking was the lowest in the entire five-year period.

The booking of capacity in the field of electricity did not change much, mainly due to the concluded long-term contract to book the capacity, while the segment of other system users somewhat adjusted to the market and the booking of capacity. Nevertheless, the booking in 2023 was the highest in recent years. In 2024, it is again somewhat lower.

In the segment of co-generation of heat and electricity, the booking significantly increased in 2022, in particular due to the connection of the new user. The booking did not change significantly in 2023 and 2024.

Table 7. Booking of transmission capacity in Slovenia in the 2020 - 2024 period (GWh/day/year)

Sector	2020	2021	2022	2023	2024
Household and business consumption	20.165	18.639	18.294	17.843	17.474
Industry	21.111	20.515	19.911	19.420	19.370
Other	2.575	2.330	2.322	2.353	2.295
Generation of electricity	7.474	6.426	6.566	6.866	6.793
Co-generation of heat and electricity	0.708	2.991	7.381	7.058	7.075
Total	52.033	50.902	54.474	53.539	53.007

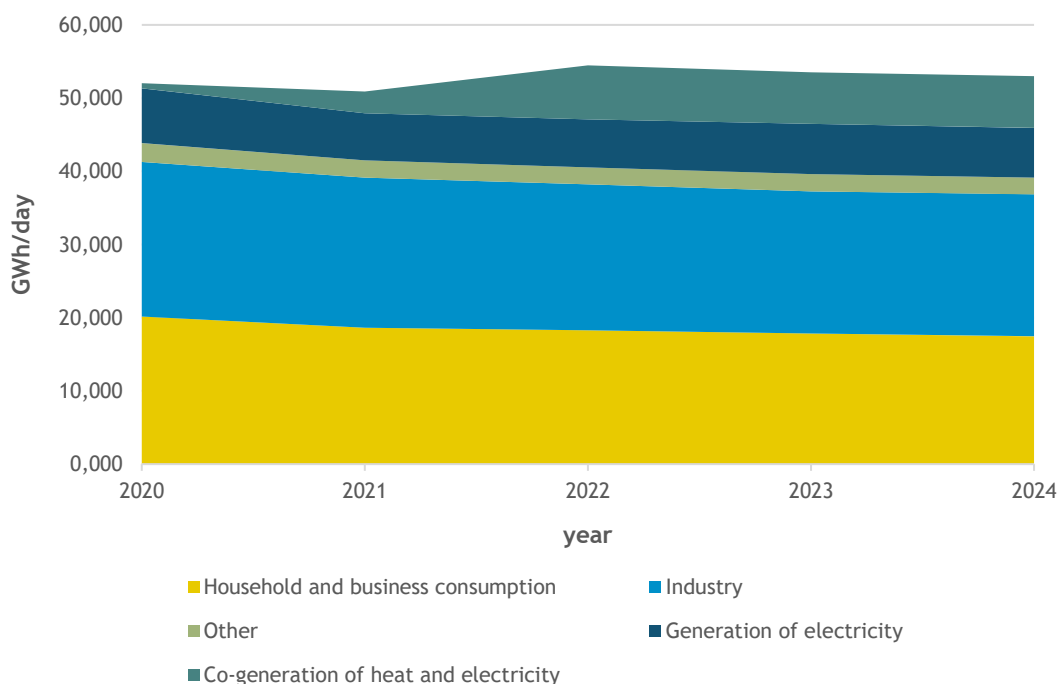


Figure 16. Booking of transmission capacity in Slovenia in the 2020 - 2024 period (GWh/day/year)

3.2.7 Recent gas transmission through the Slovenian transmission system

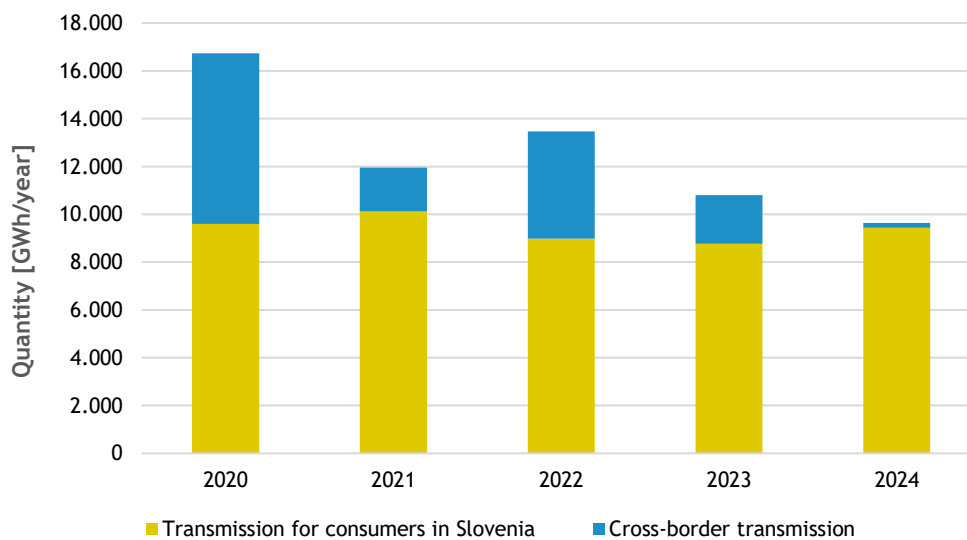
Gas transmission through the Slovenian transmission system comprises two segments: gas transmission for consumers in Slovenia and quantities for cross-border transmission. Gas transmission for consumers in Slovenia is presented in detail in Chapter 3.2.6. The cross-border transmission includes quantities transmitted through cross-border exit points of the Slovenian gas transmission system.

The Table 8 and Figure 17 below show that the gas transmission for consumers in Slovenia was at the similar level in recent years. After a moderate growth in Slovenia in 2021 and 2020, the transmission for Slovenian consumers in 2021 reached the highest value in the past five years. In 2022 and 2023, this was followed by a decrease of transmission for consumers in Slovenia, followed by a moderate increase of gas consumption in Slovenia in 2024.

In terms of cross-border transmission quantities, they are more unstable and subject to available transmission capacity and needs of gas markets in the region. In 2021, the quantities of cross-border transmission were significantly lower than a year before. These partially returned to the initial level in 2022 and 2023, where the quantities for cross-border transmission in 2022 were twice as high than in 2023. There was a significant drop of quantities for cross-border transmission in 2024; these were the lowest in the entire period in question.

**Table 8. Gas transmission through the Slovenian gas transmission system in the 2020-2024 period (GWh/year)**

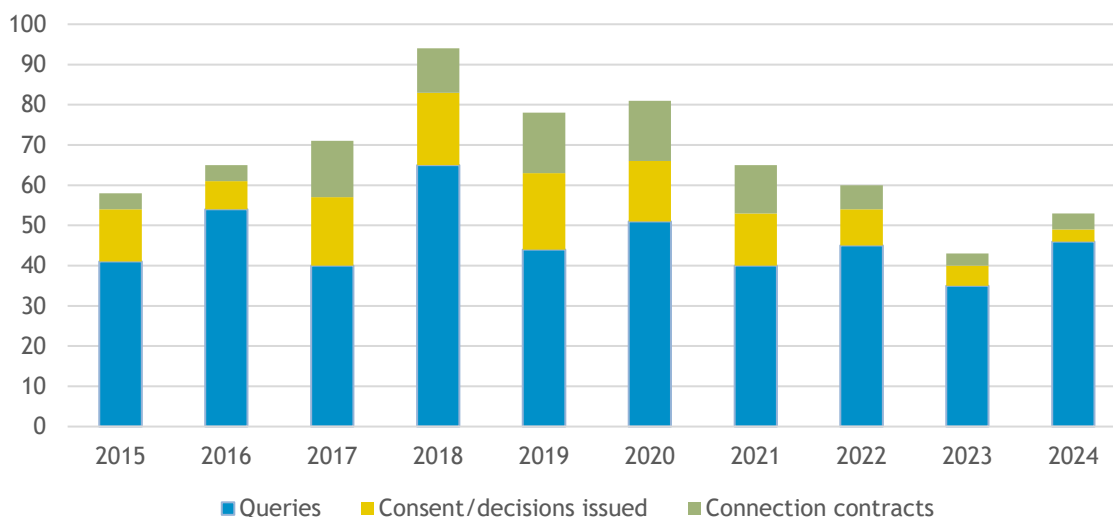
Type of transmission	2020	2021	2022	2023	2024
Transmission for consumers in Slovenia	9,596	10,127	8,980	8,772	9,438
Cross-border transmission	7,137	1,829	4,484	2,028	201
Total	16,733	11,956	13,463	10,800	9,639

**Figure 17. Gas transmission through the Slovenian gas transmission system in the 2020-2024 period (GWh/year)**

3.2.8 Demand and anticipated supply of transmission capacity

The interest for being connected to the transmission system and demand for transmission capacities in 2024 was similar to that in 2023. In 2024, 4 connection contracts were signed, and 3 decision to obtain a consent for the connection issued. The interest can also be seen in the graph below, which shows the persistent high level of interest on the basis of numerous queries, approvals / decisions issued, and connection contracts concluded in the last 10 years.

Connection projects are presented in detail in *Chapter 5.2 - Connection projects*.

**Figure 18. Number of queries, approvals / decisions issued and connection contracts concluded in the 2015-2024 period**

3.2.9 Deployment of alternative fuels infrastructure for transport

The purposes of the Directive 2014/94/EU¹² on the deployment of alternative fuels infrastructure are minimising the dependence on petroleum products and mitigating the environmental impact of transport, and promoting the use of gas in road and maritime transport.

The gas transmission system with the requisite development is an important support infrastructure for transport. The national framework has been prepared where gas in transport is attributed adequate relevance due to its positive role that is already proving in many cases of good practice to reduce emissions of particulate matter and to a lesser extent CO₂, from transport. The framework allows for gas to become interesting for users, while suitable financial incentives can help advance the use of gas in transport. The importance of the filling station infrastructure is also recognised in the NEPN, where the introduction of renewable gases into motor traffic through filling stations for compressed and liquefied natural gas is planned, as well as a sustainable orientation to hydrogen.

There are currently eight public compressed natural gas filling stations (CNG) operating in the Republic of Slovenia; namely, five in Ljubljana (Cesta Ljubljanske brigade, P + R Dolgi most, Letališka cesta, and motorway service stations Ljubljana Barje North and South) and one in Celje (Bežigrajska cesta), in Maribor (Zagrebska cesta) and in Jesenice (Cesta železarjev). The filling stations constructed at the motorway service stations Ljubljana Barje North and South provide the filling of vehicles at one of motorway corridors through the Republic of Slovenia.

The quantity of compressed natural gas used for transport in the year 2024 was slightly less than 64.9GWh. The majority, i.e. approximately 86% of compressed natural gas, was used in Ljubljana, 10% in Maribor, and the rest in Celje and Jesenice. In 2024, compared to 2023, the quantity increased by approximately 5% or almost 3.3GWh. Taking into account the strategy in the field of alternative fuels in transport, which also includes gas, the number of public filling stations is expected to increase in the coming years to more than 10. Additional filling stations are estimated to be available first in Ljubljana (P + R Stanežiče), and later in Ptuj, Kranj, Novo Mesto, Nova Gorica, Koper, Murska Sobota, Slovenj Gradec, Velenje and in three Zasavje municipalities - Hrastnik, Zagorje and Trbovlje.

The gas consumption in transport has been increasing in recent years, with the exception of 2020 which was marked by the epidemics, and one of measures to curb it was to limit the operation of public transport, which is a major consumer of compressed natural gas. The greatest impact on growth had the change in the fleet of public transport, especially in Ljubljana; thus, the growth was sporadic and rapid, which can be expected in the future, as well.

Projects within the framework of connecting alternative fuels infrastructure are discussed in Point “B35 Supply to users and other connection projects”.

3.2.10 Forecast of the booking of transmission capacity and gas consumption at the exit points in Slovenia for the 2026 – 2035 period

The forecast of the booking of transmission capacities at the exit points in the Republic of Slovenia of the transmission system operator is a key element of the review of the future development of the gas market. Future booking depends on the type of elements that the transmission system operator seeks to include in the forecast, taking into account the following:

¹² DIRECTIVE 2014/94/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2014 on the deployment of alternative fuels infrastructure



- Concluded connection contracts to the gas transmission system, transmission contracts for auction capacity or exit capacity in the Republic of Slovenia;
- Information received from the existing users and demand and queries from potential users of the transmission system;
- Communication and visits to network users;
- Past experiences with system users and implementation of TSO's activities in terms of new connections;
- Monitoring of the energy development of regions and local communities;
- Future use of hydrogen, biomethane and synthetic methane,
- Forecasts for the construction of power facilities; and
- Increasing capacity booking optimisation using short-term transmission capacity products.

When making an estimate of gas consumption and transmission capacity booking forecasts, the transmission system operator divides network users into individual segments, thus ensuring appropriate monitoring of the development of individual segments, while giving a clear picture of the size of each segment.

The forecast for the booking of transmission capacity at the exit points in Slovenia for electricity production is provided in Table 9 and is based on the following assumptions:

- The existing contractual booking of the Šoštanj TPP is taken into account until then end of 2031, with the booking also anticipated afterwards;
- Estimate of the booking for the Brestanica TPP according to the actual booking of capacities of the past two years.

Table 9. Forecast for the booking of transmission capacity at the exit points in Slovenia for electricity production (GWh/day/year)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Šoštanj TPP	6.269	6.269	6.269	6.269	6.269	6.269	6.269	6.269	6.269	6.269
Brestanica TPP	0.524	0.524	0.524	0.524	0.524	0.524	0.524	0.524	0.524	0.524
Total	6.793	6.793	6.793	6.793	6.793	6.793	6.793	6.793	6.793	6.793

In addition to all above listed starting points, the TSO additional took into account also the development plan of the electricity system operator and the Updated NEPN. The following elements were additionally taken into account:

- The upgrade of the existing gas unit to the rated power of 151 MWel (Development plan of the transmission system of the Republic of Slovenia for the 2023-2032 period, ELES d.o.o.),
- Strategic reserves as foreseen in the NEPN due to the cessation of operation of coal units for generating electricity.

Table 10. Forecast for the booking of transmission capacity at the exit points in Slovenia for electricity production - additional PT + PPE (GWh/day/year)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Šoštanj TPP	6.269	6.269	11.269	11.269	11.269	11.269	11.269	11.269	11.269	11.269
Brestanica TPP	0.524	0.524	0.524	0.524	0.524	0.524	0.524	0.524	0.524	0.524

Strategic reserves - NEPN	0.000	0.000	0.000	0.000	22.000	22.000	22.000	22.000	22.000	22.000
Total	6.793	6.793	11.793	11.793	33.793	33.793	33.793	33.793	33.793	33.793

Table 11 provides an overview of the total estimated forecast of the booking of transmission capacity in the RS until 2035. The segment “Other” includes the forecast with bookings of hospitals, CNG filling stations, public utility services and business consumers connected to the transmission system, while the segment “ Household and business consumption” encompasses bookings at distribution exit points where the transmission system operator does not have a distribution between household and business booking. The forecast at the group level shows a low growth of transmission capacity booking in the next 5 years, which is in line with the development plan of the company and the construction of additional transmission capacities, while from 2031 the almost unchanged booking of capacity follows.

Table 11. Forecast for the booking of transmission at the exit points in Slovenia (GWh/day/year)

Sector	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Household and business consumption	17.436	17.560	17.563	17.565	17.566	17.569	17.569	17.569	17.569	17.569
Industry	19.656	20.245	20.245	20.301	20.301	20.301	20.301	20.301	20.301	20.312
Other	2.278	2.278	2.278	2.278	2.278	2.278	2.278	2.278	2.278	2.278
Generation of electricity	6.793	6.793	6.793	6.793	6.793	6.793	6.793	6.793	6.793	6.793
Co-generation of heat and electricity	6.866	6.866	6.866	6.866	6.866	7.016	7.016	7.016	7.016	7.016
Total	53.029	53.741	53.745	53.803	53.804	53.957	53.957	53.957	53.957	53.969

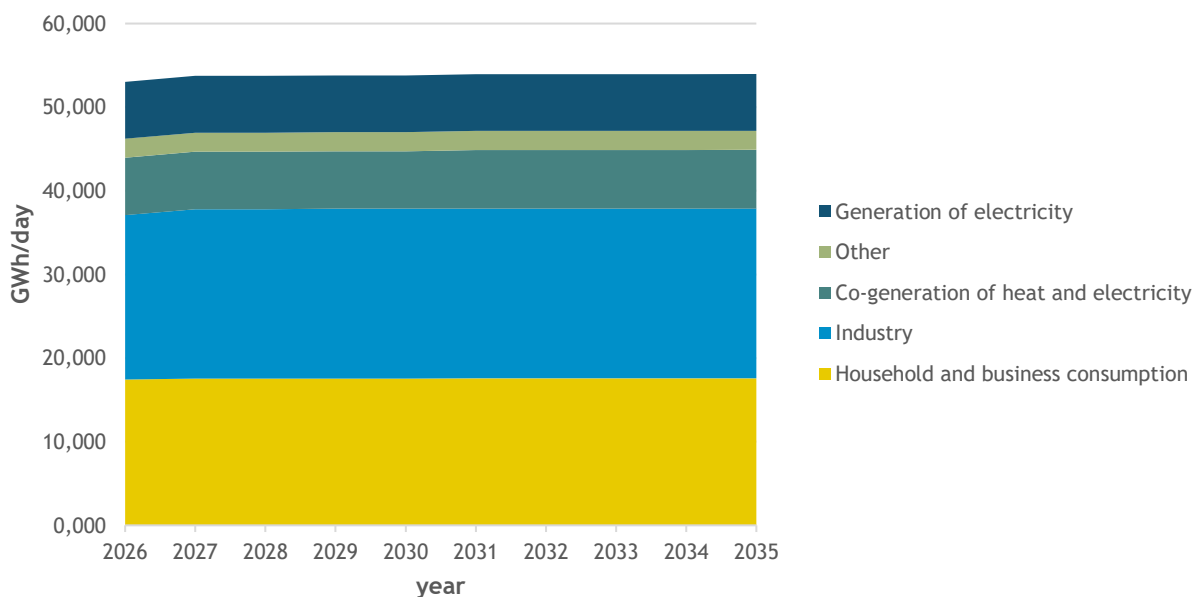


Figure 19. Forecast of the booking of transmission capacity at the exit points in Slovenia for the 2026 – 2035 period

The TSO, like in the preparation of the forecast of future gas consumption, takes into account a number of sources and factors when forecasting the booking of transmission capacities at exit points in the Republic of Slovenia. The gas market has become extremely dynamic in the recent years; therefore, the



TSO underlines that long-term forecasts, i.e., forecasts exceeding 3 years, are in fact indicative forecasts that depend on various factors that cannot be directly influenced by the TSO. The most reliable source of forecasts used was the agreements and contracts that have already been signed. With this, the TSO observes an increasingly pronounced trend of additional booking of shorter-term transmission capacity, due to the fact that the network users were increasingly optimising seasonal surpluses using short-term services. In the majority of cases, capacity booking was also oriented to a maximum of one year, with multi-year booking becoming the exception rather than the rule. The increasing liquidity and liberalisation of the gas market provides additional opportunities for system users, while increasing the flexibility of gas supplies and impacts the smaller reliability of the forecasts of transmission system operator bookings. In forecasting the future bookings of domestic system users, also the data obtained at the meetings with system users is taken into account to a certain degree, if they already possess the plan of future capacity booking. When preparing forecasts, the TSO also monitors the development of the domestic and foreign, especially regional energy markets and the construction of power facilities. The TSO continuously monitors the competitiveness of transmission routes in the region in order to ensure the proper competitiveness of the transmission route through Slovenia. The gas price that is relatively low-volatile in the recent period and economic situation due to war in Ukraine significantly affect the forecast of gas consumption in the coming period.

Table 12. Forecast for the booking of transmission at the exit points in Slovenia - additional PT + PPE (GWh/day/year)

Sector	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Household and business consumption	17.436	17.560	17.563	17.565	17.566	17.569	17.569	17.569	17.569	17.569
Industry	19.656	20.245	20.245	20.301	20.301	20.301	20.301	20.301	20.301	20.312
Other	2.278	2.278	2.278	2.278	2.278	2.278	2.278	2.278	2.278	2.278
Generation of electricity	6.793	6.793	11.793	11.793	11.793	11.793	11.793	11.793	11.793	11.793
Co-generation of heat and electricity	6.866	6.866	6.866	6.866	6.866	7.016	7.016	7.016	7.016	7.016
Strategic reserves - NEPN	0.000	0.000	0.000	0.000	22.000	22.000	22.000	22.000	22.000	22.000
Total	53.029	53.741	58.744	58.803	80.804	80.957	80.957	80.957	80.957	80.968

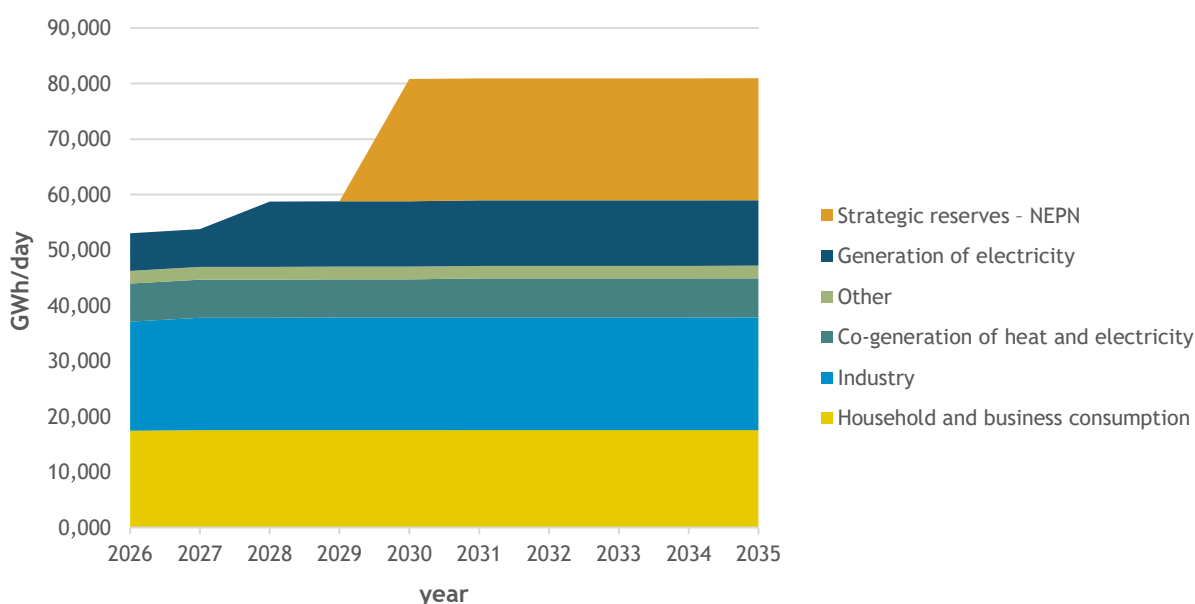


Figure 20. Forecast of the booking of transmission capacity at the exit points in Slovenia for the 2026 - 2035 period - additionally PT + PPE

In addition to the factors for forecasting transmission booking at exit point in the Republic of Slovenia described above, the TSO took into account an additional factor relating to the strategic reserves within the scope of NEPN data. The forecast of transmission booking at exit points in the Republic of Slovenia - from 2030 on, the NEPN anticipates the establishment of additional capacity of 500MW to produce electricity at one or several energy locations.

Table 13 shows a forecast of gas consumption on the domestic gas market in the next ten years.

Table 13. Forecast of gas consumption on the domestic gas market (GWh/year)

Sector	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Household and business consumption	3,250	3,208	3,180	3,159	3,149	3,118	3,107	3,069	3,007	3,003
Industry	4,326	4,311	4,303	4,299	4,296	4,294	4,289	4,281	4,277	4,256
Other	326	331	337	342	347	362	376	390	404	418
Generation of electricity	519	523	226	230	234	243	253	262	272	281
Co-generation of heat and electricity	1,255	1,456	1,435	1,605	1,761	2,169	2,561	2,981	3,423	3,822
Total	9,676	9,829	9,481	9,634	9,787	10,185	10,585	10,983	11,383	11,781

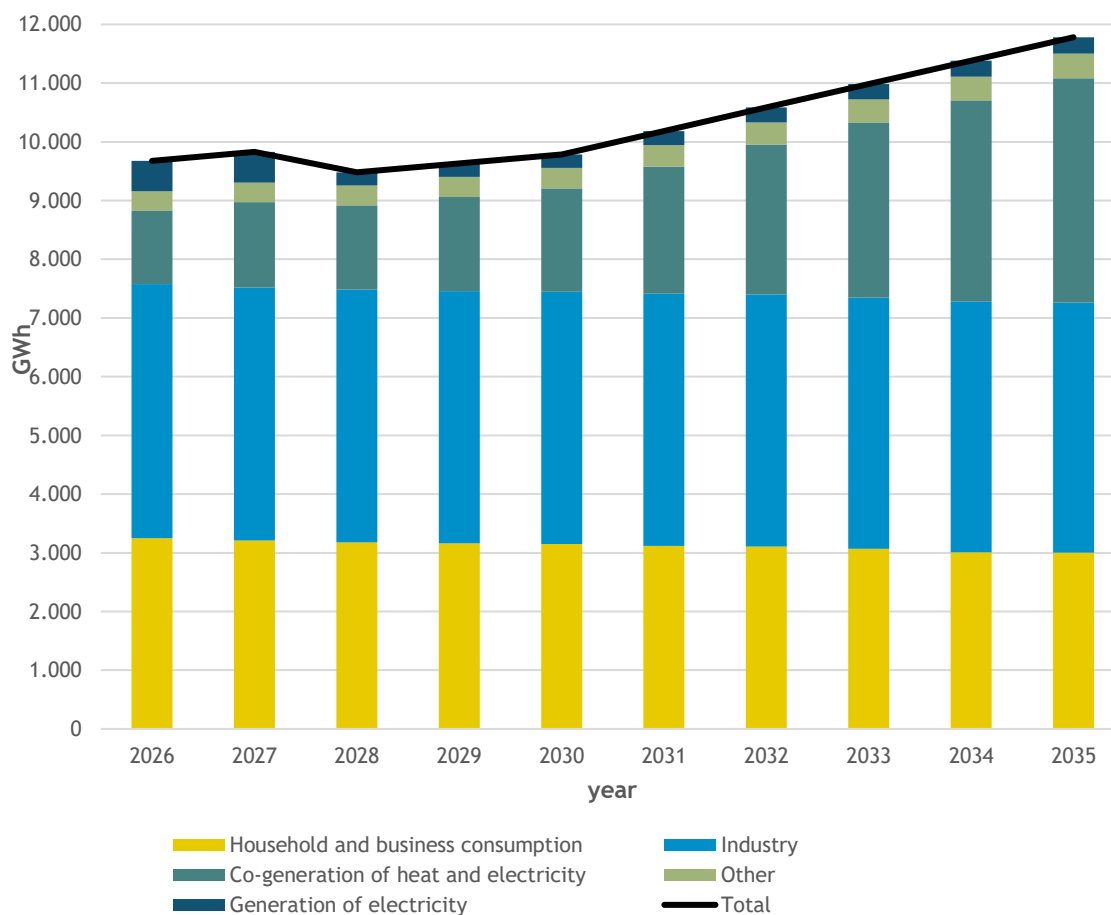


Figure 21. Forecast of gas consumption on the domestic gas market for the 2026 - 2035 period (GWh/year)



In preparing forecasts for future consumption of gas, in addition to other elements, the TSO takes into account also development policies from the NEPN, the individual forecasts of stakeholders on the gas market and the general forecasts of gas market development and economic growth. The forecasts have taken into account the energy efficiency measures, but the TSO estimates that their impact will be superseded by the increased use of the energy product and new connections. The forecast also takes into account the future use of hydrogen, biomethane and synthetic methane in the transmission system.

In line with the objectives of the REPowerEU plan and the package of legislative proposals Fit for 55, the TSO plans a gradual reduction and replacement of natural gas with renewable gases, such as hydrogen, biomethane and synthetic methane; the TSO records the latter in the source structure forecast below under the item Biomethane. In its forecast of gas source structure, the TSO took into account the indicative target in gas supply, as stated in the National Energy and Climate Plan. The indicative target is a 10% to 30% share of methane or hydrogen from renewable origin in the transmission and distribution network by 2030.

Figure 22 shows a forecast of gas source structure on the domestic gas market in the next ten years.

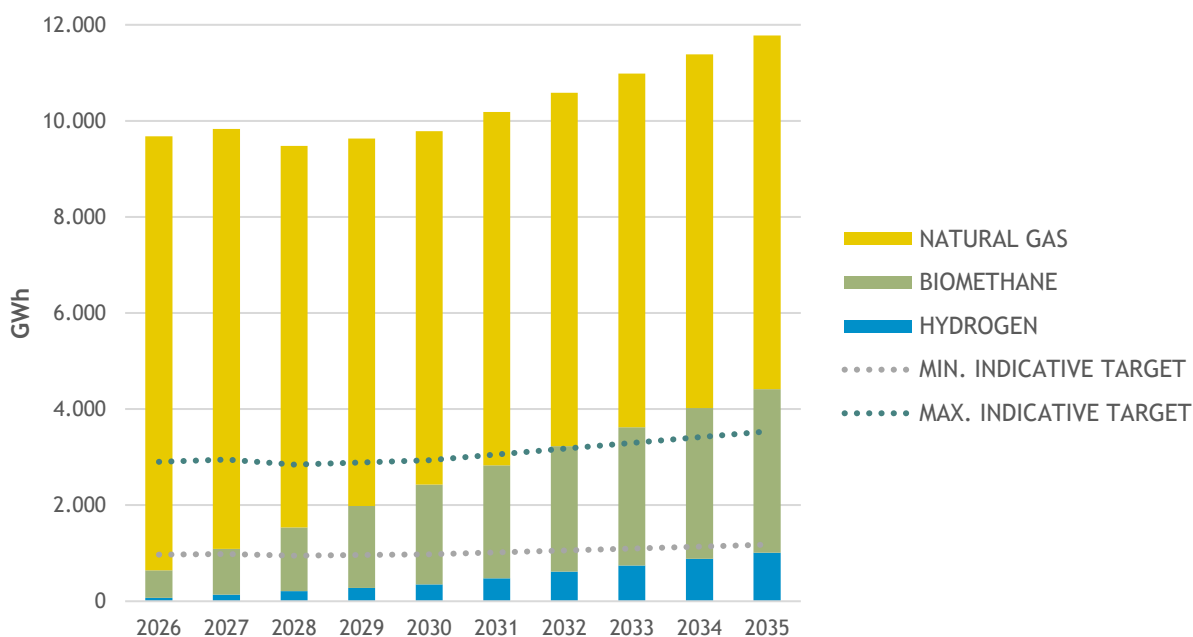


Figure 22. Forecast of gas source structure on the domestic gas market for the 2026 - 2035 period (GWh/year)

The transmission system operator also regularly cooperates and monitors the preparation of the European Ten-year Development Plan ENTSOG TYNDP. The forecast took into account the Ten-year ENTSOG TYNDP 2024 plan that includes also various scenarios for the long-term use of natural and renewable gases, sectoral integration and integration, as well as the use of new technologies. One of the scenarios envisages a larger use of nuclear energy, which is in line with the plans on the Slovenian energy market, foreseen after 2040.

The gas source structure is based on the foreseen development dynamics and the establishment of hydrogen backbone as well as the previous expressed interest to connect plants for hydrogen production to the transmission system. Given the previous expressed interest of domestic production of hydrogen, the hydrogen quantities will be small and injected into the gas transmission system up to the concentration of 2% vol, as provided by the new gas package. The use of hydrogen will be visibly increased only after 2029 with the finalisation of the first phase to establish the hydrogen transmission

infrastructure which will provide users with an option to connect to the dedicated hydrogen pipeline system and thus a possibility to hydrogen supply. A higher interest in the hydrogen supply by final customers is expected at the beginning of the implementation of projects to establish hydrogen pipeline infrastructure (Group of D projects, with an emphasis on D1 and D2), as the gas customers do not yet commit to hydrogen use due to the absence of hydrogen pipeline infrastructure. The start of implementing projects to establish hydrogen pipeline infrastructure will be a clear signal to gas customers in terms of the availability of hydrogen infrastructure and a hydrogen supply option. Given the above, the interest in hydrogen use and the replacement of gas with hydrogen is gradually expected to increase after 2029.

3.2.11 ENTSO development scenarios

The Regulation (EU) 2022/869 imposes on the transmission system operator associations for electricity ENTSO-E and gas ENTSG to draw up common scenarios for developing European energy systems. The common scenarios combine presumptions and input data that are used by ENTSG and ENTSO-E to prepare its ten-year development plans (TYNDP). Scenarios and their bases reflect European and national strategic objectives. Differences in scenarios reflect the expected variations regarding consumption and supply. Scenarios must take into account the latest energy and climate policies that are in line with the EU ambitions regarding the reduction of greenhouse gas emissions and the high ambitions regarding the energy efficiency and the implementation of RESs. Uncertainties must be included relating to the reduction of greenhouse gas emissions, introduction of RESs, import of energy and introduction of new low-carbon technologies. Scenarios must provide an insight in different levels of dependencies of EU in terms of energy supply, industry activity, etc. The 2024 TYNDP includes three different scenarios:

- National Trends+ (NT+)
- Distributed Energy (DE)
- Global Ambition (GA).

NT+ is a scenario harmonised with the national energy and climate policies, such as NEPN, national long-term strategy, hydrogen strategy. This scenario covers the period up to 2040.

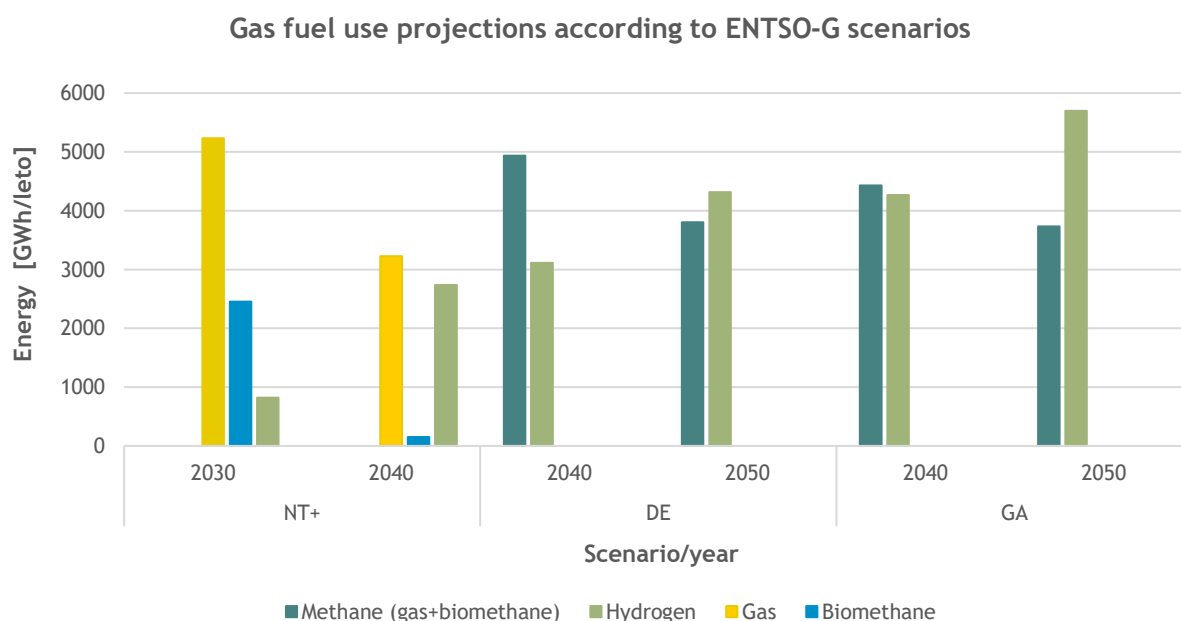


Figure 23. Gas fuel use projections according to ENTSO-G scenarios (GWh/year)

The DE and GA scenarios cover the periods 2035, 2040 and 2050 and refer to all energy carriers in all sectors. Both scenarios reach carbon neutrality in 2050. The bases for both scenarios are provided at the



EU level. The main differences between the DE and the Ga scenario are in their approach to decarbonisation and achieving energy efficiency. The DE scenario foresees an approach to the transition to low-carbon society at the local level and is committed to achieving energy and strategic independence of the EU through a maximum integration of RESs and sector integration using power-to-gas (P2G), power-to-liquid (P2L) and power-to-methane (P2M) technologies. On the other hand, the GA scenario foresees an approach to decarbonisation at the EU level or at the international level and puts emphasis not only on RESs but also to low-carbon technologies that contribute to achieving climate goals, and also includes a strong focus on diversification of import routes. The DE scenario places great emphasis on the reduction of energy use and changes in customers' habits. The DE scenario also strives to achieve decentralisation and foresees implementation of distributed RES technologies batteries, etc. The GA scenario is more oriented to centralised approach with the implementation of RES technologies and energy storing units in the form of larger facilities. In the field of heating and transport, the DE scenario focuses on certain technologies, in particular EVs for personal transport and synthetic and bio liquid fuels in heavy goods traffic, and the use of heating pumps and remote heating, while the GA scenario is more open in terms of the selection of technology. The GA scenario also includes integrations of nuclear technologies and CCS technologies, while the DE scenario foresees a minimum inclusion of the respective technologies.

Scenarios for the 2024 TYNDP were confirmed in January 2025. In the mid-2024, a process began to draw up the scenarios for the 2026 TYNDP; they are expected to be prepared by the end of 2025. The TYNDP phases out DE and GA scenarios, only the NT+ scenario will be used.

3.3 Cross-border transmission capacity and booking

The Slovenian gas transmission system is embedded in the European and global international environments and offers network users a choice. The system is connected with the gas transmission systems of the neighbouring countries via cross-border interconnection points that are managed by various TSOs. The cross-border interconnection points of the Slovenian TSO with the neighbouring transmission systems are made with:

- The connection with the Austrian TSO, Gas Connect Austria, at the Ceršak cross-border interconnection point,
- The connection with the Italian TSO, Snam Rete Gas, at the Šempeter cross-border interconnection point, and
- The connection with the Croatian TSO, Plinacro, at the Rogatec cross-border interconnection point.

The infrastructure of the transmission system and the technical characteristics of the border metering and control station at the interconnection point determine the amount of cross-border (technical) transmission capacity at the individual cross-border interconnection point. On a daily basis, the TSO calculates the available transmission capacity at all cross-border interconnection points and regularly publishes them (website of the Plinovodi company, auction platform, ENTSOG Transparency Platform¹³). In accordance with the current model of entry-exit points, the network users have been provided with a separate and independent booking of transmission capacity at each cross-border interconnection point. In this way, the system user may carry out the cross-border gas transmission from the area of other country through the territory of Slovenia into a third country, which provides for and accelerates the establishment and operation of the internal market of the European Community. The booking of transmission capacity at cross-border interconnection points is carried out in accordance with the

¹³ <https://transparency.entsog.eu/>

Commission Regulation, No. 2017/459¹⁴ via the joint on-line PRISMA booking platform by the principle of auctioning.

Table 14. Existing and potential cross-border trading and transmission

Direction		Existing supply		Planned supply
	Austria > Croatia	Yes		Yes
	Austria > Italy	Yes		Yes + increase
	Austria > Hungary		No	Yes ⁽²⁾
	Italy > Austria	Yes ⁽¹⁾		Yes ⁽¹⁾
	Italy > Croatia	Yes		Yes
	Italy > Hungary		No	Yes ⁽²⁾
	Croatia > Austria	Yes ⁽¹⁾		Yes + increase ^(1 + 3)
	Croatia > Italy	Yes		Yes + increase ⁽³⁾
	Croatia > Hungary		No	Yes ⁽²⁾
	Hungary > Italy		No	Yes ⁽²⁾
	Hungary > Austria		No	Yes ^(1 + 2)
	Hungary >Croatia		No	Yes ⁽²⁾

> Direction of gas flow
(1) Interruptible upstream transmission capacity (not physical transmission)
(2) Conditional transmission – if the interconnector between Slovenia and Hungary is realised
(3) Conditional transmission – if pipeline interconnections with projects in Croatia are realised

3.3.1 Demand for booking at cross-border interconnection points

The TSO keeps the interested public informed of the available transmission capacity of the transmission system via its homepage, the PRISMA booking platform, and the ENTSOG transparency platform. Members of the PRISMA booking platform are performing short-term and long-terms standardised products for transmission of gas to neighbouring gas markets and for the purposes of ensuring the balance of the transmission system.

In 2024, the geopolitical situation with war in Ukraine still had a very strong impact on the execution of cross-border transmission and booking of transmission capacities. At the end of 2024, the gas supply through Ukraine was completely interrupted and as a result the changes in gas transmission routes in Europe were more dynamic. The booking of transmission capacity and gas supply to Slovenia reduced from the direction of Italy, slightly increased from the direction of Austria, while the booking significantly strengthen from the direction of Croatia.

At the cross-border interconnection point with Croatia, long-term products for the provided transmission capacity in the direction of entry to Slovenia were signed at a premium price until the end of 2024/2025 gas year. In lines with the Rules on terms and conditions for capacity allocation mechanisms at interconnection points of the transmission system through auction, congestion management procedure and capacity trading on the secondary market at the respective interconnection point, the TSO carries out a mechanism of use or loss of provided capacity for a day in advance.

The key role in carrying out the short-term booking of transmission capacity (daily and intra-day product) at cross-border points by systems users pertain to the conditions on the gas market in the region where users using price signals at gas hubs optimise its supply portfolios and carry out short-term bookings of capacity at an individual cross-border points accordingly.

¹⁴ The Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems and repealing Regulation (EU) No 984/2013



With an option to use short-term products, users have an additional possibility to optimise capacity bookings. The TSO notes a continuation of a several-years-long trend of a transition from long-term to short-term booking of transmission capacity. All this suggests that the implementation of long-term forecasts for the booking of transmission capacity is unpredictable.

3.3.2 Booking of transmission capacity at cross-border interconnection points in the 2020-2024 period

Under the same and non-discriminatory conditions, network users can book capacity at cross-border interconnection points via the on-line PRISMA booking platform in accordance with the published auction calendar, the Commission Regulation (EU) 2017/459 and more detailed instructions of the PRISMA booking platform. The network users had the following capacities of various maturity at their disposal: intra-day, daily, monthly, quarterly, and annual transmission capacity. In the year 2023, the DSO calculated daily the available firm and interruptible capacities at the cross-border interconnection points and regularly published them on the on-line PRISMA booking platform in accordance with the ENTSOG auction calendar.

Figures 24, 25 and 26 show the dynamics of the transmission capacity bookings at cross-border interconnection points in the 2020-2024 period. Graphs indicate the booking of long-term products of transmission capacities at cross-border points that change between individual gas years. System users combine long-term bookings with short-term product bookings with the aim of adjusting to given daily needs of gas supply to their customers. In the respective period, short-term bookings were in particular pronounced at the exit Šempeter interconnection point as system users at the respective interconnection point mainly purchased short-term products (daily or intra-daily product). A trend of short-term product bookings at the Rogatec entry cross-border interconnection point ended at the beginning of the 2023/2024 gas year and users with long-term products (quarterly and yearly products) booked the whole long-term capacity available.

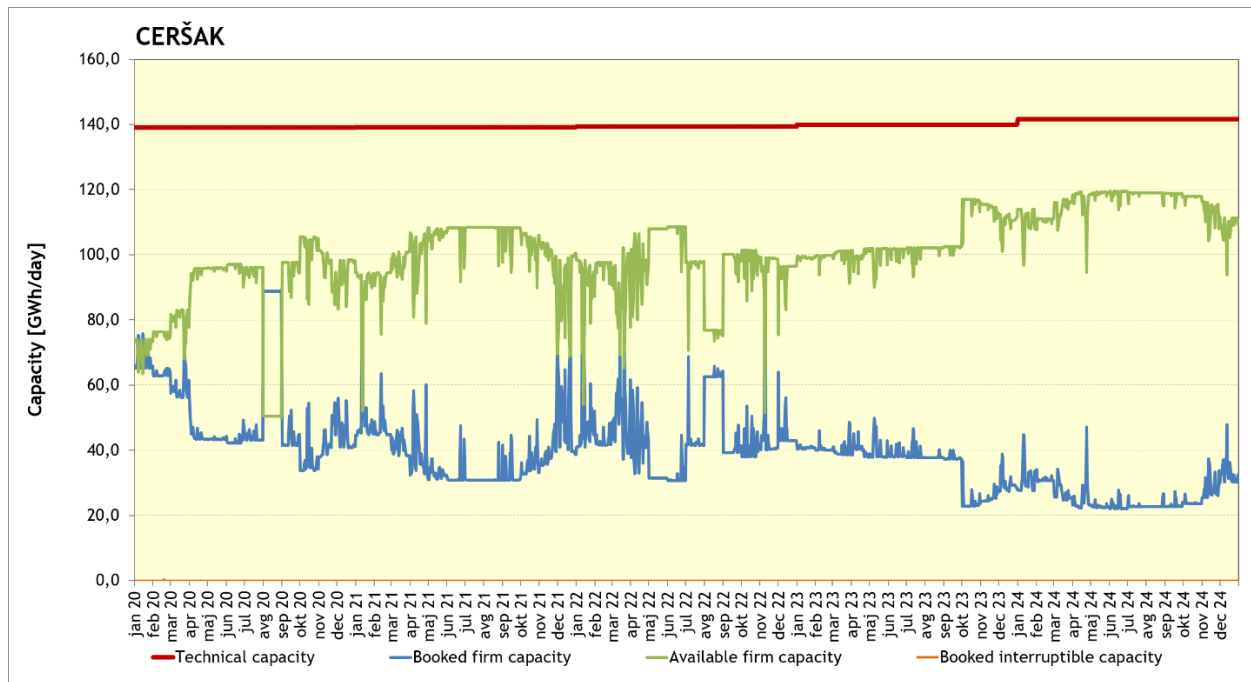
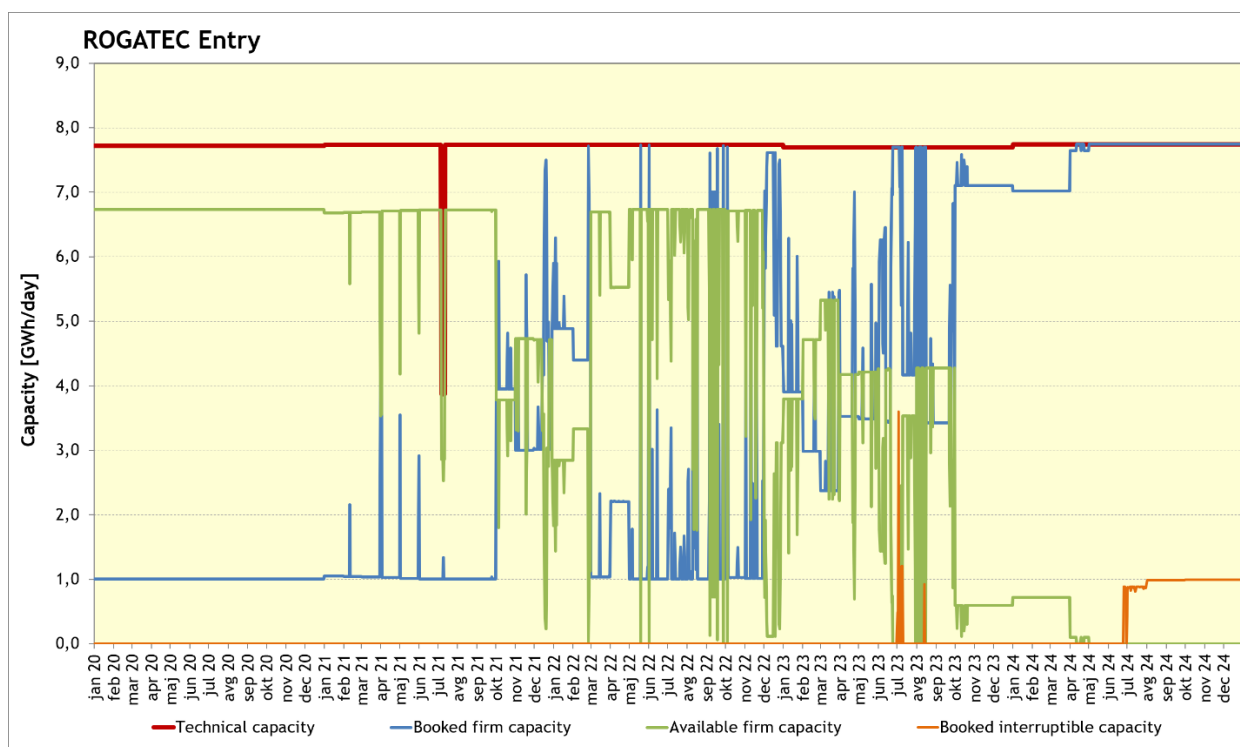


Figure 24. Transmission capacity and state at cross-border interconnection point Ceršak in the 2020-2024 period

At the Ceršak interconnection point, a stable booking of transmission capacity was recorded in the 2020-2024 period, and in 2024 also a trend of increasing booked capacity as evident from Figure 24. The impact on the detected trend of booked capacity in 2024 can be related to the transformation of gas flows in the region and distributed supply sources in Europe. The cross-border transmission from the Austria-Slovenia-Croatia direction through the Ceršak cross-border interconnection point and the Rogatec exit cross-border interconnection point reduced in 2024 compared to 2023.

In 2024, there was a notable increase in the utilisation of technical capacity of the Rogatec cross-border entry point for the supply of gas from the direction of Croatia to Slovenia. In 2022 and 2023, a product of daily interruptible capacity was offered at individual days due to a total booked provided capacity of the Rogatec entry cross-border point. Based on offered products of long-term capacity, in the beginning of the 2023/2024 gas year, users bought all provided transmission capacity at the yearly and quarterly level, and the TSO offered interruptible capacity at annual auctions for the 2024/2025 gas year and also partially sold it successfully.



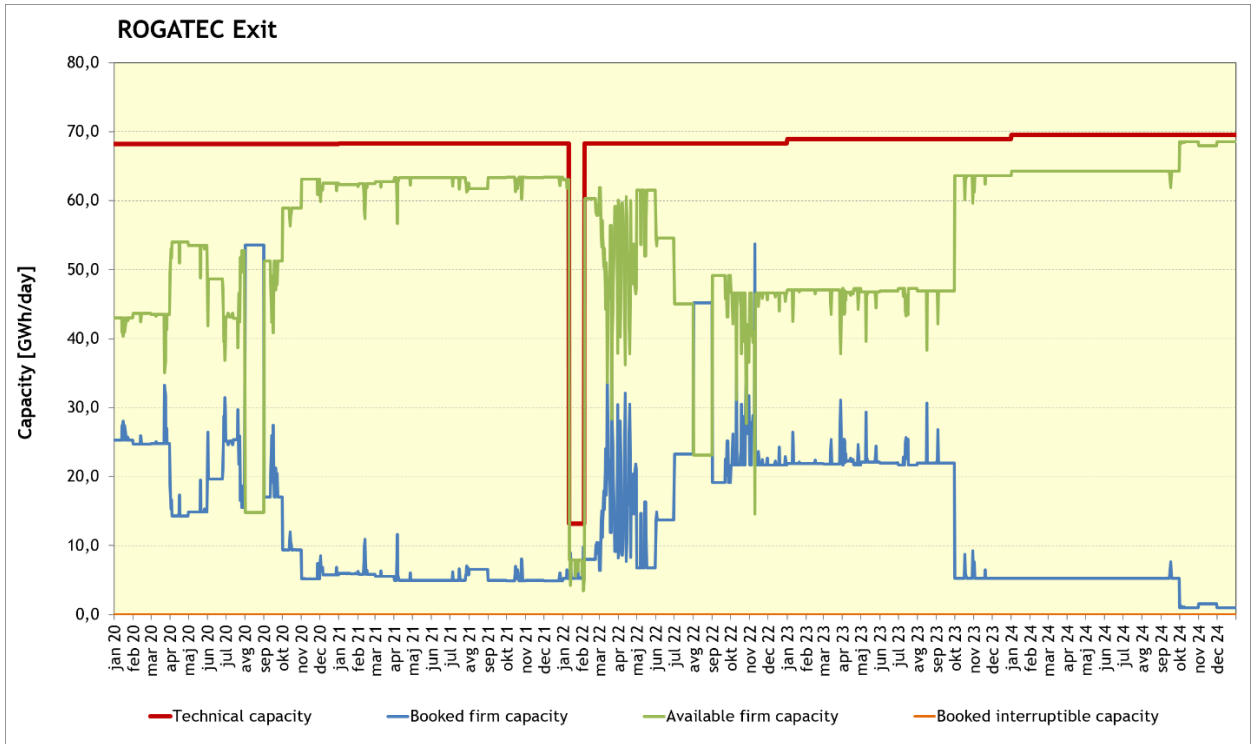


Figure 25. Transmission capacity and state at cross-border interconnection point Rogatec in the 2020-2024 period

At the Šempeter cross-border interconnection point from the direction of Italy to Slovenia, the long-term bookings of provided capacity in the 2023-2024 and 2024-2025 gas year substantially decreased compared to the bookings in the previous years. In the opposite direction of transmission from Slovenia to Italy, a trend of short-term bookings continued in 2024, and at individual days they reached halved or higher shares of technical capacity of the Šempeter cross-border exit point. In 2024, technical capacity at the Šempeter cross-border point in individual periods limited in a short-term due to the upgrade of the Ajdovščina compressor station, whereby its operation is required to transmit gas from or to Italy through the Šempeter cross-border point.

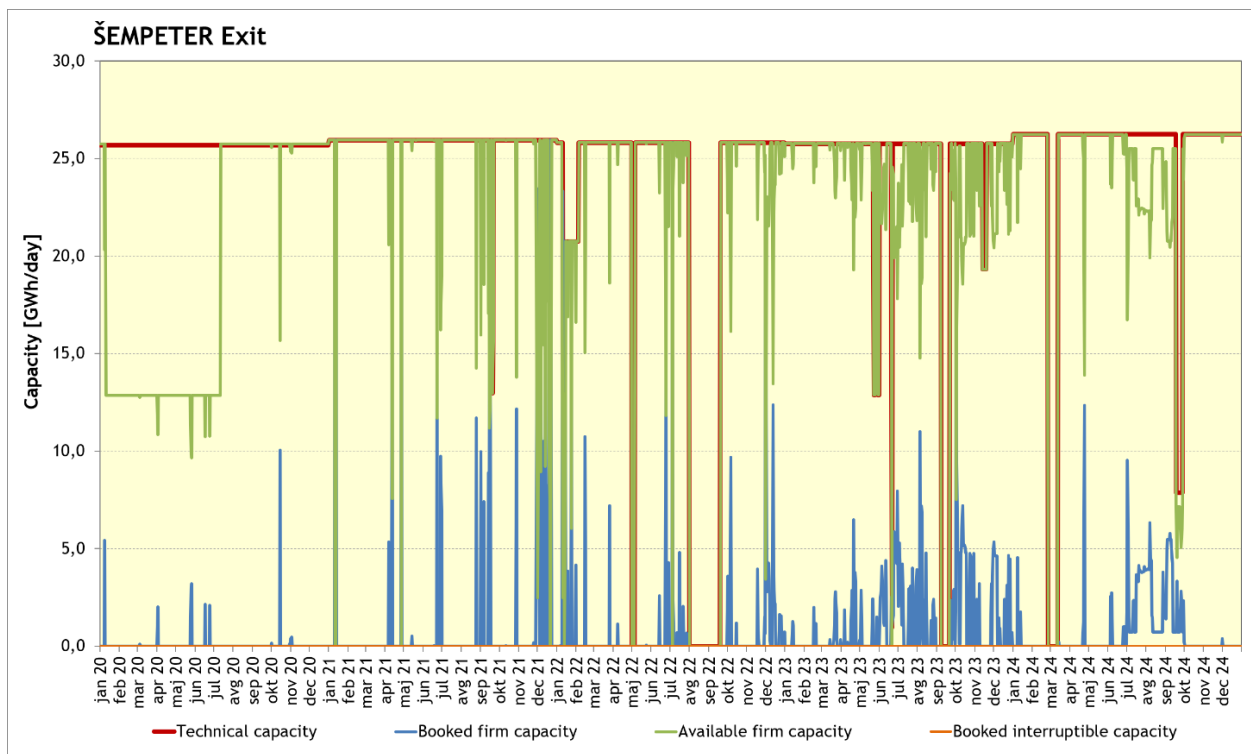
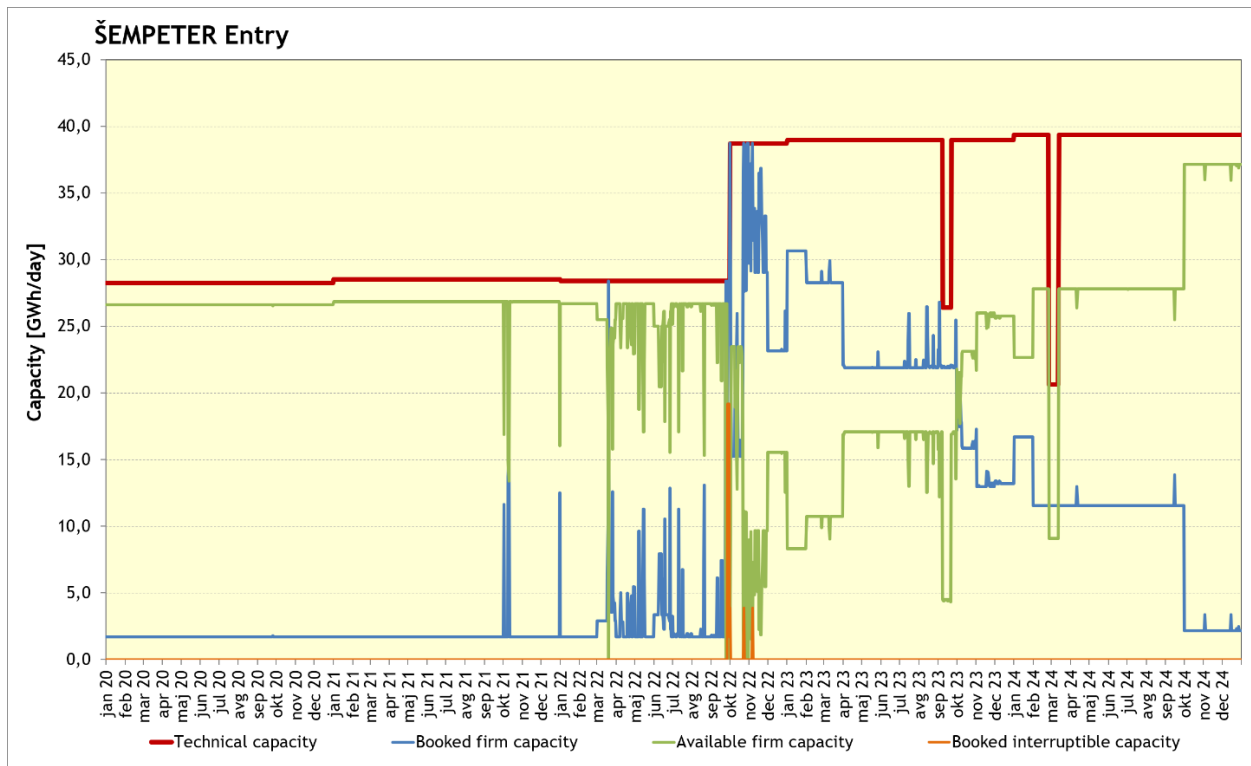


Figure 26. Transmission capacity and state at cross-border interconnection point Šempeter in the 2020-2024 period

In 2024, with the exception of the Ceršak exit point, the physical transfer of gas was performed through all cross-border interconnection points in the direction of entry to or exits from Slovenia. In the year 2024, the largest daily and monthly transferred quantities at the cross-border entry point Ceršak were somewhat higher than in the previous year. In line with the bookings of transmission capacity, substantially lower quantities were transmitted at the Rogatec cross-border exit interconnection point compared to the previous year. However, the transmitted gas quantities at the Rogatec cross-border interconnection point from the direction of Croatia to Slovenia significantly increased in line with the

demand for transmission capacity. In 2024, gas transmission for supplying Slovenian customers through the Šempeter interconnection point reduced and most likely transferred to the Rogatec cross-border entry point due to more favourable market conditions. The Šempeter cross-border interconnection point provides a selection of an alternative supply route of gas for the suppliers of Slovenian consumers and is one of the entry points for executing the reliability of supply in the event of crisis and enables the cross-border transmission in the direction of Italy, which was confirmed also in 2024.

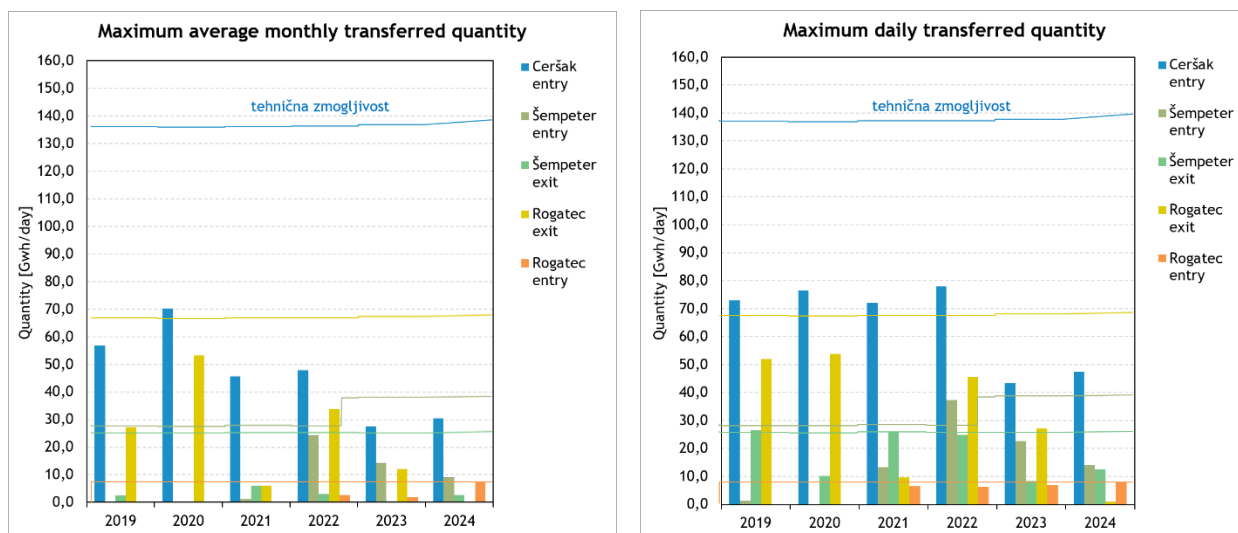


Figure 27. Maximum daily and monthly occupancy at cross-border interconnection points

3.3.3 Analysis of previous booking and forecast of transmission capacity booking for cross-border transmission and domestic users

Forecasts and estimates of transmission capacity booking are based on the available past and current data, and the estimates of the planned upgrades of the transmission system in Slovenia and in the region, as well as on other estimates performed by the transmission system operator.

The development of the Slovenian transmission system has been intense in the past period and we have achieved the adequate transmission capacity at all interconnection points. With the implementation of the European legislation, the transmission system users have gained more possibilities of implementing short-term bookings of transmission capacity, which the transmission system operator has detected in the total amount of bookings, as well. Namely, the transmission system users increasingly utilise short-term booking of the transmission capacity.

Table 15 shows the realisation of transmission capacity booking for the needs of cross-border gas transmission and domestic users in the 2020 – 2024 period. The TSO finds that the conditions in gas markets in the regions changed and continue to change significantly, in particular due to the diversification of supply sources, as the supply of the Russian gas decreased significantly (replaced by the Algerian gas) and due to changed liquidity of neighbouring gas markets. Uniform and simplified implementation of transmission capacity bookings with the EU rules has led to additional competition between transmission routes. The TSO notes that the booking of transmission capacity at the Rogatec cross-border interconnection point is notably effected by the new LNG terminal on the island of Krk as it strengthened entry capacity at the Rogatec cross-border entry point and thus the gas transmission to Slovenia. In 2021, the booking of exit capacity at the Ceršak cross-border interconnection point was first executed, and has additionally strengthened in 2022 and 2023 in the direction from Slovenia to Austria, while there was not booking of exit capacity at Ceršak in 2024. In 2022, and in particular in 2023, the booking at the Šempeter entry points strengthened, which coincides with the increased gas transmission

from Algeria to Slovenia, as an alternative to Russian gas, while the booking at the Šempeter exit point did not change significantly. Thus, in 2023 as well as in 2024, the booking at the Ceršak entry point from Austria reduced. Due to new transport routes, the booking also significantly reduced in the previous year at the Rogatec exit point.

Table 15. Previous booking of transmission capacity for domestic users cross-border transmission (GWh/day/year)

Entry-exit points	2020	2021	2022	2023	2024
Ceršak - Entry	51.892	38.516	43.705	36.182	26.247
Šempeter pri Novi Gorici - Entry	1.707	1.819	9.391	21.930	9.641
Rogatec - Entry	1.005	1.768	2.597	4.916	8.078
Total entry	54.604	42.104	55.694	63.027	43.966
Ceršak - Exit	0.000	0.158	2.485	6.584	0.000
Šempeter pri Novi Gorici - Exit	0.080	1.249	0.763	1.115	0.717
Rogatec - Exit	20.241	5.403	19.244	18.000	4.245
Total exit	20.321	6.810	22.492	25.699	4.962

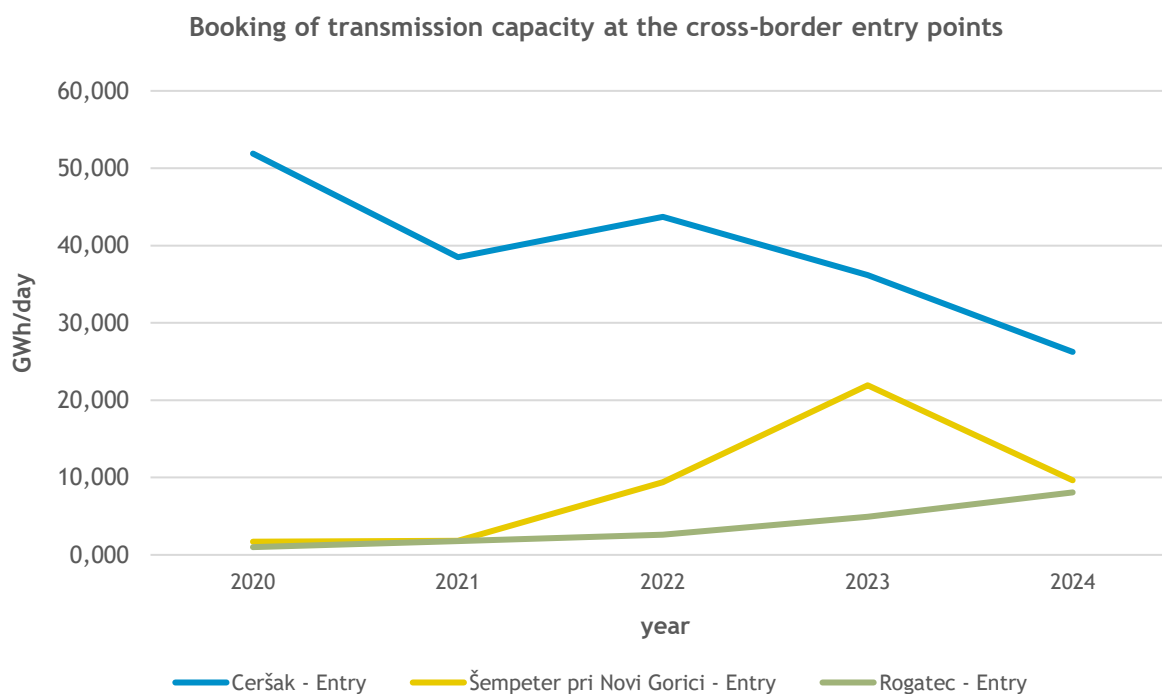


Figure 28. Booking of transmission capacity at the cross-border entry points(GWh/day/year)

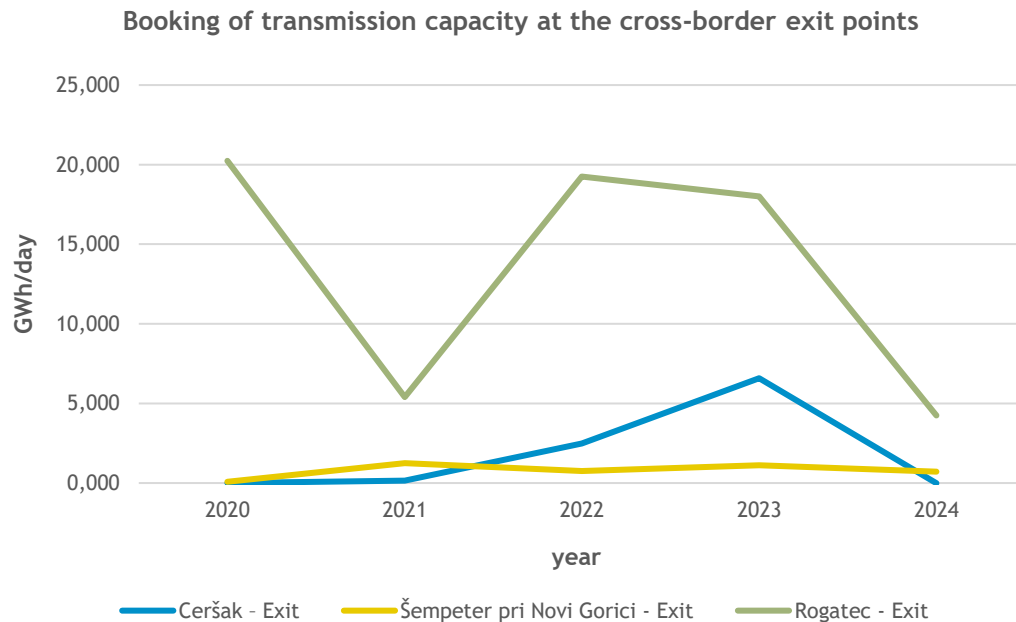


Figure 29. Booking of transmission capacity at the cross-border exit points (GWh/day/year)

Table 16 shows the assessment of the future booking of transmission capacity for domestic users and for the needs of cross-border gas transmission for the 2026-2030 period. When preparing forecasts for the booking of transmission capacity, the TSO takes into account the realisation of previous years and the estimate for booking at cross-border exit points.

With the implementation of provisions of the European Commission Regulation (EU) No. 2017/459 and the introduction of additional short-term transmission capacity products, including intra-day, the users have the option of booking transmission capacity for shorter periods, which is being increasingly utilised by the users. The bookings presented in Table 16 for the 2026 - 2030 period are therefore only estimates, due to the fact that the quantity of transmission capacity booked at an individual relevant point varies on a daily basis. The presented estimates are prepared for the annual daily average.

The TSO subsequently prepared two scenarios for forecasting and estimating the booking of transmission capacity at the relevant points of the transmission system. In the first scenario, the transmission system operator used the following for the forecasting and estimation:

- The concluded transfer contracts at relevant points;
- The received information from existing and the queries from potential network users;
- The prepared analysis of the competitiveness of transmission routes in the region (Austria, Hungary, Croatia, Italy);
- Increasing capacity booking optimisation using short-term transmission capacity products,
- Diversification of supply sources to replace the supply of Russian gas with other sources: Algeria, Norway, Qatar, the USA, etc. and the estimate of the influence of the gas source in Croatia - liquefied natural gas terminal LNG Krk.
- The procedures for non-binding surveys on the booking of incremental capacity at the transmission system cross-border points (MDAR) from 2023;
- Capacity required for the provision of reliable supply.

The transmission system operator has complied with the provisions of the Commission Regulation (EU) No. 2017/459 and in the year 2023, it conducted a non-binding survey on the booking of incremental capacity at the cross-border points of the transmission system. As part of the survey, it received one non-binding query from interested user in 2023. Given the result on the demand assessment, analysis of

the past booking of interconnection points and results of the auctions in recent years, the TSO establishes that it will also consider the projects as hydrogen projects.

Table 16. Forecast and estimate of transmission capacity booking for domestic network users and cross-border transmission (GWh/day/year) - baseline scenario

Entry-exit points	2026	2027	2028	2029	2030
Ceršak - entry	31.178	32.188	30.900	30.935	30.935
Šempeter pri Novi Gorici - entry	2.200	2.200	2.200	2.200	2.200
Rogatec - entry	8.700	9.400	9.400	9.400	9.400
Pince - entry	0.000	0.000	1.290	1.290	1.290
Total entry	42.078	43.788	43.790	43.825	43.825
Ceršak - exit	0.150	0.150	0.150	0.150	0.150
Šempeter pri Novi Gorici - exit	0.700	0.700	0.700	0.700	0.700
Rogatec - exit	0.960	0.960	0.960	0.960	0.960
Pince - exit	0.000	0.000	1.290	1.290	1.290
Total exit	1.810	1.810	3.100	3.100	3.100

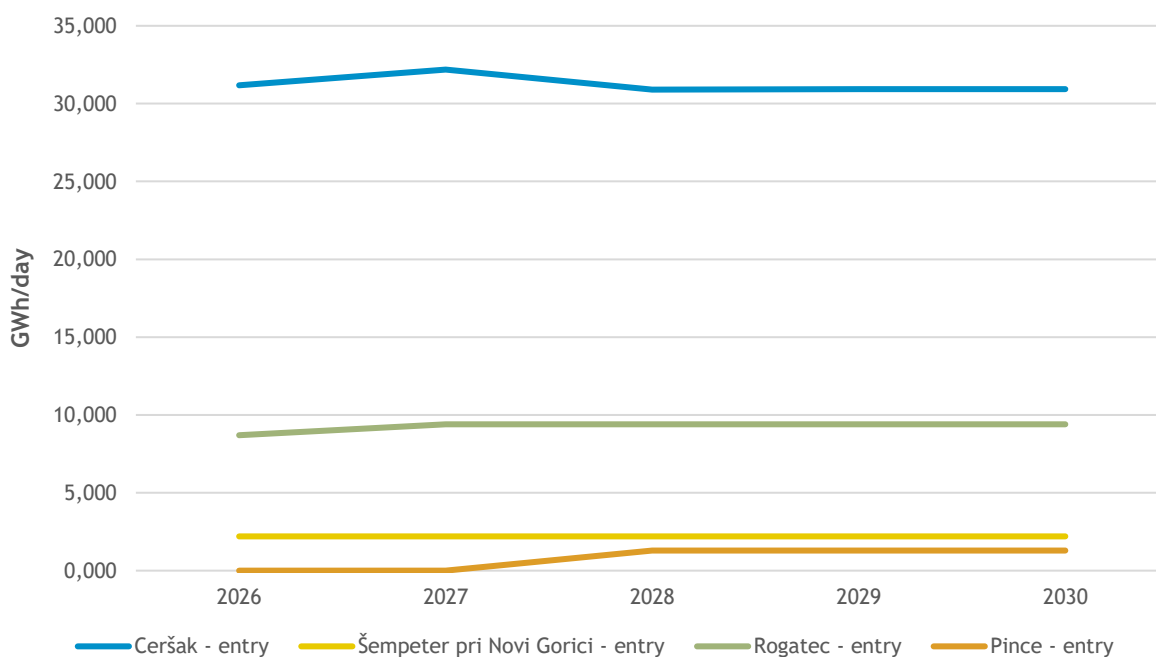


Figure 30. Booking of transmission capacity at entry points for domestic users and cross-border transmission (GWh/day/year) - baseline scenario

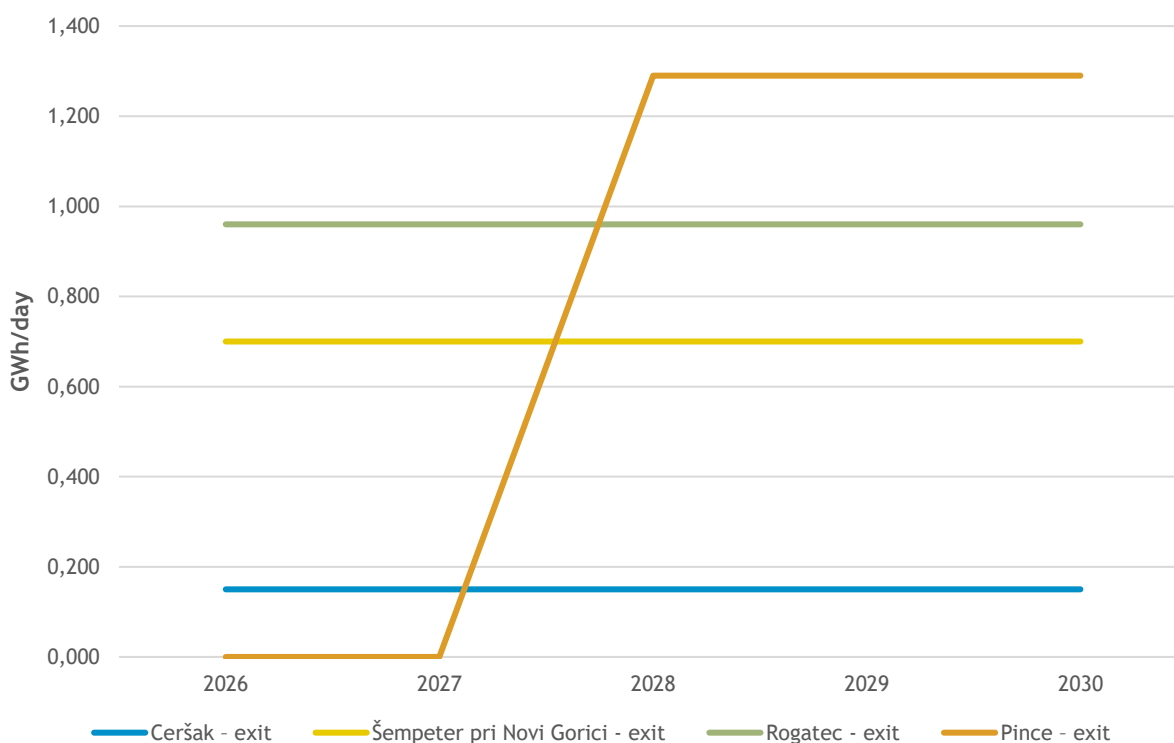


Figure 31. Booking of transmission capacity at exit points for domestic users and cross-border transmission (GWh/day/year) - baseline scenario

In the second development scenario, in addition to the elements from the first scenario, the transmission system operator additionally took into account the following:

- The data from the process of preparing the European Ten-Year Development Plan ENTSO TYNDP 2024 and;
- Capacity required to book renewable gas and hydrogen.

Table 17. Forecast and estimate of transmission capacity booking for domestic network users and cross-border transmission - development scenario

Entry-exit points	2026	2027	2028	2029	2030
Biomethane - entry in RS	0.900	1.250	1.600	1.950	2.350
H2 - entry in RS	0.300	0.520	0.800	1.050	1.310
Ceršak H2 - entry	0.000	0.000	0.000	0.000	0.470
Ceršak - entry	30.878	30.418	28.500	27.935	26.805
Šempeter pri Novi Gorici - entry	2.200	2.200	2.200	2.200	2.200
Rogatec - entry	8.700	9.400	9.400	9.400	9.400
Pince entry	0.000	0.000	1.290	1.290	1.290
Total entry	42.978	43.788	43.790	43.825	43.825
H2 - exit in RS	0.230	0.470	0.700	0.920	1.160
Ceršak - exit	0.150	0.150	0.150	0.150	0.150
Šempeter pri Novi Gorici - exit	0.700	0.700	0.700	0.700	0.700
Rogatec - exit	0.960	0.960	0.960	0.960	0.960
Pince - exit	0.000	0.000	1.290	1.290	1.290
Total exit	2.040	2.280	3.800	4.020	4.260

Entry and exit capacities for hydrogen will be booked until 2029 only from the entry-exit point within Slovenia. By 2029, the cross-border infrastructure for hydrogen transmission will not be established yet, therefore import, export and transit will not be possible. For the period until 2029 only one scenarios is relevant, since the bookings according to ENTSOG GA and DE scenarios may be differentiated only after 2040, when, if the decision is made, the JEK 2 nuclear power plant will be constructed and cause the differences between the scenarios regarding the available sources for hydrogen production. Until 2029, the development of electricity sources does not foresee different scenarios and in line with the envisaged development of renewable sources of electricity suitable to generate green hydrogen (solar power plants) also the capacities of electrolysis for domestic production of hydrogen are determined. The scope of bookings of entry and exit capacity within Slovenia is determined on the basis of a maximum daily production of envisaged installed electrolysis power in an individual year. Until the end of 2029, the first cross-border point for hydrogen in Slovenia is expected to be established at Ceršak, and in 2030 first bookings of entry capacity for hydrogen are foreseen at the respective point.

Entry capacities for biomethane refer only to the domestic production of biomethane in Slovenia. However, the actual quantities of biomethane that will be used in Slovenia may exceed the stated capacity for biomethane as it could be imported from abroad through neighbouring countries, whereby no dedicated capacity at cross-border points for biomethane need to be booked for import, but only for gas as the existing gas infrastructure will be used to transmit biomethane, while the dedicated infrastructure for biomethane transmission is not required and also not foreseen. Until the end of 2029, the first cross-border point for hydrogen in Slovenia is expected to be established at Ceršak, and in 2030 first bookings of entry capacity for hydrogen are foreseen at the respective point.

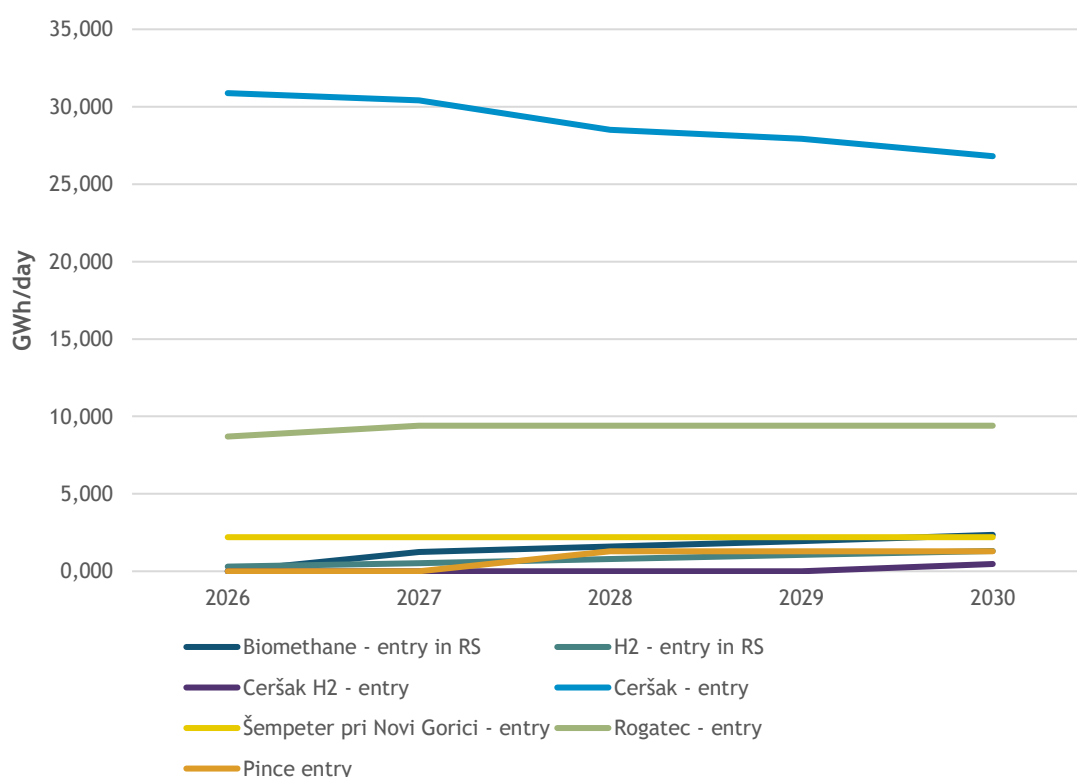


Figure 32. Booking of transmission capacity at entry points for domestic users and cross-border transmission (GWh/day/year) - development scenario

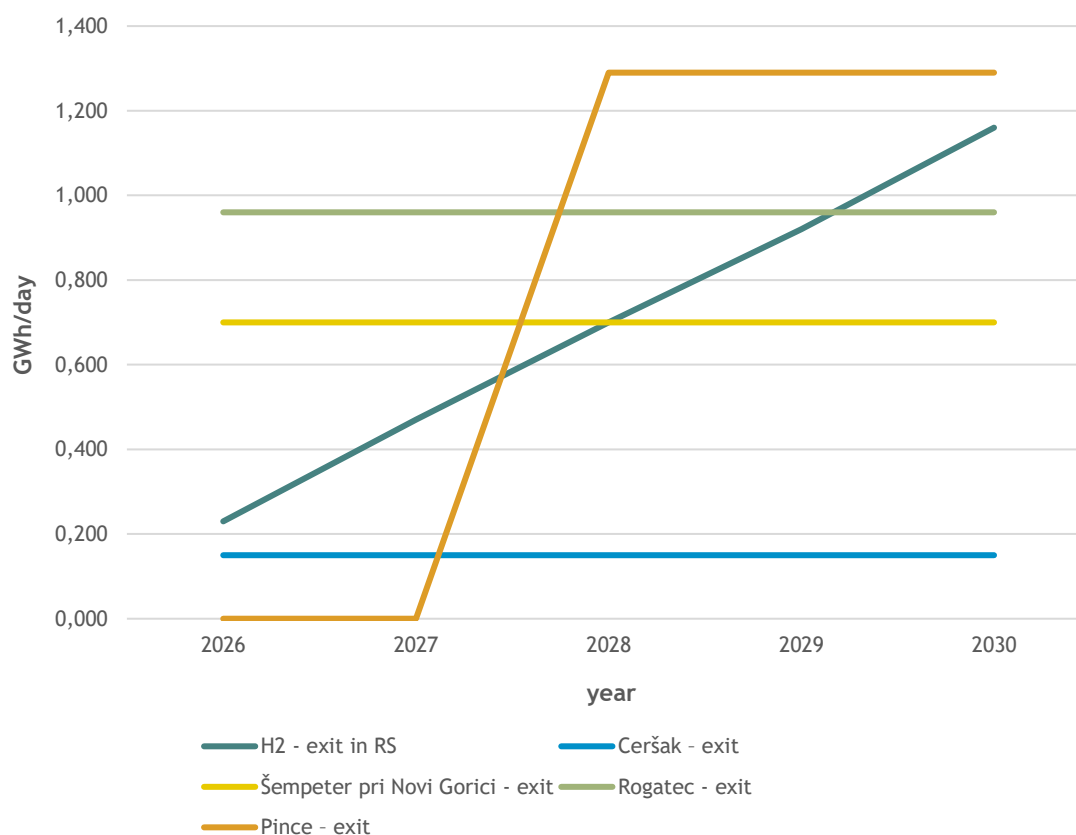


Figure 33. Booking of transmission capacity at exit points for domestic users and cross-border transmission (GWh/day/year) - development scenario

Table 18 shows a potential development of technical capacity in the next five-year period. Due to the possible new major gas pipeline projects in the region, the capacity and timing of which are not yet known, but at the same time could affect the development of the capacity of the Slovenian transmission system at the cross-border interconnection points, a longer period has not been considered.

Table 18. Potential development of technical capacities of the gas transmission system (GWh/day)

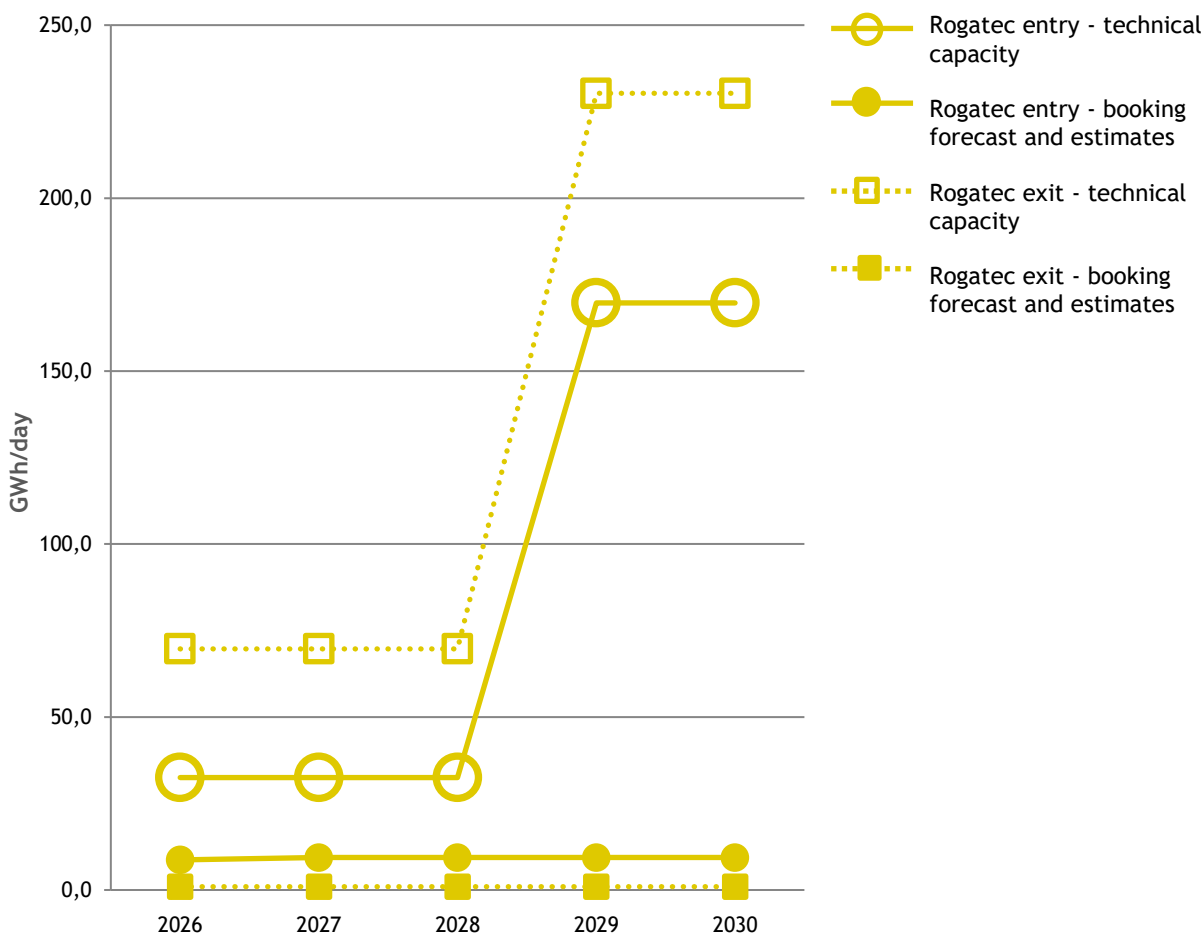
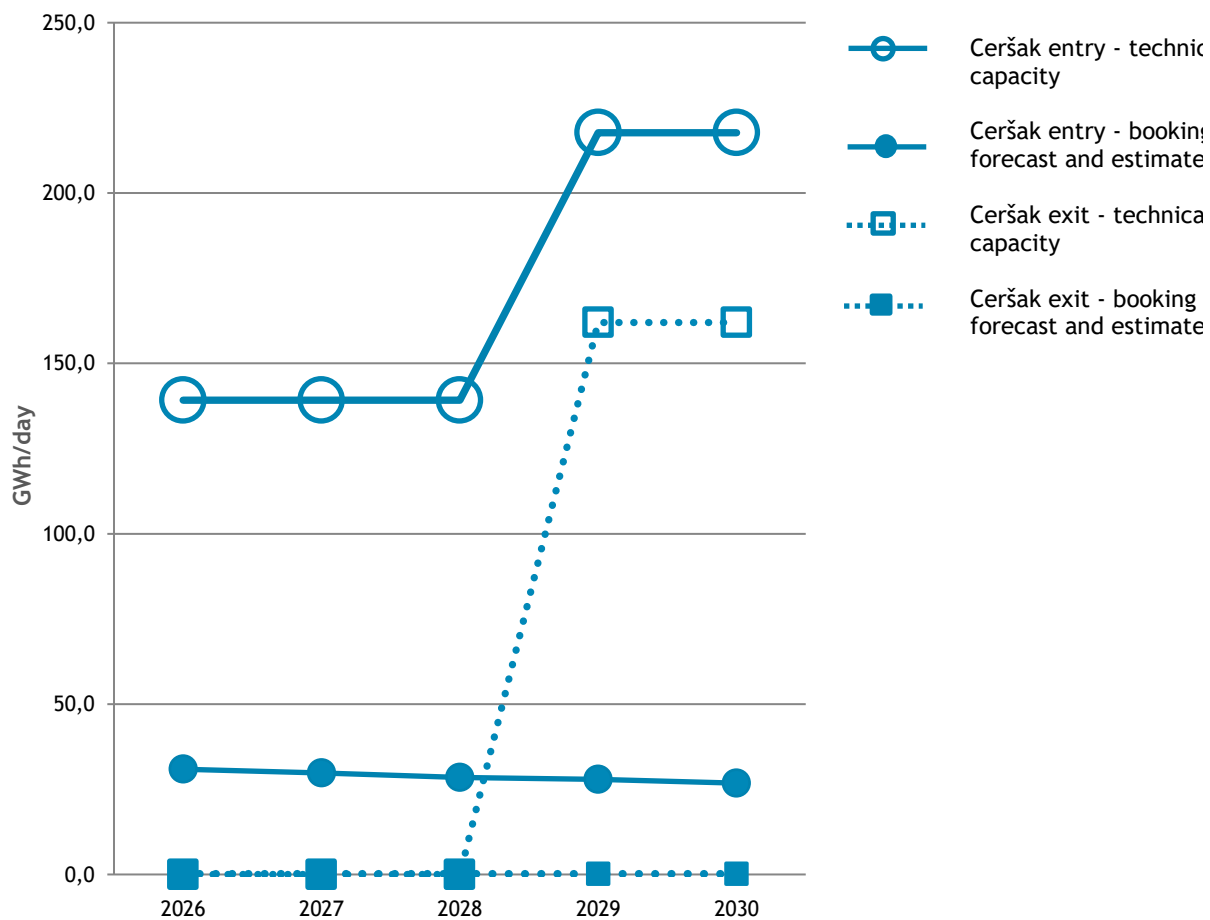
Transmission system operator	Interconnection points		2026	2027	2028	2029	2030
Plinovodi	Ceršak	entry	139.2	139.2	139.2	217.7*	217.7*
		exit	0.0	0.0	0.0	162.0*	162.0*
GCA ⁽ⁱ⁾	Murfeld	entry	0.0	0.0	0.0	0.0	0.0
		exit	112.5	112.5	112.5	112.5	112.5
Plinovodi	Rogatec	entry	32.5	32.5	32.5	169.7**	169.7**
		exit	69.5	69.5	69.5	230.3**	230.3**
Plinacro ⁽ⁱⁱ⁾	Rogatec	entry	53.9	171.9	171.9	171.9	171.9
		exit	32.5	70.2	70.2	70.2	167.0
Plinovodi	Šempeter pri Gorici	entry	49.0***	49.0***	49.0***	97.0****	97.0****
		exit	49.0***	49.0***	49.0***	53.0****	53.0****
Snam Rete Gas ⁽ⁱⁱⁱ⁾	Gorizia	entry	43.5	43.5	43.5	43.5	43.5
		exit	48.0	48.0	48.0	48.0	48.0
Plinovodi	Pince	entry	0.0	0.0	5.2*****	12.9*****	12.9*****

		exit	0.0	0.0	5.2*****	12.9*****	12.9*****
FGSZ ^(iv)	Tornyiszent miklós	entry	0.0	12.9	12.9	12.9	12.9
		exit	0.0	12.9	12.9	12.9	12.9
Note *	Upon realisation of the upgrade of the interconnection Rogatec - C12 project (TRA-N-390) and stage 2 of the CS Kidričevo - C5 project (TRA-N-94).						
Note **	Upon realisation of the upgrade of interconnection Rogatec - C12 project (TRA-N-390).						
Note ***	After the realisation of unit 3 of CS Ajdovščina and BMCS Vrtojba - project in progress.						
Note ****	Upon the realisation of the construction of M3/1a gas pipeline - project A31						
Note *****	Upon realisation of the interconnection with Hungary with stage 3 (or 2) of expanding KPK - C17 project (TRA-N-112) or C5 (TRA-N-94).						
Source:	(i) 2022 Coordinated Network Development Plan for the Gas Transmission System Infrastructure in Austria for the period from 2023 - 2032 (GCA, April 2023) (ii) DESETOGODIŠNJI PLAN RAZVOJA PLINSKOG TRANSPORTNOG SUSTAVA REPUBLIKE HRVATSKE 2021 - 2030 (Plinacro, May 2020) (iii) Piano decennale di sviluppo della rete di trasporto del gas naturale 2023 - 2032 (Snam Rete Gas) (iv) 10-year network development plan (FGSZ, March 2025)						

The TSO will approach the implementation of projects to increase the available technical capacity of the transmission gas pipeline system and the capacity at the cross-border interconnection points in case of appropriate requirements and needs for the capacity increase. The capacity increase will be coordinated and implemented by the TSO in agreement with the neighbouring transmission system operators at the cross-border interconnection points, thus ensuring the coordination of the construction of new transmission capacities on both sides of the cross-border interconnection points.

The data in Table 18 in the TSO Plinovodi indicates the data prepared for the European Ten-Year Development Plan TYNDP 2024, which is in the last phase of confirmation at ENTSO, and the most recent information and agreements with neighbouring transmission system operators. The data indicated in neighbouring TSOs are taken from the most recent publicly published ten-year development plan of an individual neighbouring TSO and show the planned technical capacity and its activation dynamics as foreseen by the neighbouring TSO during the period of drawing up the development plan.

The Figure 34 below gives a graphic presentation of a possible development of technical capacity for three existing cross-border interconnection points, and one planned for the following five-year period. During and after this period, the capacity development of the Slovenian transmission system at cross-border interconnection points may already be significantly affected by the route of some of the new major gas or hydrogen pipeline projects in the region.



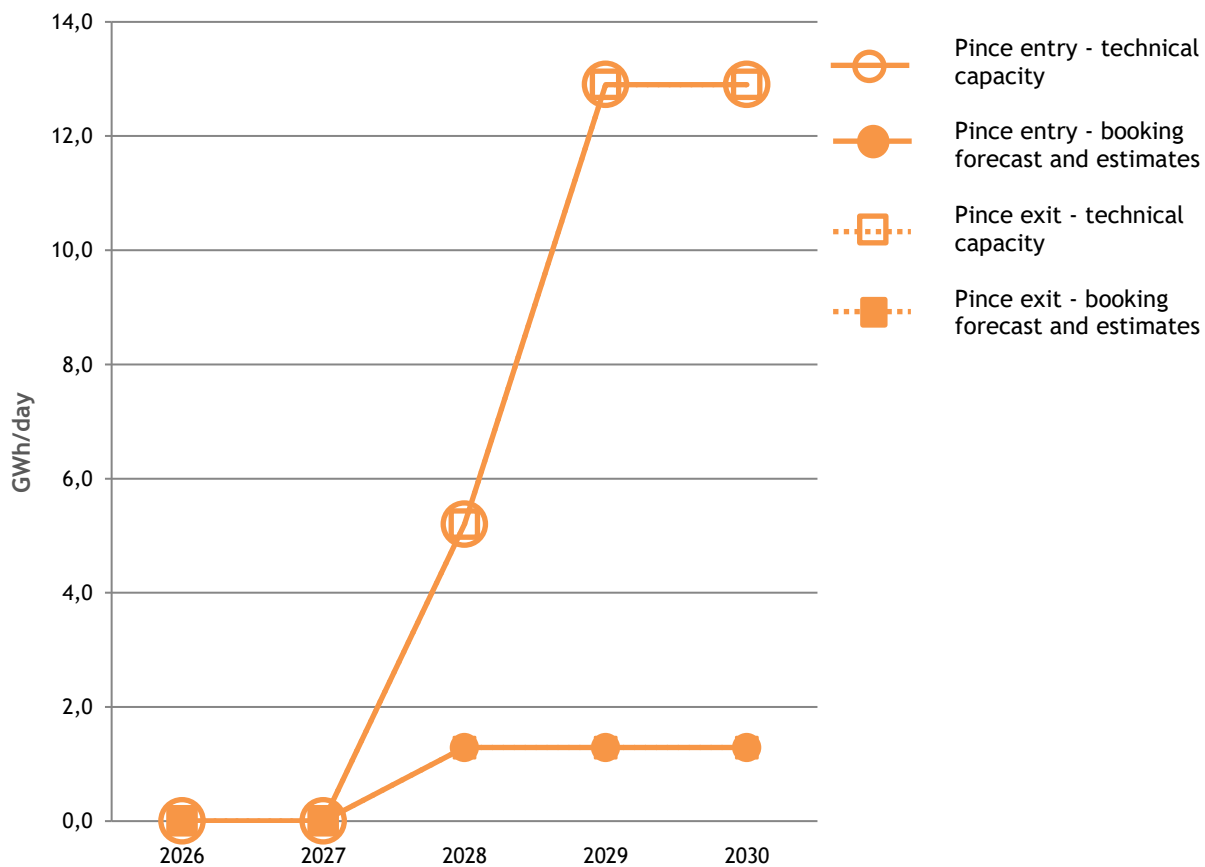
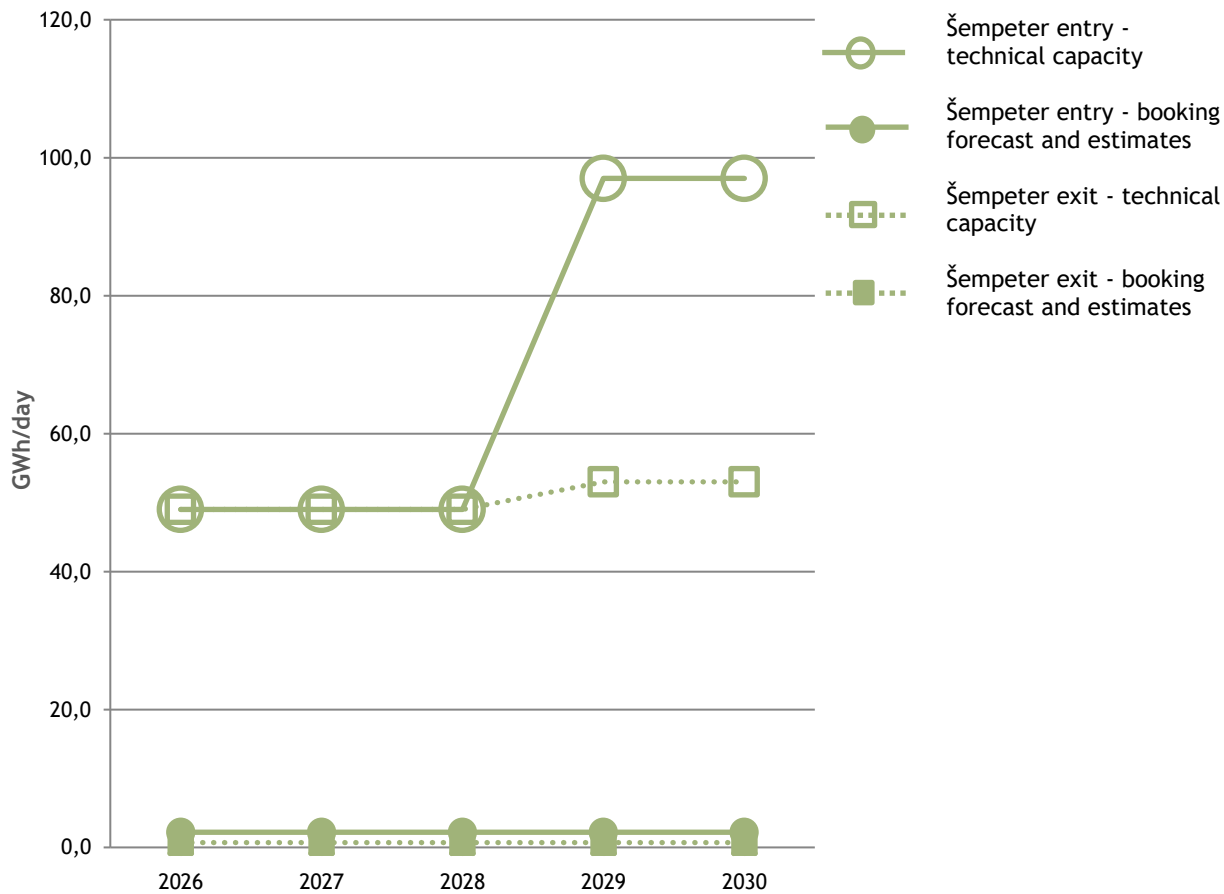


Figure 34. Possible scenarios of the development of technical capacity, booking forecast and estimate at interconnection points



3.3.4 Forecast of gas transmission through the Slovenian transmission system

Forecasts of gas transmission through the Slovenian transmission system are drawn up on the basis of an assessment of capacity booking at exit points in the Republic of Slovenia and the consumption of Slovenian customers (Chapter 3.2.10), and on the basis of the future development of technical capacity at interconnection points and an assessment of capacity booking (Chapter 3.3.3) and the transfer on the respective points.

Taking into account the respective sources to provide for a more accurate forecast of gas transmission through the transmission system, the TSO adds that forecasts are indicative and relevant for a short period of time. In forecasting the cross-border transmission, the TSO, in addition to the already mentioned, emphasises the impact of the development of global geopolitical area and its influence on the European gas markets and thus cross-border flows in the region.

In forecasting the gas consumption in Slovenia, the TSO took into account past consumptions and based on the assessment of future capacity bookings of users in the Republic of Slovenia made an assessment of gas transmission for Slovenian customers.

In forecasting future quantities of cross-border transmission, the TSO took into account development plans of neighbouring transmission system operators, the last confirmed variant of Ten-Year Development Plan of ENTSOG, and assessed bookings of transmission capacity for cross-border transmission and cross-border transmissions in previous years.

Tables and graphs below present Ten-Year Forecast of Gas Transmission where the majority of transmission through the Slovenian transmission system are quantities for gas customers in Slovenia. The forecast of cross-border transmission remains low for the next ten-year period given the lowered transmissions in the recent years and the changed gas supply routes in the region.

Table 19. Forecast of gas transmission through the Slovenian transmission system (GWh/year)

Type of transmission	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Transmission for consumers in Slovenia	9,676	9,829	9,481	9,634	9,787	10,185	10,585	10,983	11,383	11,781
Cross-border transmission	133	191	224	324	349	379	412	453	502	502
Total	9,808	10,020	9,703	9,958	10,136	10,564	10,997	11,436	11,885	12,283

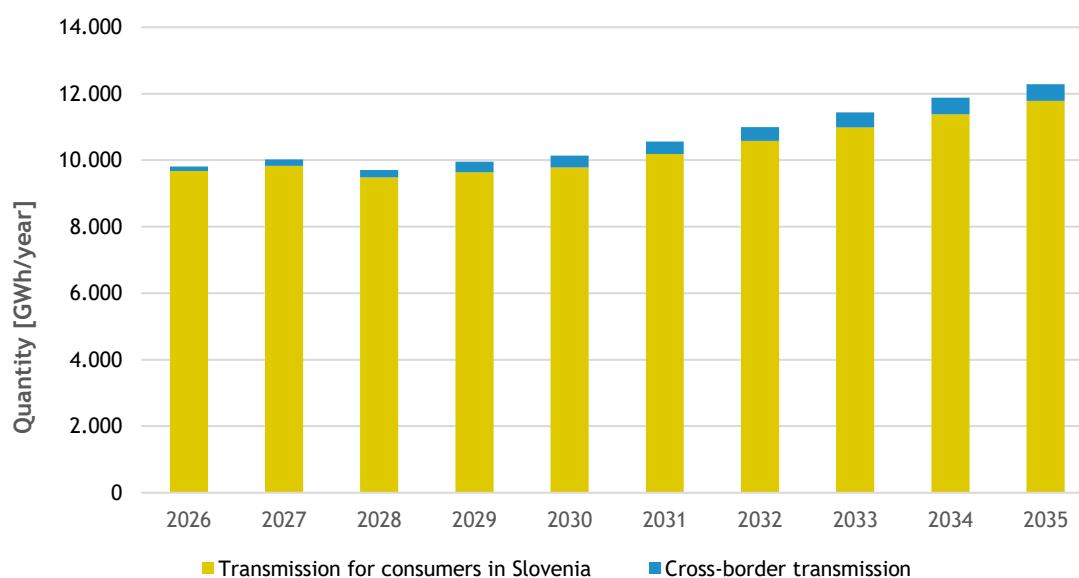


Figure 35. Forecast of gas transmission through the Slovenian gas transmission system for the 2026-2035 period (GWh/year)

3.3.5 Development of hydrogen transmission capacity

With the aim of enabling and facilitating the penetration of gas from renewable sources and hydrogen into the energy system, and phasing out the fossil fuel, the transmission system operator endeavours, in line with the principles of climate and energy objectives of the EU and the provisions of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789, to establish a separate hydrogen transmission system to provide gradual phasing out of gas in all sectors to all current and potential future gas system users. The hydrogen transmission system will also enable the development of national hydrogen market, while connecting the Slovenian hydrogen system with neighbouring systems will provide integration of national hydrogen market into European hydrogen market.

The national hydrogen transmission system is expected to develop in several phases. In the first phase, the transmission system operator will carry out a reconversion of one of the existing doubled main trunk gas pipelines and thus provide a first step to establish a hydrogen backbone that will be connected to hydrogen transmission systems in all four neighbouring countries. In Slovenia, the hydrogen backbone will be fully established in the second phase, where new hydrogen pipelines will be built parallel to the existing main trunk gas pipelines, where they are not doubled. In this phase, suitable compressor capacities will be constructed to provide, in addition to the supply of Slovenian customers, also a transit of hydrogen through the Slovenian transmission system to neighbouring countries. In the second phase, three cross-border interconnection points will be established with the remaining three neighbouring countries and will provide a bi-directional flow of pure hydrogen. The next phases will include the construction of new hydrogen pipelines connecting hydrogen customers with the hydrogen backbone. The first two phases, until the establishment of the hydrogen backbone and cross-border interconnection points, are expected to be concluded by 2035. The first two phases comprise two projects, namely D1 and D2, that are included in this Ten-Year Development Plan as well as the European Ten-Year Development Plan (TYNDP), and are also candidates to obtain the PCI status and to be included on the 2nd PCI list after the recast TEN-E Regulation. Connecting hydrogen pipelines between the hydrogen backbone and hydrogen customers will be set up gradually and according to the interest expressed by customers to be connected and supplied with hydrogen.

The connection of domestic hydrogen producers to the hydrogen transmission system will be possible already after the first phase (reconversion), depending on the location of production facility. Since Slovenia does not have a sufficient potential to achieve self-sufficiency in terms of hydrogen supply, the establishment of the hydrogen backbone including cross-border connections is key for the Slovenian hydrogen customers to be supplied and access the European hydrogen market. By establishing cross-border hydrogen connections, Slovenia will access to different hydrogen sources, in the EU and in third countries. The first such source is hydrogen from Algeria supplied to the EU through Italy (SouthH2Corridor project). The connection to the transmission infrastructure of the SouthH2Corridor project is foreseen within the scope of the national hydrogen backbone (Phase 2).

3.4 Development needs of the transmission system

3.4.1 Management and control system of the transmission system

Information systems of the transmission system operator (TSO) are rapidly developing and, taking into account the legislation and other requirements they are becoming increasingly complex and interconnected, both internally and with external information systems as well. The TSO uses both business and process information systems in its business operations. A key process information system, the SCADA (Supervisory Control And Data Acquisition) system is used centrally to control and directly

manage the transmission system. At key locations of the transmission system, local DCS (Distributed Control System) systems are installed. In addition to the respective process control systems, in line with the requirements of the revised Gas Supply Act (ZOP) in 2022, the TSO established a uniform information system - UIS which provides central data processing for all gas consumption points in the Republic of Slovenia.

Considering the current and developing TSO tasks and also based on the provisions of the Information Security Act, where the Government of the Republic of Slovenia appointed Plinovodi d.o.o. as an operator of essential services in the field of energy, the TSO approached the project of implementing the Management Centre in a newly built facility that will meet more stringent requirements to provide a safe and reliable operation and enable a long-term development of the remote operation systems and business information systems. The facility will meet the latest requirements for reliability of electricity supply, requirements for the redundancy of communication connections, and requirements for electromagnetic, fire and flood protection of equipment. Within the scope of a uniform information environment, the standardisation of installations, communication and data protocols will be provided. The spatial planning will also take into account the possibility of longer operation of the Management Centre in the conditions of full isolation of operating personnel in the event of the epidemics.

As per the Information Security Act, the TSO must also meet an obligation of back-up location. The existing backup location of the Management Centre does not allow for further development to ensure full redundancy to the Management Centre in Ljubljana. The TSO prepared an analysis to determine a backup location while taking into account the recommendations of the ISO 23301 standard referring to the selection and implementation of the backup management centre. Based on the analysis results, the TSO selected a suitable location and started to draft a project solution. The facility of the backup Management Centre will be designed to meet the same requirements of reliable and secure operation as the Management Centre, provide longer operation in the conditions of full isolation of the operating staff and ensure an appropriate level of redundancy of process systems, key business systems and systems of cyber-security of Plinovodi.

The Management Centre, together with the Backup Management Centre, is an urgent step of TSO to provide further secure and reliable operation of the transmission system, taking into account the current and future legislative obligations for transmission system operator, long-term development of information systems and introduction of a higher standard in the redundancy of information systems included in management and control of the transmission system. By introducing new technologies and services of the transmission system, the information systems will become even more relevant.

3.4.2 Intelligent network services

The field of services for transmission system users has been greatly enriched and supported by the introduction of EU codes for gas networks in the last decade. As a transmission system operator, the Plinovodi company defines its services in more detail in the System Operating Instructions, which it updates and supplements in accordance with its needs (legislative, technological, market). In the recent years, the TSO has established or supplemented several intelligent network services for transmission system users, which are based on strong information support and "real-time" information exchange. Such services are the following:

- The on-line booking of capacity at cross-border points via an on-line booking platform with different maturities (including hourly within the day);
- The increased scope of possible products, digitalisation of booking of capacity at exit points within the Republic of Slovenia via the TSO, i.e. uniform on-line platform for system users (EPUS), and consequently the reduction of processing times from the request for access to the transfer contract with the implementation of the information solution (digital signing of contracts);

- The establishment of a virtual point that allows users to trade on the free and balancing market;
- The establishment of a system for the preparation of forecasts, based on the adopted methodology and information solution, both prepared at the Plinovodi company and coordinated with the distribution system operators (DSO) and suppliers;
- The establishment of the Unified Information System (UIS) for the needs of gas market operation and to provide a reliable supply to Slovenian customers.

In the future as well, the TSO will further develop the mentioned information solutions and supplement them in terms of content. Information solutions will be even more conceptualised and adapted to the needs of users than before. By further digitalisation of business processes within the TSO, which will be based on a renewed application information architecture, by planned implementation and control of the company's business continuity, by integrating modern information security systems and approaches, the TSO will be able to offer and enable its users further development and optimisation of their business using the intelligent network services.

A key guideline in the provision of intelligent network services will be an even stronger information connection between the TSO and the existing and new gas market stakeholders (TSO - balancing group leader, TSO - final user, TSO - DSO, integration of electricity and gas stakeholders), while taking into account the requirements to provide a high level of cyber security. An essential component of such services will be the "real-time" or "near real-time" exchange of data and information, where these will be designed according to the needs of users. In this way, we plan to further develop the established uniform EPUS platform and its UIS system for transmission system users, holders of balance groups, gas traders and distribution system operators, and provide solutions for gas sector in compliance with the legislation and as required or expected by users.

In the field of data processing, the TSO introduces a system of business intelligence (BI) to manage large quantities of data, provide its analysis and use to monitor Company's operation and to support the decision-making process.

Parallel with the development of legislation and market in the field of gas from renewable energy sources, a need emerges for an additional development of services and intelligent network solutions in the respective field, one of which being related to certificates of origin. With the purpose to manage certificates of origin in the field of gas or renewable origin and hydrogen, the OPS will establish information environment to share data with a register of certificates of origin. In line with the needs of transmission system users and holders of certificates of origin, as well as legislative frameworks, the TSO will develop additional services, with one of which potentially being also the establishment of trading platform with certificates of origin within the scope of the EPUS information solution.

The TSO introduces a system to manage assets (EAM, Enterprise Asset Management) that will combine a functionality of management and maintenance of company assets throughout their useful life. It will be used in planning, implementing and optimising the necessary maintenance activities for an individual Company asset.

3.4.3 Gas quality measurement and analysis systems

In the coming years, the TSO will analyse the possibility of measuring the transmitted quantities in a sequential manner at individual measuring points where larger quantities of gas are transported and take into account a detailed analysis of the measurement uncertainty. Based on the determination of the influence parameters and the analysis of measurements, the objective will be to set up an experimental model for the measuring point.

The TSO upgrades a measuring system for measuring gas quality by installing additional gas chromatographs to measure molar concentrations of individual gas components, including the content of hydrogen. It will compare the concentrations of gas components with the measurements of the



neighbouring transmission system operators. The aim of these measurements is to study the impact of renewable and low carbon gases on the Wobbe index and the upper calorific value of Group H gas transmitted in the transmission system. It will pay special attention to the methane number, relative density, and dew point of hydrocarbons. The study will be guided by the latest findings of the European Committee for Standardisation (CEN) and working groups, such as TC-234 / WG-11, and compliance with the new standard for gas quality EN 16726.

3.4.4 Controlling methane emissions in the transmission system

The Regulation on reducing methane emissions in the energy sector stipulates the introduction of a complex system to control methane emissions in the gas transmission systems that will present a relatively big challenge to systems operators in terms of establishing efficient provision and control of methane emissions.

In 2022, Plinovodi also set a baseline for greenhouse gas emissions in accordance with the Greenhouse Gas Protocol (GHG), under which also the methane emissions will be controlled in the transmission system. The company carried out reporting in line with the indicators of Global Reporting Initiative (GRI) that addresses methane emissions in terms of direct emissions (Chapter 305:1-3, Scope 1). Within the scope of the ISO 14001 environmental standard in Plinovodi, the company sets and implements environmental goals that currently include the replacement of gas-powered regulation valves with power operated units and all regulatory monitoring procedures.

Inter alia, the Regulation specifies requirements relating to the implementation of the research programmes for detecting and eliminating methane leaks (LDAR - Leak Detection and Repair), the implementation of monitoring, reporting and verification (MRV - Monitoring, Reporting, Verification) on methane emissions, including the use of generic and specific emission factors (EF) of the acceptable minimum threshold of detecting methane on the equipment for detecting the presence of methane, the required minimum threshold of detecting methane concentration, above which leaks need to be eliminated in a certain time period, restrictions relating to methane venting and incineration of methane on flares, and roles of individual stakeholders (operator, verifier, competent authorities).

As other system operators, Plinovodi will also have to provide necessary technical measures to meet the requirements of direct measurement of emissions within the process of establishing and controlling emissions. Requirements of direct measurement of emissions are provided in the Regulation on the reduction of emissions stipulating the start of emission measurements, installations and systems and permissible errors of emission measurement. To control the emissions, Plinovodi will introduce solutions to reduce gas emissions from regular operation, emissions from ordinary and extraordinary maintenance, and emissions due to leakage. Based on monitoring the development of methodologies and regulatory requirements, Plinovodi planned and is still planning investments in the following areas:

1. Analyses and drawing up a program to detect and eliminate leakages (Leak Detection And Repair, LAR),
2. Development and establishment of the emissions monitoring system, reporting on emissions, and verifications of reporting conducted by an external verifier,
3. Introduction of a code system and link with the Enterprise Asset Management system (EAM),
4. Purchase of additional equipment for detecting and limiting emissions (infra-red detectors, flame detectors, containers),
5. Additional process instruments and data transfer to the control system (positioners, gas detectors, flow meters), and
6. Equipment for gas re-pumping and incineration of gas.

In 2023, a study on limiting methane emissions on the gas transmission system was conducted; it includes measures to reduce methane emissions. The Company has already performed partial purchases of the respective equipment for detecting methane emissions and the equipment for gas incineration, and started to implement projects to limit emissions on compressor stations. Other proposed measures for reducing methane emissions will be introduced gradually, from the most efficient and the least expensive to the most expensive and complex with relatively low impact. In drawing up and implementing projects, Plinovodi will monitor domestic and European tenders to obtain subsidies for the dedicated tools and installations for emission reduction.

The project to control methane emissions was also notified in the ENTSOG TYNDP development plan under the code “OTH-N-1201 Reduction of transmission system methane emission”.

3.4.5 Transmission capacity booking platform, system operation monitoring platform and market transaction platform

a. Transmission capacity booking platform

Since the beginning of implementing auctions for capacity at interconnection points, Plinovodi in accordance with the provisions of the Commission Regulation (EU) 2017/459 uses the PRISMA capacity booking platform for transmission capacity auctions. The PRISMA platform is used at interconnection points with Slovenia by all neighbouring transmission system operators, i.e., by the Austrian, Italian, and Croatian ones. The legislative requirement for the joint offer of joint capacities on both sides of the border can be fulfilled only by using the same platform on both sides of the state border or an interconnection point between the two neighbouring operators. The transmission capacity at interconnection points may be booked exclusively through auctions, which may be conducted exclusively through the capacity booking platform.

The PRISMA platform ensures high operational reliability, effective data protection and protection against Internet intrusions, as well as adequate responsiveness in resolving problems and upgrades due to changes in the legislative framework. The transmission system operator regularly monitors the development and operation of the on-line reservation platform.

b. System operation monitoring platform and market transaction platform

The transmission system operator has in accordance with the provisions of the System Operating Instructions for the Gas Transmission System and the Commission Regulation (EU) No. 312/2014¹⁵ on establishing a Network Code on Balancing of Transmission Networks as of 1 October 2015 established a virtual point for the exchange of gas quantities in the Slovenian transmission system. Within the virtual point, the transmission system operator offers the following three services: The execution of transactions, a trading platform, and a bulletin board. At the virtual point, members of the virtual point can perform gas transactions for the purpose of balancing their portfolios, transactions for the needs of gas supply to system users or gas resale transactions. The platform is IT supported by the web application VTP (Virtual Gas Point). In communication with the network users, the transmission system operator encourages the use of virtual point services and thus increases the liquidity of the gas market in Slovenia.

3.4.6 Smart Gas Grids

As it follows from the Regulation (EU) 2022/869 on guidelines for trans-European energy infrastructure (TEN-E), one of the developing activities in every European transmission system operator is also the establishment of the so-called smart gas grid. With the use of innovative smart metering and digital solutions, the established smart grid will be a cost-efficient transition and an inclusion of the low-carbon

¹⁵ Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks



gas sources, in particular renewable gas sources, including biomethane and hydrogen, into the gas network.

In the field of introducing technologies of smart gas grids, the TSO will implement legislative commitments and pursue respective objectives of efficient transmission of gas mixtures of different sources, in particular low-carbon and renewable ones. For this purpose, the TSO will develop necessary infrastructure for measuring and monitoring gas composition (smart metering) in the coming years, i.e. from the acceptance into to the transmission system to the off-take. The TSO will use the established monitoring infrastructure to support developing activities of transmitting gas mixtures of different sources (such as ad-mixing biomethane or hydrogen to natural gas) and obtain current and quality data on gas composition and its energy value. This data can be then provided as an additional TSO service to gas markets stakeholders through the already established information platform for EPUS system users with the aim of interactive monitoring of the energy taken and transmitted and also offering additional intelligent services with final customers.

By establishing the system for the preparation of forecasts and the Unified Information System (UIS), the TSO took concrete steps in the recent years to achieve data digitalisation of connecting gas grids - transmission and distribution systems. With future development of smart gas grids, where similar development is also foreseen for distribution networks, there follow further actions to connect smart gas grids and related required additional TSO services. For this reason, the TSO will monitor the development of smart distribution gas grids and will include also investments into the equipment under the scope of developing smart gas transmission system to provide reverse gas flow from the distribution to the transmission system where this will be required to provide operation of distribution systems.

Within the scope of smart gas grid, the TSO will provide also a service of monitoring carbon footprint of transmitted gas of different sources in addition to monitoring energy equivalent of transmitted gas of different sources. Upon establishing a unified and connected European and national system for the certification of renewable gas through the mechanism of Guarantees of Origin, the TSO will be one of key elements for the establishment and implementation of monitoring carbon footprint of transmitted gas through its activity and services.

In December 2024, the TSO, together with the Croatian operator Plinacro, submitted an application for the project of common interest (PCI) "Croatia and Slovenia Smart Gas Grid Project" for the establishment a coordinated management of the mixture of gas and hydrogen in the region and the reduction of gas emissions in transmission system operation.

3.4.7 Cybersecurity

The transmission system operator recognises the field of cybersecurity as one of the key elements of business and operational reliability. In its development plan in the field of cybersecurity, the transmission system operator takes into account current as well as future challenges that will emerge with the expanding use of advanced technologies that will have a direct impact on the challenges in the field of cybersecurity. As key future challenges in the respective field, the Company lists high level of process environment safety, expansion of smart grids and IoT devices, use of cloud services and use of quantum cryptography, as well as always-present human factor.

The security of information and communication systems is key for providing all functions of the transmission system operator in line with the legislation. The advance in information and communication technologies requires their constant monitoring and adequate adjustments, while providing innovative methods of use of technologies and different development opportunities at the IT level.

The transmission system operator will achieve a high level of cybersecurity through optimum utilisation of capacity provided by existing technologies and processes and by introducing new, more advanced (artificial intelligence), efficient (encryption and cryptography, verified and certified technologies and via adequate security-related awareness of employees and contractual partners, while taking into account the highest level of security throughout the supply chain. In developing and implementing systems for increasing the level of cybersecurity, the Company will primarily draw on knowledge and experience of our own highly trained staff and additionally include reliable and proven expert contractors at the level of the best available technology and knowledge. The field of prevention of security incidents will encompass topics from architecture and technical design of components of security information and communication systems to the awareness of users and compliance with regulations that contribute to the development of more secured systems, their management and recognition and response to threats.

Additionally, a new backup Management Centre will contribute to the highest cybersecurity level possible by also providing redundancy to key, steering and control information and communication systems and data redundancy to the primary management centre.



4 The adjustment plan to admit gas into the system

4.1 Technical requirements for gases and mixtures, including hydrogen

Over the next 10 years, we expect the cross-border transmission of already injected renewable gases and injecting renewable gases produced in Slovenia to the gas transmission system to be established. These gases include biomethane, synthetic gas and green hydrogen. Biomethane (purified biogas) and synthetic gas are very similar to natural gas in terms of their composition. The permitted ranges of gas component concentrations are already defined in network codes (SON), and will also apply for biomethane and synthetic gas. Since, in line with SON, the composition of synthetic gas and biomethane is very similar to gas in the transmission system in terms of their composition, the injection at an individual point in the transmission system is limited only with the transmission capacity of the pipeline injected with the renewable gas.

According to its chemical and transport characteristics, hydrogen differs from natural gas; it is usually not present in gas or is present in negligible quantity. Hydrogen has a great impact on transmission system capacity and its integrity due to effects on materials it comes in contact with. Therefore, the permitted concentrations of hydrogen in gas are usually capped to provide safe and reliable transmission in the system. The limit relates to the concentrations of hydrogen, where the elements of transmission system are still able to operate safely within the expected parameters. The quantity of hydrogen that can be injected at a point in the transmission system depends of flow-through conditions at the respective point. The injection of hydrogen thus needs to be adjusted to the actual flows in the transmission system. Hydrogen injected into the transmission system may contain oxygen, which is a by-product in the production of hydrogen by electrolysis, but the concentration of oxygen should be lower than the value specified in network codes.

The quality of H Group gas is described in the SIST EN 16726:2015+A1:2018 standard which is a starting point for monitoring the quality of renewable gases. The requirements of the standard are provided in Table 20.

Table 20. Permissible limits of H Group gas parameters based on EN 16726:2015+A1:2018.

Parameter	Unit	Limits at standard reference conditions 15°C/15°C		Limits at standard reference conditions 25°C/0°C		Reference standards for test methods
		Minimum	Maximum	Minimum	Maximum	
Relative density	/	0.555	0.700	0.555	0.700	EN ISO 6976 EN ISO 15970
Total sulphur	mg/m ³	Not prescribed	20	Not prescribed	21	EN ISO 6326-5 EN ISO 19739
In high-pressure gas pipelines, the permitted concentration of total sulphur of odourless gas is 20 mg/m ³ . If the gas is odourised, the permitted concentration of total sulphur is 30 mg/m ³ . The values of total sulphur are determined by national regulations.						
Hydrogen sulphide and carbonyl sulphide	mg/m ³	Not prescribed	5	Not prescribed	5	EN ISO 6326-1 EN ISO 6326-3 EN ISO 19739
Mercaptan sulphur without odorant	mg/m ³	Not prescribed	6	Not prescribed	6	EN ISO 6974-3 EN ISO 6974-6 EN ISO 6975

Oxygen	mol/mol	Not prescribed	0.001% or 1%	Not prescribed	0.001% or 1%	EN ISO 6974-3 part 1 to 6 EN ISO 6975
	0.001% refers to a 24-hour moving average at entry and exit points. 1% refers to the entry, e.g. in underground tanks.					
Carbon dioxide	mol/mol	Not prescribed	2.5% or 4%	Not prescribed	2.5% or 4%	EN ISO 6974 part 1 to 6 EN ISO 6975
	The concentration at entry and exit points may not exceed 2.5%. Higher concentration is permitted if it refers to the entry, e.g. In underground tanks.					
Hydrocarbon dew point (at any absolute pressure from 0.1 to 7 MPa)	°C	Not prescribed	-2	Not prescribed	-2	ISO 23874 ISO/TR 12148
Water dew point (at any absolute pressure from 0.1 to 7 MPa)	°C	Not prescribed	-8	Not prescribed	-8	EN ISO 6327 EN ISO 18453 EN ISO 10101 Part 1 to 3
Methane number	/	65	Not prescribed	65	Not prescribed	Annex A
Contaminants	Gas must not contain other components that would prevent the parameter values within the limits prescribed in Table 1 to be reached.					

The new version of the standard for gas quality, EN 16726, is drawn up by the CEN/TC234 Technical Committee, WG11 Work Group. The Technical Committee SIST TC DPL - Gas Supply, successfully presided over by Plinovodi d.o.o. For many years, it also participates in drawing up the standard. The new version of the standard will take into account the lessons learned on the quality of gas that can be injected with hydrogen. In general, a gas mixture composed of natural gas and up to 2% of hydrogen (hydrogen % volume) can be used in majority gas applications and for end users. As indicated in the proposal for a Directive of the European Parliament and of the Council on common rules for the internal markets in renewable and natural gases and in hydrogen (COM2021/804 final), from 1 October 2025, the maximum concentrations of hydrogen in natural gas up to 5% should be allowed in interconnection points between EU Member States. On this basis, a version of the EN 16726 standard will be published in 2025. The Table 21 provides values that take into account a possibility of concentrations of injecting hydrogen into the natural gas up to 2mol/mol % and will be also observed in the new version of the EN 16726 standard. The majority of sources of natural gas entering the transmission systems in Europe has the methane number higher than 70. Thus, the lower limit of methane number at exit points could be higher, which is also advocated by Plinovodi d.o.o. Table 21 provides a draft of amendments and supplements to the EN 16726 standard based on prEN 16726:2025. The prEN 16723:2025 draft standard will be in the public debate in the CEN/CENELEC Member States from 11/04/2025 to 05/06/2025. The standard will be ratified in July 2025, the publication will be prepared by the end of October 2025. By 31/01/2026, all CEN members will have time to harmonise their national regulations with the requirements specified in the EN 16726:2025 standard.



Table 21. Draft of amendments and supplements to the EN 16726 standard based on prEN 16726:2025

Parameter	Unit	Limits		Limits	
		at standard reference conditions 15 °C/15 °C		at standard reference conditions 25° C/0 °C	
		Minimum	Maximum	Minimum	Maximum
Relative density	/	0.45	0.700	0.45	0.700
Hydrogen	mol %	not prescribed	2	not prescribed	2
Note	Two molar per cents of mixing hydrogen in Table are a baseline to harmonise hydrogen concentrations in the European gas system. Limits are as follows: underground storage facilities (researched up to 10 mol % H ₂), CNG (max 2 mol % H ₂), gas engines (5 vol % H ₂ , some already 10 vol % H ₂), gas turbines (up to 1 vol % H ₂ , already possible from 15 mol % to 100 mol % H ₂), gas chromatographs (max up to 25 mol % H ₂), household (up to 10 mol % H ₂ , research up to 20 mol % H ₂), industrial use (depending on the user, namely 3 mol % H ₂), wide consumption and gaskets (10 mol % H ₂).				
Wobbe index entry	MJ/m ³ kWh/m ³	46.44 MJ/m ³	54.44 MJ/m ³	13.59 kWh/m ³	15.81 kWh/m ³
Note	Wobbe index at entry points.				
Wobbe index exit	MJ/m ³ kWh/m ³	46.44 MJ/m ³	54.44 MJ/m ³	13.59 kWh/m ³	15.81 kWh/m ³
Note	Wobbe index (WI) at exit points in the measurement range from $WI_{min} = 46.44 \text{ MJ/m}^3$ (15 °C/15 °C) or 13.59 kWh/m ³ (25 °C/ 0 °C) to $WI_{max} = 54.44 \text{ MJ/m}^3$ (15 °C/15 °C) or 13.59 kWh/m ³ (25 °C/ 0 °C) is divided to two classes: <ol style="list-style-type: none"> 1. Class: WI bandwidth of distributed gas in a specific time period must be smaller than or equal to 3.7 MJ/m³ (15 °C/15 °C) or 1.08 kWh/m³ (25 °C/ 0 °C) in the measurement range from WI_{min} to WI_{max}. WI must be always within the limits prescribed by the national regulations. 2. Class: is an extended class where the WI bandwidth may be higher than 3.7 MJ/m³ (15 °C/15 °C) or 1.08 kWh/m³ (25 °C/ 0 °C) in the measurement range from WI_{min} to WI_{max}. 				
Total sulphur non-odoured	mg/m ³	not prescribed	11	not prescribed	11
Note	The maximum total concentration of non-odourised sulphur can be 20 mg/m ³ , while it must not contain components listed in EN 16726:2015+A1:2018.				
Oxygen	mol/mol	EN 16726:2015+A1:2018			
Carbon dioxide	mol/mol	EN 16726:2015+A1:2018			
Methane number	/	65	Not prescribed	65	Not prescribed
Note	Gas engine are generally designed for methane number higher than 70.				

Based on the respective algorithm to calculate the methane number described in the EN 16726 standard, the methane number of biomethane may be higher than 90 (100).

4.2 Monitoring gas quality

In 2025, the Slovenian gas transmission network operated with six gas chromatographs, of which three are already suitable for measuring hydrogen concentrations. One of the chromatographs was upgraded to provide hydrogen concentration measurements. Renewable gases, with the exception of hydrogen, do not pose and issues in monitoring gas composition, as the permitted ranges of individual gas components

are defined in the network codes, and renewable gases, with the exception of hydrogen, will have to meet these criteria.

To provide tracking the composition and quality of gas and hydrogen mixtures, 5 additional gas chromatographs are expected to be installed to provide measurements of hydrogen, helium and sulphur concentrations. The chromatographs will be installed at cross-border points and also in all relevant stations within the Slovenian gas transmission network. Chromatographs will be installed also at all internal entry points to enable the injection of domestically produced hydrogen into the transmission system.

By increasing the permitted concentration of injected hydrogen into the transmission system the need of tracking resolution of gas composition will have to be enhanced. In line with the current gas transmission system operator's practice, the provisions of determining an average daily calorific values for the exit to the Republic of Slovenia, published on the website of the operator, will be taken into account when the gas will be mixed with hydrogen. In accordance with the provisions, in the event of significant deviations between the calorific values at different points of the transmission system, calorific values and other key parameters of gas quality will be determined using analytical procedures and additional measurement, if required. Time scale for determining calorific value and other parameters of the gas quality will be adjusted to the location and dynamics of injecting hydrogen into the transmission system.

4.3 Adjustment plan to take over and transmit gases of renewable or non-fossil origin and hydrogen

4.3.1 Analysis of possibilities and interest for the production of gases of renewable or non-fossil origin

The production of gases of renewable origin is driven by the guideline and commitment of the European Union to reach carbon neutrality by 2050 and therefore phase out the use of fossil fuels. It is expected that gas will be a transitional fuel in phasing out coal and heavy liquid fuels, while at the same time its composition will gradually change to become constantly more renewable. Additional stimulus for producing renewable gases are also increasingly higher prices of CO₂ coupons and gas, while on the other hand the lowering of levelized cost of producing hydrogen, resulting from the reduction of the cost of electrolysis and hydrogen technologies. Additionally, the European Commission adopted a delegated act in 2022, by which the natural gas, under certain conditions, acquired the status of sustainable and green energy product up to and including 2031, which further consolidates its role of transitional fuel in enhanced introduction and replacement with renewable gases. The introduction of gases of renewable origin will be also accelerated by the decision of the European Union on the cessation of the import of Russian gas into the Member States, as a response to the Russian aggression in Ukraine. Gas fuel will play a key role also in the period after 2033, when the operation of the Šoštanj thermal power plant (TEŠ 6), which is the largest production unit for producing electricity in Slovenia, will be finally stopped due to phasing-out of coal. Cessation of the production of the largest production unit cannot be replaced with RESs due to its volatility. In addition, by the respective year, no additional nuclear power unit will be constructed if the decision on the construction is made. NEPN foresees the replacement of TEŠ 6 production by increasing electricity generation with gas power plants and recognises a need of additional 500MW of gas capacity.

The main raw material for producing green hydrogen are surpluses of renewable electricity, in particular from intermittent sources, such as the sun and wind. Intermittent sources will be at the forefront of renewable electricity mostly due to the incapacity of production regulation, while the production from permanent sources, such as hydropotential, are usually possible to regulate.



Dynamics of increasing electrolyser capacity was analysed within the scope of baselines of hydrogen strategy and is also summarised in the updated NEPN. Domestic production of hydrogen is about to start in the coming years. In the period up to 2030, the expected electrolyser capacity of 100MWel is expected, followed by the increase up to 300MWel due to the foreseen establishment of a part quantity of hydrogen backbone up to 2035. The reason for such an intensive increase of electrolyser capacity lies in a possibility of transmitting hydrogen between different players within Slovenia, which can be geographically distant, but connected through the hydrogen pipeline connection. The structure of electricity source for hydrogen production differs according to a NEPN scenario, which will be conducted: DU-OVE, which will be based on RES with an emphasis on photovoltaics, or DU-JE, which will be based on a new nuclear power unit (which could be constructed after 2040, if the decision is made). If the decision to construct the second unit of the Krško Nuclear Power Plant (JEK) is adopted, the share of electricity for production of hydrogen could be provided also by the nuclear power plant after 2040. Hydrogen, produced from nuclear-generated electricity is deemed hydrogen of carbon-free origin. In the literature it is referred to as “pink hydrogen”, while the hydrogen produced from RES is known as “green hydrogen”. The production of hydrogen from nuclear-generated electricity has a potential also before the construction of new Krško Nuclear Power Plant unit, but it is expected that the major part of electricity for the production of hydrogen will be provided from RESs, in particular photovoltaics.

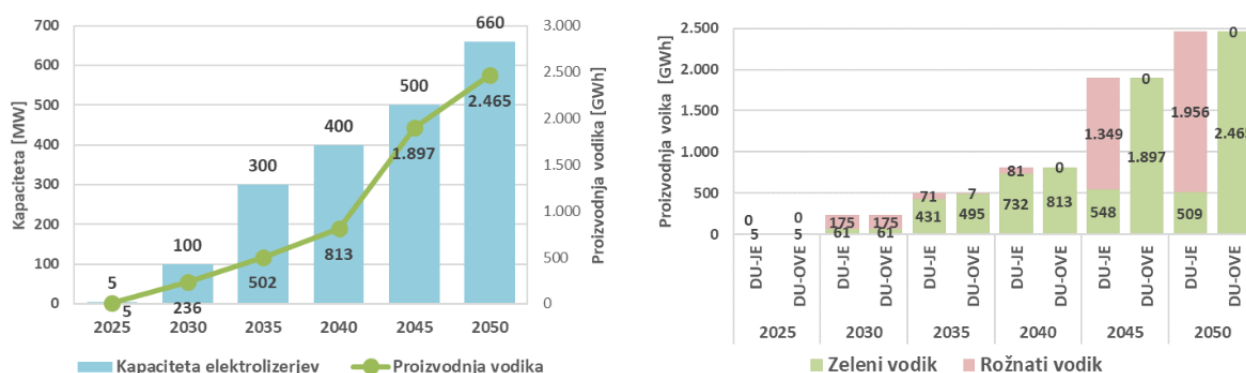


Figure 36. Rated electrical power and energy according to the NEPN scenarios to produce H₂

Hydrogen produced from electricity is expected to be mainly used in a form of hydrogen, as no significant interest is shown for further production of synthetic methane. Until the establishment of dedicated hydrogen pipeline transmission system, hydrogen will be injected into the existing gas system and used as a mixture of gas and hydrogen. If there will be interested producers of synthetic methane, they will have an option to connected to the transmission system and inject synthetic methane, as synthetic methane is composed exclusively from methane and its composition is comparable and compatible with the composition of natural gas. For this reason, it can be injected into the gas pipeline system in any quantity, without restrictions that apply for the mixture of hydrogen ad-mixed to natural gas.

The interest for the production of renewable or non-fossil gas in Slovenia has been already demonstrated by several players, whereby these are mainly cases of captive production, in particular in industry. Several players also demonstrated interest in injecting surpluses of renewable gases from own production into the gas transmission system with a view of fully exploiting the available production potential. The interest in producing renewable gases of large volume with a view of supplying end consumers with renewable gases due to required high investment cost and the economics that would require a large share of co-financing has not been expressed in concrete terms so far. However, due to increased prices of energy in the European Union, major projects, in particular in the industry sector, intended for own energy supply are already being prepared and implemented, whereby the hydrogen surpluses can be stored in the transmission system. Nevertheless, it is expected that the major part of renewable gas supply to end consumers is mainly covered by import.

4.3.2 Possibilities and capacities of connection points for injecting gases of renewable or non-fossil origin

Physico-chemical characteristics of hydrogen are significantly different from the characteristics of gas or its main component (methane), therefore the share of hydrogen in the transmission system is limited. With a view to ensuring safe and reliable transmission of gas and mixture of gas and hydrogen, locations are addressed below having the highest potential for injecting hydrogen into the transmission system. The selected locations meet two criteria in particular:

1. Section on main gas pipeline with the highest flow rates;
2. Proximity of hubs on the electricity transmission system.

The injection into sections of the gas transmission system with the highest flows, taking into account the maximum permitted hydrogen concentration, provides the maximum volume of hydrogen in the system and this the highest capacity of storing surpluses of renewable electricity. As the hydrogen will be produced from the surpluses of renewable electricity generated in a distributed way across the Republic of Slovenia, the proximity of hubs of electricity transmission system is of significant importance for collecting surpluses at the production locations.

Upon the established production at an individual location, the transmission system operator will set up the injection infrastructure that will comprise all necessary measuring and control equipment and the equipment for mixing and compressing hydrogen with all required pipelines connections between an station for injecting hydrogen and the existing gas pipeline system. The established production and injection at selected locations provides minimisation of costs to establish the injection infrastructure and easier management of transmission system. The established injection at selected locations will ensure better control of the injection dynamics within a day to reduce variations in gas composition, and thus reduce negative impact of hydrogen on the system operation and system users. Production and injection are possible also at the locations of the transmission system, but due to dead-end pipeline branches not meshed, the hydrogen injection in such pipeline branch is limited in terms of hydrogen quantity being injected as well as in terms of the gas consumption dynamics of consumers connected to the respective pipeline branch. The injection dynamics must adjust to actual flows and if they fluctuate considerably, this can affect the production dynamics and thus the possibility to store electricity surpluses in the form of hydrogen, and optimum compressor operation. The injection at locations with the highest and constant flows enables continuous hydrogen injection, and also the production without interruption resulting in a maximum utilisation of the surpluses of renewable electricity.

On the basis of the criteria indicated above, the operator determined framework locations as shown in Figure 37.

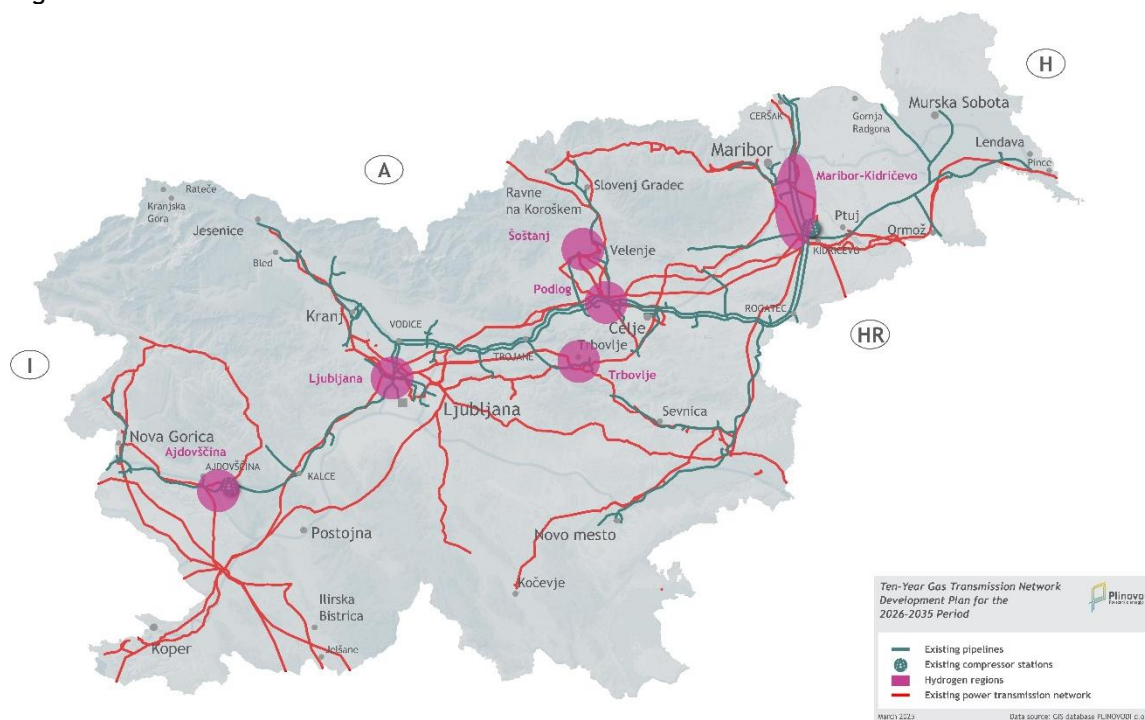


Figure 37. Optimum locations for injecting hydrogen into the transmission system

The maximum rated power of plants for the production of hydrogen to be injected into the gas transmission system is determined on the basis of the expected dynamics of flows to the point of injection, whereby each point of connection is addressed individually. Rated electrical power of electrolysis can be increased if a hydrogen tank is provided at the injection or production location. During the period of hydrogen production, the system will be injected with the share of hydrogen that will raise the hydrogen concentration in the system to the maximum permitted limit, while the rest will be stored in the tank. The hydrogen from the tank is expected to be injected into the transmission system during night-time when there is no hydrogen production due to the unavailability of the electricity surpluses from photovoltaics.

Injecting hydrogen into the transmission system and mixing it with gas is reasonable only to the maximum permitted value, i.e. 2%vol as provided in the Regulation (EU) 2024/1789. When this limit is reached, the increase of limit hydrogen concentration is no longer appropriate, but the transmission of pure hydrogen and new consumption points operating with pure hydrogen should be provided.

In cases when injection hydrogen into the existing gas system and ad-mixing it to natural gas is not possible, for example due to exceeding the ceiling of hydrogen concentration in gas or due to final users that cannot receive gas with hydrogen content, a possibility of the construction of a new hydrogen pipeline exclusively intended for hydrogen transmission is analysed.

In terms of the composition, synthetic methane and biomethane are very similar to natural gas and if all their parameters are within the allowed range defined by the Network codes of the TSO, they can be injected to the main gas pipelines of the transmission system without any particular restrictions. The interest in injection into regional gas pipelines is addressed individually according to specificities characteristic of a selected location, such as the need to provide two-way flow, etc.

5 Set of planned gas infrastructure for the 2026–2035 period

Based on the preliminary analyses, the transmission system operator further defines the gas transmission infrastructure that needs to be built or upgraded in the next ten years for a reliable supply of gas. The operator also defines the time dynamics and the estimated financial resources for the implementation of the planned investments.

Depending on its purpose, the planned infrastructure is broken down into the following: projects for increasing operational security and expansion of the transmission system, projects for connecting new transmission system users or changing the operational characteristics of gas infrastructure, and projects for developing interconnection points with neighbouring transmission systems. According to the type of gas, they are divided to investments in gas transmission in sub-chapters 5.1 through 5.3 and investments enabling the injection and transmission of gas of renewable or non-fossil origin from the Subchapter - 5.4 Development of hydrogen transmission projects.

5.1 Projects to increase the operational security and expansion of the transmission system



Figure 38. Locations of the projects to increase operational security and expansion of the transmission system

The group of projects that allow the increase of operational security and expansion of the transmission system includes system pipelines, energy loops, displacements of pipeline sections due to specific settlement modifications, and prevention of landslides. The system pipelines are designed for the expansion of the transmission system and connection of new municipalities, and in some cases also for the increase of the operational security of the existing transmission system.

The estimate of the operational security for an individual part of the transmission system is based on the flow-pressure calculation under the peak load conditions, which determines the load on the gas infrastructure and the exposure of users in case of failure of individual parts of the transmission system. The flow-pressure calculation checks the solutions (e.g. a system loop) to ensure a sufficiently powerful redundant transmission of gas to the exposed part of the transmission system.



As a consequence of the war in Ukraine and its resulting need of increasing the capacity at the interconnection with the Italian transmission system, at the interconnection with the Croatian transmission system for gas supply from the terminal on the island of Krk, and the access to gas storage facilities in Hungary, these investments are also included in Table 22 under the projects to increase operational reliability.

Table 22. Projects to increase the operational security and expansion of the transmission system

A	Project name	Purpose	Planned start of operations
A1	Loop to Zreče		
	Stage two: R21AZ Oplotnica - Zreče	Expansion of the pipeline system	after 2028
	Stage three: P21AZ1 Oplotnica - Slovenska Bistrica	Expansion of the pipeline system	after 2028
A2	R51a Jarše – Sneberje	Increase of the operational security with the system loop	after 2028
A3	R51b TE-TOL Fužine/Vevče	Increase of the operational security with the system loop and the possibility of connection of DSO to MOL	2027
A4	R51c Kozarje – Vevče	Increase of the operational security with the system loop and the possibility of connection of DSO to MOL	after 2028
A5	Dravograd – Ruše - Maribor		
	Stage one: Dravograd - Ruše	Increase of the operational security with the system loop and the possibility of connection of new municipalities	nd
	Stage two: Ruše - Maribor	Increase of the operational security with the system loop	nd
A6	Kalce - Godovič - Žiri – Škofja Loka		
	Stage two: Godovič - Škofja Loka	Increase of the operational security with the system loop and the possibility of connection of new municipalities	nd
A7	Škofja Loka - Medvode - Ljubljana	Increase of the operational security with the system loop	nd
A8	Laško - Hrastnik – Radeče	Increase of the operational security with the system loop	after 2028
A9	R12A M1 - Lenart – MRS Gornja Radgona	Increase of the operational security with the system loop and the possibility of connection of new municipalities	nd
A10	Šoštanj – Dravograd	Increase of the operational security	nd
A11	M4 Podčetrtek section	Increase of the operational security with the displacement of pipeline	nd
A12	M2 Trnovlje section (Celje)	Increase of the operational security with the displacement of pipeline	nd
A13	M5 Vodice – Jarše – Novo mesto		
	Stage two: Jarše - Grosuplje	System pipeline; the expansion of the transmission system and the increase of the operational security	after 2028
	Other stages: Grosuplje - Trebnje - Novo mesto	System pipeline; the expansion of the transmission system and the increase of the operational security	after 2028
A14	M6 Ajdovščina - Lucija	System pipeline; the expansion of the transmission system and the increase of the operational security	2026-2029
A15	Management Centre	Facility, development of information systems, digitalisation, and content upgrade	after 2028
A16	Backup Management Centre	Facility, development of information systems at the back-up site	after 2028
A17	Data transmission network - Phase 2	Increase of the operational security	after 2028
A18	R45 Novo mesto - Bela Krajina	System pipeline; the expansion of the transmission system and the increase of the operational security	nd

A19	R25A/1 Trojane - Hrastnik		
	Stage one: Trojane - Trbovlje	Increase of the operational security	after 2028
A20	R29 Jesenice - Kranjska Gora		
	Stage two	System pipeline; the expansion of the transmission system with the possibility of connection of DSO and the increase of the operational security	nd
A21	R42/1 Anže - Brestanica	Expansion of the pipeline system	after 2028
A22	R42/1 Brestanica - Radeče	Increase of the operational security	nd
A23	Research and innovation projects	Innovations on gas transmission infrastructure	nd
A24	Relocation of part of the P29134 gas pipeline in the Kranj area	Increase of the operational security	after 2028
A25	Transmission pipeline system Sneberje - Šentjakob	Increase in operational security and connection of user	nd
A26	Maribor - Melje connection with a system loop for MOM	Increase of the operational security with the system loop MOM	2028
A27	Reconstruction of M3 at section CS Ajdovščina – Miren with branches	Adjustment to the operational parameters of the Italian TSO's transmission system (73.9bar)	nd
A28	BMCS Vrtojba	Adjustment of the two-way operation regime to the operating parameters of the Italian TSO transmission system	2026
A29	R23-R23B loop (Celje-Štore-Laško)	Increase of the operational security with the system loop	after 2028
A30	M4/1 Male Rodne - Anže	Increase of the operational security	nd
A31	M3/1a Šempeter – Ajdovščina	System line to increase operational security by enhancing cross-border transmission capacity from the western direction. Provision of adequate transmission capacity in the event of a shortfall from the eastern supply direction, and also harmonisation with the existing capacity and operating pressures of the Italian transmission system, the integration into the gas pipeline corridors.	after 2028
A32	System and equipment for controlling methane emissions	Establishment of the system to detect and control methane emissions in the transmission system	2026 and after 2026

Energy loops provide greater reliability and security of supply of strategically significant, sensitive and priorities customers. Under the R25A/1 Trojane - Hrastnik project, the R25A/1 Trojane - Hrastnik transmission pipeline is expected to be replaced due to its existing technological condition, while further steps foresee the establishment of energy loop with a new transmission gas pipeline connection to Brestanica and Anže. In this way a part of the R25A/1 Trojane - Hrastnik project capacity is used to establish the Trojane - Anže energy loop and the connection with the existing transmission system at M4 and R42. This provides greater reliability of operation and higher level of system availability for the existing customers, and greater security of supply to Brestanica as one of key electric energy locations in Slovenia.



5.2 Connection projects

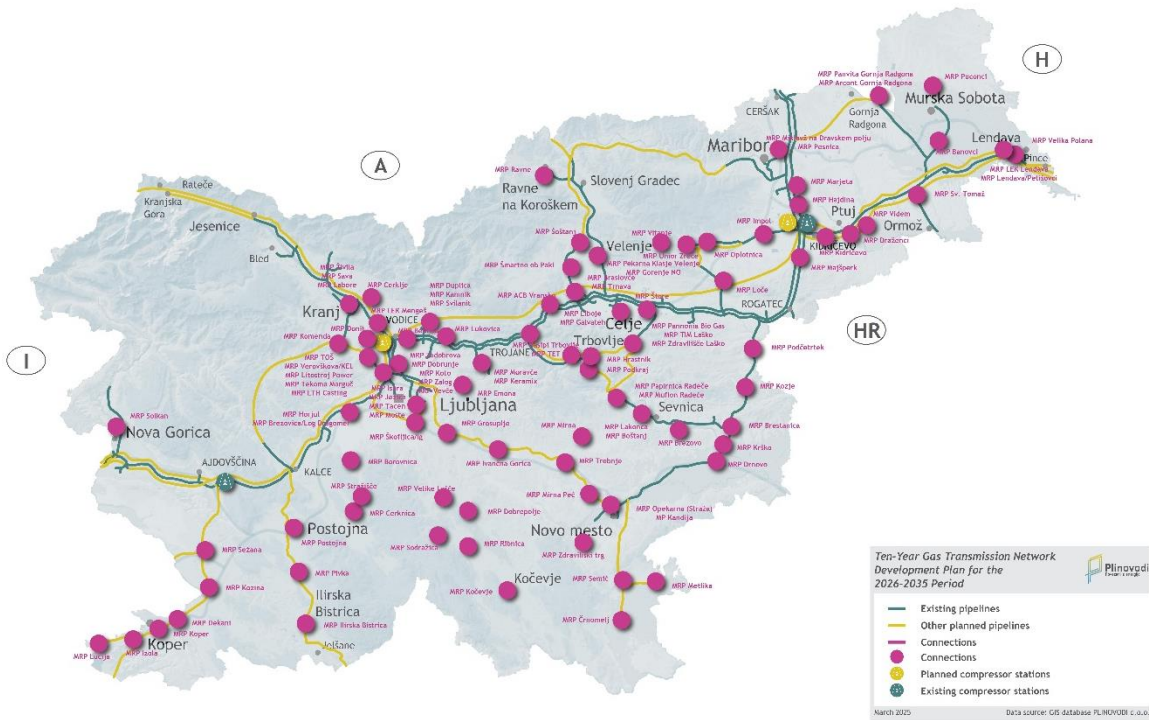


Figure 39. Locations of projects for new connections

The connections group includes projects for connections of new users, changes to the operational characteristics at pipeline structures for existing users, and the connection of a gas producer. These projects have been included in the list based on queries, connection approvals, and / or connection contracts. Connection projects also include projects for connection of users establishing an infrastructure of CNG filling stations – compressed natural gas for powering vehicles.

5.2.1 Connection contracts

Table 23 includes the projects for the future or existing network users who have concluded a connection contract with the TSO and are envisaged for implementation in the coming period.

Table 23. Connection contracts (as of 01/ 01/ 2025)

#	Project name	Purpose	Planned start of operations
B1	MRS Brestanica; R42/1 Anže - Brestanica	Change in connection of final user	after 2028 ¹⁶
B2	MRS Miklavž na Dravskem polju	Connection of DSO	2026 ¹⁷
B3	MRS Velika Polana	Connection of DSO	nd ¹⁸
B4	R25A/1 Second stage Trbovlje - Hrastnik with MRS Hrastnik and MRS Podkraj	Change in connection of three final users	2027
B5	MRS Duplica	Change in connection of DSO	2027
B6	MRS Kamnik-center	Change in connection of DSO	2027
B7	MRS Sava with a pipeline	Change in connection of final user	2027

¹⁶ The envisaged start of operation depends on the A21 R42/1 Anže-Brestanica project.

¹⁷ The envisaged start of operation depends on the activities of the Municipality and DSO.

¹⁸ The envisaged start of operation depends on the DSO selection by the municipality.

B8	MRS Verovškova/KEL	Change in connection of final user	after 2028
B9	MRS Koto	Change in connection of final user	2026
B10	MRS Dobrunje	Connection of DSO	2026
B11	MRS Emona	Connection of final user	nd ¹⁹
B12	MRS Donit	Change in connection of final user	2027 ²⁰
B13	MRS Impol	Change in connection of final user	2026 ²¹
B14	MRP LTH Castings	Change in connection of final user	2027
B15	MRS Draženci	Connection of final user	2026/2027
B16	MRS Sežana	Connection of DSO	2026 ²²
B17	MRS Litostroj Power	Change in connection of final user	2027
B18	MRS Lek Lendava ²³	Change in connection of final user	2026/2027

5.2.2 Connection approvals

Table 24 includes projects for users of transmission capacities who were issued connection approvals and have been sent a connection contract, which is not yet concluded.

Table 24. Connection approvals (as of 01/ 01/ 2025)

#	Project name	Purpose	Planned start of operations
B19	MRS Lek Mengeš	Change in connection of final user	nd ²⁴
B20	MRS Stražišče	Change in connection of DSO	nd ²⁵
B21	MRS Gorenje NO	Change in connection of final user	2026 ²⁶
B22	MRS Drnovo	Change in connection of DSO	2026 ²⁷
B23	MRS Tekoma Marguč	Change in connection of final user	2027 ²⁸

5.2.3 Queries

Queries include the initial activities of the TSO, potential network users and existing network users for connections that the TSO recorded as current and were addressed as queries in the year 2024. This group also includes the previous activities of potential users for which a connection approval had been issued, but has expired and, hence, no connection contract has been concluded, or connection contract has been concluded but not implemented, yet the TSO still considers them as possible customers. For the following projects, the TSO considers that the potential or existing users have expressed interest for connections.

¹⁹ The envisaged start of operation depends on the user.

²⁰ The envisaged start of operation depends on the adoption of the planning document by the Municipality of Medvode.

²¹ Envisaged start of operation depends on the implementation of the A1 project First stage: R21AZ Konjiška vas - Oplotnica.

²² The envisaged start of operation depends on the implementation of the A1 M6 Ajdovščina - Lucija project.

²³ Decision issued on 17/02/2025, Connection Contract signed on 04/03/2025

²⁴ Decision issued on 13/10/2023, the user did not sign the connection contract.

²⁵ Decision issued on 19/06/2023. On 20/10/2023, the DSO rejected the signing of the connection contract.

²⁶ The user submitted an application to change the connection on 06/02/2025. Decision has not yet been issued, the connection contract has not been signed.

²⁷ The user submitted an information application to change the connection. The official application has not been made, the administrative procedure has not yet started, the connection contract has not been signed.

²⁸ Decision extended on 23/04/2024, the user did not sign the connection contract.

**Table 25. Queries (as of 01/ 01/ 2025)**

	Project name	Purpose	Planned start of operations
B16	MRS Kozina, MRS Dekani, MRS Koper, MRS Izola, MRS Lucija	Connection of DSO in municipalities of Hrpelje-Kozina, Koper, Izola, Piran; connection with the system pipeline M6	2026-2029
B24	MRS Trnava	Connection of final user	nd
B25	MRS Loče	Connection of DSO	nd
B26	MRS ACB Vranksko	Connection of final user	nd
B27	MRS Belinka	Change in connection of final user	nd
B28	MRS Cerklje; R297B Šenčur – Cerklje	Connection of DSO	nd
B29	MRS TET in TET branch (connecting pipeline)	Connection of final user	2027/2028
B30	MRS Marjeta (Municipality of Starše)	Connection of DSO	nd
B31	MRS Ribnica	Connection of DSO	nd
B32	MRS Lakonca	Connection of final user	nd
B33	MRS Nasipi Trbovlje	Connection of final user and DSO	nd
B34	MRS Lendava Petišovci	Connection to the production of gas	nd
B35	Supply to users and other connection projects	Connection of new users with mobile systems, connection of filling stations for compressed natural gas and adjustment of existing connection points	2026-2035
B36	MRS Banovci, MRS Šoštanj, MRS Panonia biogas, MRS Centrex LNG, MRS Keramix, MRS Majšperk, MRS Kidričevo, MRS Galvateh	Connection of final user	nd
B37	MRS Braslovče, MRS Šmartno ob Paki, MRS Moravče, MRS Labore, MRS Pesnica, MRS Sveti Tomaž, MRS Svilanit, MRS Horjul, MRS Podčetrtek, MRS Borovnica, MRS Boštanj, MRS Opekarna (Straža), MRS Cerknica, MRS Videm, MRS Vitanje, MRS Kozje, MRS Moste, MRS Liboje, MRS Brezovo, MRS Puconci, MRS Hajdina, MRS Ilirska Bistrica, MRS Lukovica	Connection of DSO and/or final users	nd
B38	MRS Živila, MRS Panvita Gornja Radgona, MRS Papirnica Radeče, MRS Muflon Radeče, MRS Pekarna Klasje Velenje, MRS Štore, MS Kandija, MRS Solkan, MRS Iskra, MRS Arcont Gornja Radgona, MRS Ravne, MRS Vevče, MRS TIM Laško, MRS Zdravilišče Laško, MRS TUS NTU	Change in connection of final user	nd
B39	MRS Ježica, MRS Tacen, MRS Unior Zreče, MRS Krško, MRS Zdraviliški trg	Change in connection of DSO	nd

* In addition to the station, each MS / MRS also includes a pipeline connecting the station to the transmission pipeline.

5.2.4 Potential connections

Potential connections are projects that the TSO estimates will need to be carried out considering the expected development of the transmission system, distribution systems and network users' needs for connections to the transmission system in the next ten-year period, but the interest in connection has not yet been expressed by existing or potential users, or has ceased.

Table 26. Potential connections (as of 01/ 01/ 2025)

#	Project name	Purpose	Planned start of operations
B40	MRS TOŠ; R52 Kleče - TOŠ	Connection of thermal energy plant	nd
B41	MRS Oplotnica, MRS Škofljica/Ig, MRS Komenda, MRS Brezovica/Log Dragomer, MRS Dobropolje, MRS Velike Lašče, MRS Sodražica, MRS Kočevje, MRS Postojna, MRS Pivka	Connection of DSO	nd

B42	MRS Grosuplje, MRS Ivančna Gorica, MRS Trebnje, MRS Mirna Peč, MRS Mirna	Connection of DSO; connection with the system pipeline M5	nd
B43	MRS Semič, MRS Metlika, MRS Črnomelj	Connection of DSO; connection with the system pipeline R45	nd
B44	Gas transmission connection MRS Dekani - Port of Koper	Connection of the Port of Koper to supply port mechanisation	nd

* In addition to the station, each MS / MRS also includes a pipeline connecting the station to the transmission pipeline.

5.3 Development of interconnection points with the neighbouring transmission systems

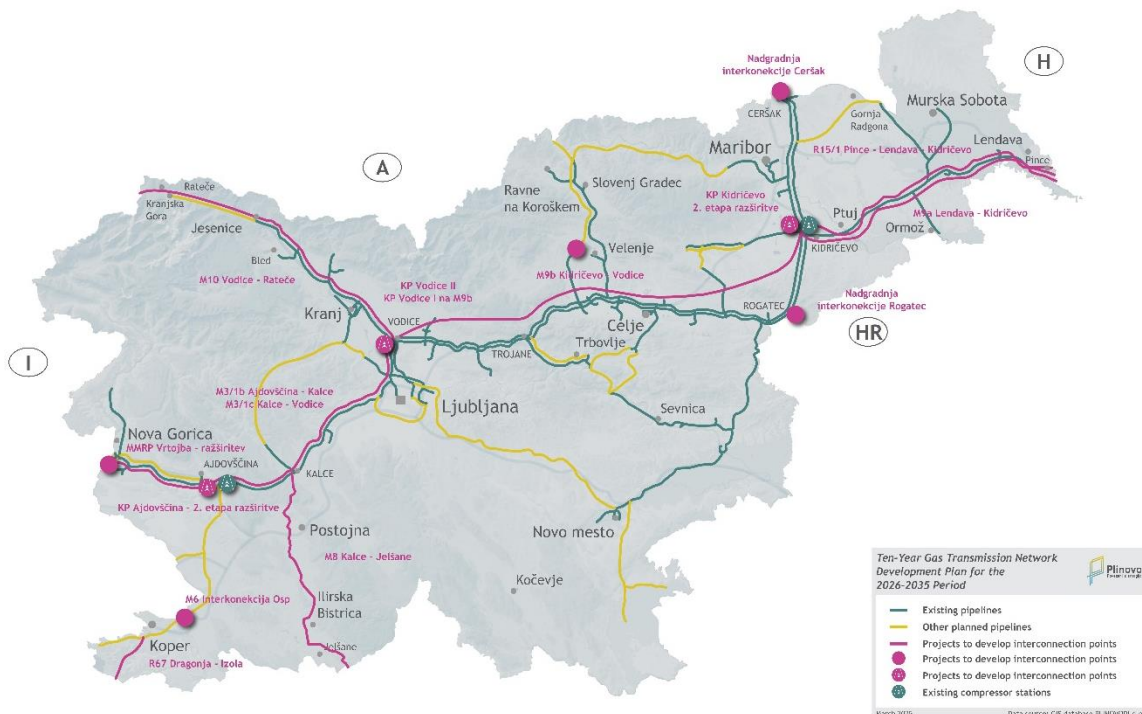


Figure 40. Projects for the development of interconnection points with the neighbouring transmission systems

Table 27. Development of interconnection points with neighbouring countries

C	Project name	Purpose	Planned start of operations
C1	CS Ajdovščina extension		
	Stage two	Evacuation of the natural gas from the LNG terminal at Krk and from the IAP project (Ionian Adriatic Pipeline)	nd
C2	Reconstruction of M3 at section CS Ajdovščina – Miren with branches		
	Adjustment of the two-way operation regime to the operating parameters of the Italian TSO transmission system		nd
C3	R15/1 Pince - Lendava - Kidričevo		
	BMCS Pince		after 2028
	Stage one: Pince - Lendava	Bi-directional connection of the Hungarian and Slovenian transmission systems	after 2028
	Stage two: Lendava - Ljutomer		after 2028
	Stage three: Ljutomer - Kidričevo		after 2028



C4	Upgrade of interconnection Ceršak (M1/3 interconnection Ceršak)	Adjustment of operating parameters of the Austrian and Slovenian transmission systems and the provision of reverse flows within the bi-directional gas route Austria-Slovenia-Croatia	after 2028
C5	CS Kidričevo - stage 2 of extension	Improvement of operating parameters in M1/1 and M2/1 in the framework of the bi-directional gas route Austria - Slovenia - Croatia	after 2028
C6	CS Vodice II	Improvement of operating parameters in M2, M2/1, M3, M3/1, M5, M10 in the framework of the bi-directional gas route Italy - Slovenia - Hungary and bi-directional gas route Austria - Slovenia - Croatia	nd
C7	BMCS Vrtojba, extension	Adjustment of operating parameters of the Italian and Slovenian transmission systems and the increase of reverse flows due to the evacuation of the natural gas from the LNG terminal at Krk and from the IAP project or the corridor for the transmission of large volumes IT - SI - HU	nd
C8	M3/1b Ajdovščina – Kalce	Adjustment of operating parameters of the Italian and Slovenian transmission systems and the increase of reverse flows due to the evacuation of the natural gas from the LNG terminal at Krk and from the IAP project or due corridor for the transmission of large volumes IT - SI - HU	nd
C9	M3/1c Kalce – Vodice	Adjustment of operating parameters of the Italian and Slovenian transmission systems and the increase of reverse flows due to the evacuation of the natural gas from the LNG terminal at Krk and from the IAP project or the corridor for the transmission of large volumes IT - SI - HU	nd
C10	M8 Kalce – Jelšane		
	First phase: Kalce - Postojna Second phase: Postojna - Jelšane	Increase of the operational security, expanding the network and cross-border transmission	nd
C11	R67 Dragonja - Izola	Interconnector with the Croatian TSO	nd
C12	Upgrade of interconnection Rogatec (M1A/1 Interconnection Rogatec)	Interconnector with the Croatian transmission system: construction of cross-border pipeline and extension of BMCS Rogatec	
	First phase: Extension of BMCS Rogatec Second phase: Construction of the cross-border pipeline	Increase of the operational security Expansion of the pipeline system	after 2028 after 2028
C13	M9a Lendava – Kidričevo (and extension of CS Kidričevo)	Cross-border transmission - extension of the bi-directional gas route Italy-Slovenia-Hungary	nd
C14	M9b Kidričevo – Vodice and CS Vodice I	Cross-border transmission - extension of the bi-directional gas route Italy-Slovenia-Hungary	nd
C15	M10 Vodice – Rateče	Cross-border transmission	nd
C16	M6 Interconnection Osp	Interconnector with the Italian transmission system	nd
C17	CS Kidričevo - stage 3 of extension	Improvement of operating parameters R15/1	after 2028

The planning of new gas transmission routes, their capacities and the increase of existing transmission capacities of connections with the neighbouring transmission systems dictate the following:

- The criteria for the security of gas supply in accordance with Regulation (EU) 2017/1938²⁹, which in fact requires an interconnection between the Slovenian transmission system with multiple gas sources by more routes, and the possibility of storing and using the gas in underground storage facilities in the region, which is formally linked to the fulfilment of the N-1 infrastructure standard and the establishment of reverse flows,
- An increasingly dynamic gas market in the region, which is characterised by the need of its stakeholders to transmit the gas, whose quantities cannot be reliably predicted, while the tendency for the use of underground gas storage facilities and LNG terminals in the region is increasing,
- New directions of gas inflows into the region, deviating from the hitherto traditional directions (north-south) for which the transmission systems were designed and built;
- The adaptation of the transmission systems of countries to the gradual convergence of gas markets in the countries or support to a more integrated natural gas market in the region, which is also the purpose of modelling the gas market in the direction of searching for "ACER - target model of the gas market".

The above tendencies and changes are already followed by the physical flows of the gas in transmission systems in the region. An analysis of regional development strategies and plans, as well as operating conditions of transmission systems shows the opportunity to establish **bi-directional** gas routes between:

- i. Croatia and Slovenia, and
- ii. Italy and Hungary via Slovenia.

In the first case, the already existing Slovenian transmission system is mainly to be upgraded, and in the second case, the existing transmission system is being upgraded and a new regional gas pipeline is being built.

5.3.1 Bi-directional gas route Italy - Slovenia - Hungary

A planned project between Hungary and Slovenia is enabling the establishment of gas flows between Italy and Hungary via Slovenia, and thus the direct interconnection between these three gas markets. The purpose of the project is to connect the unconnected Slovenian and Hungarian transmission systems, managed by the Hungarian system operator, the FGSZ Ltd. Company.

In the first phase, a new interconnection of the Hungarian and Slovenia transmission system will be established to build the R15/1 pipeline at the first section Pince - Lendava, which will provide:

- The interconnection of previously unconnected transmission systems and, consequently, the interconnection of Slovenian and Hungarian gas markets,
- Access to the Hungarian trading platform and Hungarian underground storage facilities,
- The access of Hungarian suppliers to the western gas markets and to the LNG sources in Italy and North Adriatic, as well as
- The increase in the security of supply in Slovenia and the improvement of the infrastructure standard N-1.

Below, the impact of the establishment of the Hungary - Slovenia connection on the infrastructure standard N-1 is graphically depicted. To build the first phase of the r15/1 project (Pince - Lendava - Kidričevo), which includes BMCS Pince and the R15/1 pipeline at the Pince - Lendava section, planned in 2028, the basic capacity of connection will be provided, making the infrastructure standard N-1 to improve by approximately 8 percentage points. In the planned next phase of the project, an additional

²⁹ Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard security of gas supply and repealing the Regulation (EU) 994/2010

increase of the infrastructure standard N-1 for 12 percentage points could be provided due to the construction of the R15/1 gas pipeline from Lendava to Kidričevo (presented in the Figure below).

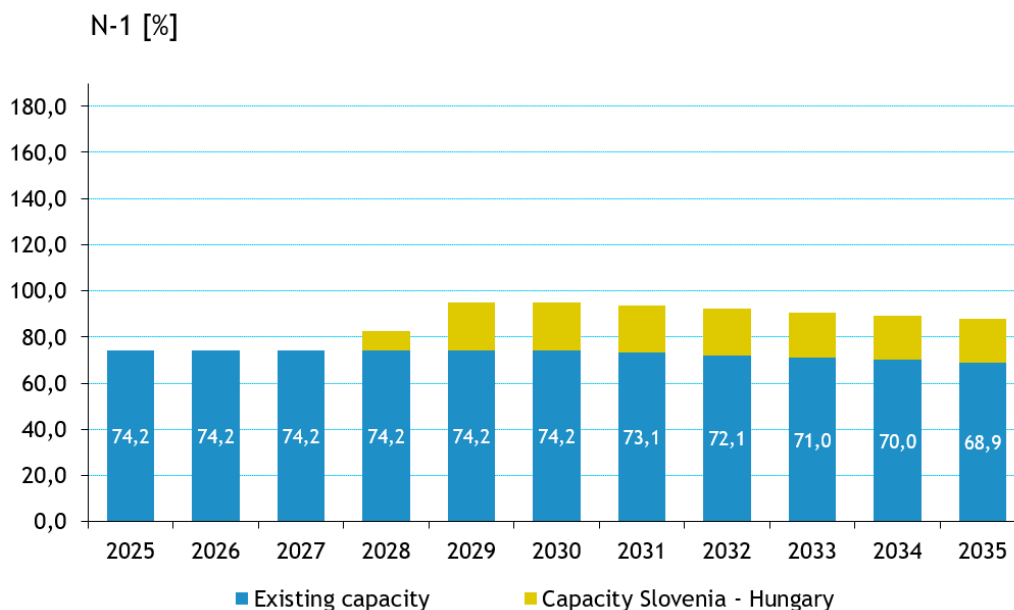


Figure 41. The impact of the Hungary - Slovenia connection to the improvement of the infrastructure standard N-1

The establishment of a bi-directional gas interconnection between Hungary and Slovenia in the context of the bi-directional gas route Italy - Slovenia - Hungary will:

- Enable the bi-directional interconnection of the Hungarian gas market with the Italian gas market, thereby increasing the presence of several gas sources in the region,
- Provide better access to the gas storage facilities and more efficient use of the storage facilities,
- Increase the responsiveness and flexibility of the operation of transmission systems to the situation on the gas market in the region,
- Contribute to the increase in the security of supply throughout the region due to better access and exploitation of natural gas supply sources, natural gas supply routes, and gas storage facilities,
- Contribute to the interconnection of gas markets to the west and east of Slovenia, which are currently considered very varied in price; the interconnection will therefore contribute to the convergence of the gas prices, i.e. to the increasing of competitiveness.

The project of establishing a bi-directional gas route Italy - Slovenia - Hungary envisages the construction of a 74.5km long R15/1 gas pipeline from the cross-border point with Hungary to the Kidričevo compressor station including the Pince border metering and regulation station, the installation of an additional compressor unit at the Ajdovščina compressor station and the border metering and regulation station Vrtojba.

5.3.2 Bi-directional gas route Croatia - Slovenia

The project of bi-directional gas route Croatia - Slovenia is an upgrade of the capacities of existing transmission systems and establishment of reverse flows with the system operated by the Croatian transmission system operator, Plinacro d.o.o.

Within the Slovenian transmission system, this project envisages a reconstruction of the Rogatec interconnection point.

5.4 Development of hydrogen and RES gas transmission projects

5.4.1 Hydrogen transmission system preparation projects

In accordance with the National Energy and Climate Plan adopted by the Government of the Republic of Slovenia on 18 December 2024, one of key objectives of Slovenia by 2030 is to reduce the use of fossil energy sources and dependence on their imports, especially through the implementation of pilot projects for the production of synthetic methane and hydrogen with an indicative target of up to 10% share of methane or hydrogen of renewable origin in the transmission and distribution network by the year 2030.

The gas transmission system operator already carries out activities to prepare the gas transmission system to be injected and operate with hydrogen and renewable gases. In this way, the transmission system operator will provide a gas transmission infrastructure that will allow the injection of gases from RES, such as hydrogen and synthetic methane and biomethane, into the transmission gas system, and testing the operation of consumption units of end users connected to the transmission system with different mixtures of renewable gases. However, the transmission system operator will not carry out market activities and will not own any facilities for carrying out market activities, so that there would be no unauthorised subsidisation of market activities or breaches of certification provisions.

At the same time, with these projects, the TSO will strive to draw co-financing opportunities within the framework of open opportunities for cooperation, incentives for innovation and cross-border RES projects and related mechanisms, due to the fact that in this way, it approaches the implementation of sustainable projects for decarbonisation achieving the objectives of climate neutrality of community members. Through development activities, the TSO will pursue the activities of European TSOs in incentives and planning a future decarbonisation of the supply from transmission gas systems, cross-border connections, and drawing up plans for the European Hydrogen Backbone (EHB). Given the recognise increased needs of renewable gas to achieve the objectives of the National Energy and Climate plan and to provide gas of renewable origin for interested final users, the TSO will participate in projects to decarbonise the gas supply of industrial customers.

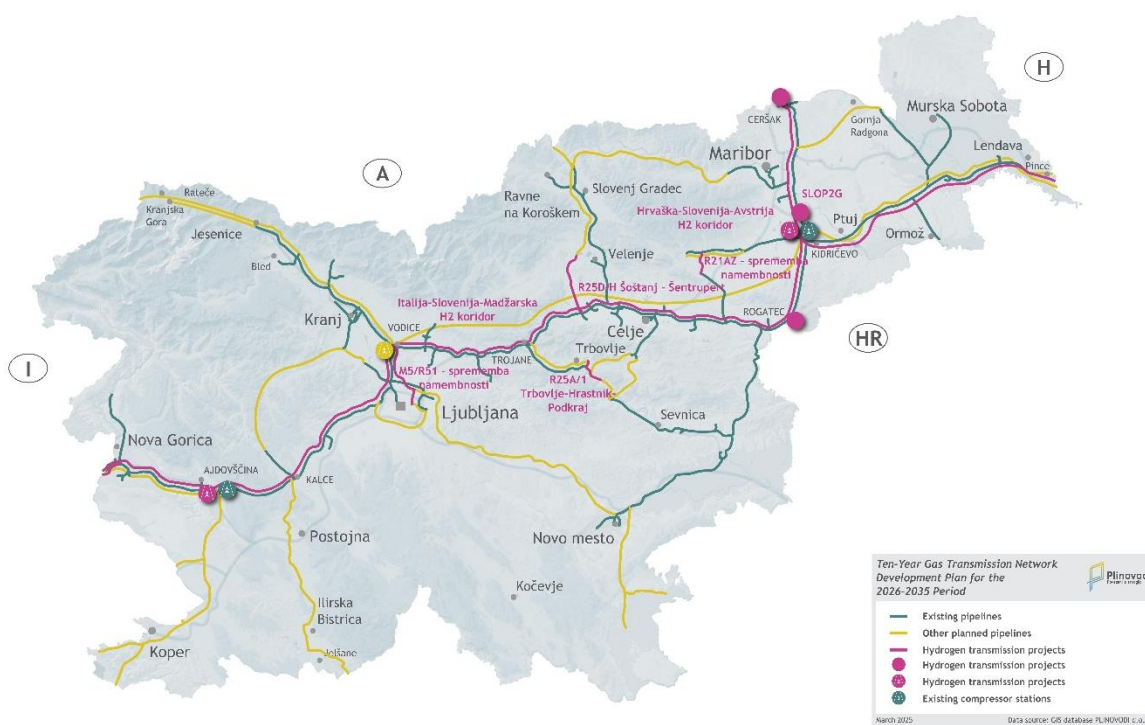


Figure 42. Hydrogen and RES gas transmission projects



Table 28. Development of hydrogen and RES gas transmission projects

D	Project name	Purpose	Planned start of operations
Italy - Slovenia - Hungary H2 corridor			
D1	R15/1 Pince - Lendava - Kidričevo	New pipeline for the transmission of hydrogen from the SI-HU border to CS Ajdovščina, including the new BMCS Pince for new H2 IP-SI-HU.	2035
	Reconversion of the existing pipeline section (CS Kidričevo - BMCS Rogatec)	The reconversion of the existing pipeline from CS Kidričevo to BMCS Rogatec, including the necessary updates of the existing BMCS Rogatec to allow measurements and regulation of the hydrogen flow.	2029
	Reconversion of the existing pipeline section (BMCS Rogatec - BMCS Vodice)	The reconversion of the existing pipeline from BMCS Rogatec to MRS Vodice.	2029
	M3/1 Vodice - Šempeter	New pipeline for transferring hydrogen from MRS Vodice to the SI-IT border (BMCS Vrtojba), including necessary upgrades to BMCS Vrtojba and MRS Vodice to allow measurements and regulation of hydrogen flow.	2035
	CS Ajdovščina	Additional compressor unit and necessary upgrades at the location of the existing CS Ajdovščina.	2035
	CS Kidričevo	New hydrogen compressor units at the location of the existing CS Kidričevo.	2035
Croatia - Slovenia - Austria, H2 corridor			
D2	Upgrade of the Ceršak interconnection (first phase)	Upgrade of the existing BMCS Ceršak to allow measurements and regulation of hydrogen flow and establishment of cross-border point for hydrogen, including 160m long pipeline section from the BMCS to the national border.	2029
	Reconversion of the existing pipeline section (BMCS Ceršak - BMCS Rogatec) (first phase)	Reconversion of the existing pipeline from BMCS Ceršak (SI-AT IP) to BMCS Rogatec (SI-CRO IP).	2029
	CS Kidričevo (second phase)	Additional compressor unit and necessary upgrades at the location of the existing CS Kidričevo.	2035
	Upgrade of the Rogatec interconnection (second phase)	Upgrade of the existing BMCS Rogatec to allow measurements and regulation of hydrogen flow, including 3.8km long pipeline section from the BMCS to the national border.	2035
D3	Analyses, studies and testing with the gases from the renewable energy sources	Analyses and studies of the transmission network and its parts for the acceptance of renewable gases and testing to determine the acceptable shares, volume and composition of renewable gases in the gas transmission system for safe, reliable and effective operation of the gas transmission system.	2026 and after 2026
D4	Hydrogen and renewable gas transmission system preparation projects	Location analysis and planning of transmission pipeline system upgrades for the preparation for injection and operation with hydrogen and renewable gases. Mobile connection unit for injecting hydrogen and execution of a hydrogen test centre. Pilot projects.	2026 and after 2026
D5	SLOP2G	Gas transmission part of the project to connect the gas and electricity sectors and production of green hydrogen by TSO for its own needs with an emphasis on the connection of facility to produce green hydrogen via the connection system for admixture and injection of hydrogen into the gas transmission system with all pertinent systems for remote control and management of injection process. The TSO may use the green hydrogen produced within the project for the purposes of own use.	nd
D6	R25D-H Šoštanj - Šentrupert	Drawing up scientific bases for planning and siting the new pipeline for transferring up to 100% hydrogen from Šoštanj	after 2028

		to Šentrupert via injection into the M2/1 transmission pipeline.	
D7	R25A/1 Stage two: Trbovlje - Hrastnik - Podkraj	Construction of hydrogen pipeline with a connection of TET energy locations (Lakonca) and Steklarna Hrastnik with the purpose to supply Steklarna Hrastnik with hydrogen	nd
D8	Short and connecting hydrogen pipelines	Drawing up scientific bases for planning and siting new short hydrogen pipelines to transmit 100% hydrogen to provide the start and establishment of hydrogen production and the connection of production with a consumption location where injecting hydrogen into the transmission system is not possible due to a risk of exceeding the maximum concentration.	According to the expressed interest
D9	M5/R51 reconversion	The reconversion of the existing pipeline from BMCS Rogatec to MRS TE-TOL, including the necessary updates of the existing facilities at transmission gas pipeline to allow measurements and regulation of the hydrogen flow.	2029
D10	R21AZ reconversion	The reconversion of the existing pipeline from the Konjiška vas branch to Oplotnica, including the necessary updates of the existing facilities at transmission gas pipeline to allow measurements and regulation of the hydrogen flow.	2029

5.5 Projects in preparation and planning in the 2026–2028 period and projects in implementation

The TSO estimates to have a total of 30 projects in preparation and planning in the 2026 – 2028 period. and to carry out (construct or begin construction on) 24 of those projects, while 18 will remain in planning with envisaged investments in studies, spatial and investment documentation in the next three years. Although most of them did not have the FID status on 01/ 01/ 2025, the TSO assesses the appropriate maturity of projects in relation to the achieved level of processing both on the side of the TSO and on the side of the neighbouring transmission system operators or potential network users. The implementation of projects, due to the fulfilment of the legislative provision of proportionality of costs, will not have an impact on the possible increase of tariffs.

Table 29. Projects planned in the 2026 - 2028 period

#	Project name	Purpose	Level of treatment 01/ 01/ 2025	Planned start of operations
A1	Loop to Zreče			
	Stage two: R21AZ Oplotnica - Zreče	Expansion of the pipeline system	NSP prepared	after 2028
	Stage three: P21AZ1 Oplotnica - Slovenska Bistrica	Expansion of the pipeline system	NSP prepared	after 2028
A8	Laško - Hrastnik - Radeče	Increase of the operational security with the system loop	Conceptual designs	after 2028
A13	M5 Vodice - Jarše - Novo mesto			
	Stage two: Jarše - Grosuplje	System pipeline; the expansion of the transmission system with the possibility of connection of municipalities and the increase of the operational security	Conceptual designs	after 2028
	Other stages: Grosuplje - Trebnje - Novo mesto	System pipeline; the expansion of the transmission system with the possibility of connection of municipalities and the increase of the operational security	Conceptual designs	after 2028
A16	Backup Management Centre	Facility, development of information systems with equipment at the back-up site	Analyses, conceptual designs	after 2028



A29	R23-R23B loop (Celje-Štore-Laško)	Increase of the operational security with the system loop	Analyses	after 2028
A31	M3/1a Šempeter - Ajdovščina	System line to increase operational security by enhancing cross-border transmission capacity from the western direction. Provision of adequate transmission capacity in the event of a shortfall from the eastern supply direction, and also harmonisation with the existing capacity and operating pressures of the Italian transmission system, the integration into the gas pipeline corridors.	NSP prepared	after 2028
R15/1 Pince - Lendava - Kidričevo				
C3	Stage two: Lendava - Ljutomer	Bi-directional connection of the Hungarian and Slovenian transmission systems	NSP prepared	after 2028
	Stage three: Ljutomer - Kidričevo		NSP in preparation	after 2028
C4	Upgrade of interconnection Ceršak (M1/3 Interconnection Ceršak)	Interconnector with the Austrian TSO, adjustment to operating parameters of the transmission system of Austrian TSO	NSP prepared	after 2028
C5	CS Kidričevo - stage 2 of extension	Improvement of operating parameters in M1/1 and M2/1 in the framework of the bi-directional gas route Austria - Slovenia - Croatia	NSP prepared	after 2028
C12	Upgrade of interconnection Rogatec, Phase 2: Construction of the cross-border pipeline	Expansion of the pipeline system	NSP prepared	after 2028
C17	CS Kidričevo - stage 3 of extension	Improvement of operating parameters R15/1	Conceptual designs	after 2028
Italy - Slovenia - Hungary H2 corridor				
D1	Reconversion of the existing pipeline section (CS Kidričevo - BMCS Rogatec)	The reconversion of the existing pipeline from CS Kidričevo to BMCS Rogatec, including the necessary updates of the existing BMCS Rogatec to allow measurements and regulation of the hydrogen flow.	Analyses	2029
	Reconversion of the existing pipeline section (BMCS Rogatec - BMCS Vodice)	The reconversion of the existing pipeline from BMCS Rogatec to MRS Vodice.	Analyses	2029
Croatia - Slovenia - Austria, H2 corridor				
D2	Upgrade of the Ceršak interconnection (first phase)	Upgrade of the existing BMCS Ceršak to allow measurements and regulation of hydrogen flow and establishment of cross-border point for hydrogen, including 160m long pipeline section from the BMCS to the national border.	Analyses	2029
	Reconversion of the existing pipeline section (BMCS Ceršak - BMCS Rogatec) (first phase)	Reconversion of the existing pipeline from BMCS Ceršak (SI-AT Ip) to BMCS Rogatec (SI-CRO IP).	Analyses	2029
D3	Analyses, studies and testing with the gases from the renewable energy sources	Analyses and studies of the transmission network and its parts for the acceptance of renewable gases and testing to determine the acceptable shares, volume and composition of renewable gases in the gas transmission system for safe, reliable and effective operation of the gas transmission system.	Analyses	2026 and after 2026
D4	Projects to prepare transmission system to operate with hydrogen and renewable gases	Location analysis and planning of transmission pipeline system upgrades for the preparation for injection and operation with hydrogen and renewable gases. Mobile connection unit for injecting hydrogen and execution of a hydrogen test centre. Pilot projects.	Analyses	2026 and after 2026
D6	R25D-H Šoštanj - Šentrupert	Drawing up scientific bases for planning and siting the new pipeline for transferring up to 100% hydrogen from Šoštanj to Šentrupert via injection into the M2/1 transmission pipeline.	Conceptual designs	after 2028

D9	M5/R51 reconversion	The reconversion of the existing pipeline from BMCS Rogatec to MRS TE-TOL, including the necessary updates of the existing facilities at transmission gas pipeline to allow measurements and regulation of the hydrogen flow.	Analyses	2029
D10	R21AZ reconversion	The reconversion of the existing pipeline from the Konjiška vas branch to Oplotnica, including the necessary updates of the existing facilities at transmission gas pipeline to allow measurements and regulation of the hydrogen flow.	Analyses	2029

Table 30. Projects in preparation in the 2026 - 2028 period

#	Project name	Purpose	Level of treatment 01/ 01/ 2025	Planned start of operations.
A2	R51a Jarše – Sneberje	Increase of the operational security with the system loop	NSP prepared	after 2028
A15	Management Centre	Facility, development of information systems, digitalisation, and content upgrade	Municipal detailed spatial plan in preparation	after 2028
A19	R25A/1 Trojane - Hrastnik			
	Stage one: Trojane - Trbovlje	Increase of the operational security	NSP prepared	after 2028
A21	R42/1 Anže - Brestanica	Expansion of the pipeline system	NSP in preparation	after 2028
A24	Relocation of part of the P29134 gas pipeline in the area of Kranj	Increase of the operational security	Conceptual designs	after 2028
A26	Maribor - Melje connection with a system loop for MOM	Increase of the operational security with the system loop MOM	Conceptual designs	2028
B1	MRS Brestanica; R42/1 Anže - Brestanica	Change in connection of final user	NSP in preparation	after 2028
B21	MRS Gorenje NO	Change in connection of final user	Conceptual designs	2026
B22	MSR Drnovo	Change in connection of DSO	Conceptual designs	2026
B35	Supply to users and other connection projects	Connection of new users with mobile systems, connection of filling stations for compressed natural gas and adjustment of existing connection points	Conceptual designs	2026-2035
	R15/1 Pince - Lendava - Kidričevo			
C3	BMCS Pince	Bi-directional connection of the Hungarian and Slovenian transmission systems	NSP prepared	after 2028
	Stage one: Pince - Lendava			after 2028
	Upgrade of interconnection Rogatec (M1A/1 Interconnection Rogatec)			
C12	First phase: Extension of BMCS Rogatec	Increase of the operational security	NSP prepared	after 2028

In Table 31, all projects that have been approved by the Energy Agency and are in the implementation phase and which have connection contract concluded are presented.

Table 31. FID projects

#	Project name	Purpose	Level of treatment 01/ 01/ 2025	Planned start of operations.
A3	R51b TE-TOL - Fužine/Vevče	Increase of the operational security with the system loop and the possibility of connection of DSO to MOL	NSP prepared	2027



A4	R51C Kozarje – Vevče	Increase of the operational security with the system loop and the possibility of connection of DSO to MOL	NSP prepared	after 2028
A14	M6 Ajdovščina - Lucija	System pipeline; the expansion of the transmission system with the possibility of connection of municipalities and the increase of the operational security	NSP prepared, BP	2026-2029
A15	Management Centre	Facility, development of information systems, digitalisation, and content upgrade	Municipal detailed spatial plan in preparation	after 2028
A17	Data transmission network - Phase 2	Increase of the operational security	Conceptual designs	after 2028
A28	BMCS Vrtojba	Adjustment of the two-way operation regime to the operating parameters of the Italian TSO transmission system	NSP prepared, BP	2026
A32	System and equipment for controlling methane emissions	Establishment of the system to detect and control methane emissions in the transmission system	Construction and partial planning	2026 and after 2026
B2	MRS Miklavž na Dravskem polju	Connection of DSO	Municipal Spatial Plan adopted	2026 ³⁰
B3	MRS Velika Polana	Connection of DSO	GD (operating permit)	nd ³¹
B4	R25A/1 Second stage Trbovlje - Hrastnik with MRS Hrastnik and MRS Podkraj	Change in connection of three final users	Municipal Spatial Plan prepared, partial BP obtained	2027
B5	MRS Duplica	Change in connection of DSO	Conceptual designs	2027
B6	MRS Kamnik-center	Change in connection of DSO	Conceptual designs	2027
B7	MRS Sava with a pipeline	Change in connection of final user	OPPN adopted	2027
B8	MRS Verovškova/KEL	Change in connection of final user	Conceptual designs	after 2028
B9	MRS Koto	Change in connection of final user	OPPN adopted	2026
B10	MRS Dobrunje	Connection of DSO	NSP prepared	2026
B11	MRS Emona	Connection of final user	Conceptual designs	nd ³²
B12	MRS Donit	Change in connection of final user	Municipal detailed spatial plan in preparation	2027 ³³
B13	MRS Impol	Change in connection of final user	NSP prepared	2026 ³⁴
B14	MRP LTH Castings	Change in connection of final user	Conceptual designs	2027
B15	MRS Draženci	Connection of final user	Conceptual designs	2026/2027
B16	MRS Sežana, MRS Kozina, MRS Dekani, MRS Koper, MRS Izola, MRS Lucija	Connection of DSO in municipalities of Sežana, Hrpelje-Kozina, Koper, Izola, Piran; connection with the system pipeline M6	DP, NSP prepared	2026-2029
B17	MRS Litostroj Power	Change in connection of final user	Conceptual designs	2027
B18	MRS Lek Lendava	Change in connection of final user	Conceptual designs	2026/2027

5.6 Assessment of options for the increase of energy efficiency

In accordance with Article 6 of the Gas Supply Act (ZOP), the development plan must include an assessment of the potential for the increase of energy efficiency of gas and electricity infrastructure by means of load balancing and interoperability, connection with gas production plants, and define time dynamics and financial evaluation of planned investments and actual measures for cost-effective

³⁰ The envisaged start of operation depends on the activities of the Municipality and DSO.

³¹ The envisaged start of operation depends on the DSO selection by the municipality.

³² The envisaged start of operation depends on the user.

³³ The envisaged start of operation depends on the adoption of the planning document by the Municipality of Medvode.

³⁴ Envisaged start of operation depends on the implementation of the A1 project First stage: R21AZ Konjiška vas - Oplotnica.

improvements in the network infrastructure. The TSO is carrying out a number of activities in these areas, some of which are legally binding, but most of them are the result of the innovation process that we have introduced in the company in recent years and has already been showing encouraging success. We are constantly upgrading the innovation process, and we motivate employees for their participation.

5.6.1 Load management and interoperability of the transmission system

In order to provide sufficient capacity for the required transmission system load and its interoperability with the neighbouring transmission systems, the TSO ensures coordinated development of the transmission system and interconnection points with the neighbouring transmission systems. By upgrading the backbone of the transmission system and upgrading the compressor station in Kidričevo, the TSO has provided the necessary transmission capacities in recent years and significantly improved the operational characteristics of the transmission system. At the end of 2018, the TSO ensured the possibility of bi-directional operation of the connection between Slovenia and Croatia by upgrading the border metering and control station in Rogatec, which represents an important contribution from the point of view of interoperability of the Slovenian and Croatian transmission systems. Due to the war in Ukraine, the TSO prioritised the implementation of activities required for increasing transmission capacity from the western supply direction, including the projects of new BMCS Vrtojba and expansion of the CS Ajdovščina with the third compressor unit. The project to expand the CS Ajdovščina was finished at the end of 2024, the construction of the BMCS Vrtojba is under way. The above-mentioned upgrades to provide the required transmission capacity enable further development of the transmission system, within the meaning of Article 15 of the Regulation 2018/1999³⁵ on energy efficiency, and represent a very important contribution to increasing the efficiency of gas infrastructure.

After the upgrades, the transmission system can, from the perspective of ensuring interoperability, enable the handling of transmission capacities according to the model of entry-exit points, where users can independently book the entry and exit capacities. After the upgrades, there are no more internal bottlenecks on the main trunk gas pipelines, and gas can be transmitted from one entry point practically to any exit point. The independent treatment of transmission capacity at entry and exit points has enabled the introduction of a virtual point of gas trading on the Slovenian transmission system, which represents an additional contribution to the effectiveness of balancing the deviations between the takeover and delivery of gas to the holders of balance groups, and to ensuring the balance of the transmission system. The TSO has established a virtual point of gas trading and has been its operator since 2015. The increase of entry capacity of the connection between the Slovenian and the Croatian system, and the connection of the Slovenian and the Hungarian transmission system, planned to be executed in several phases by the neighbouring operators will provide increased interoperability of the Slovenian gas infrastructure.

5.6.2 Connection with energy production plants, including microproduction

On the gas transmission system, cooling of the gas occurs during pressure reductions, which makes it necessary to provide heating to prevent the formation of unwanted condensate or freezing. Gas heating is performed by a hot water heating system, where hot water for heating is prepared in the boiler room with gas boilers and associated safety and control equipment, and only gas heating is performed in heat exchangers in the reduction part of the metering and regulation stations (hereinafter referred to as: the “MRS”).

³⁵ REGULATION (EU) 2018/1999 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending regulations (EC) No 663/2009 and (EC) 715/2009 of the European Parliament and of the Council, directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/ES, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652, and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council



The modernisation of the heating system in the MRS on the gas transmission system was carried out in such a way that the built-in condensing gas boilers regulated the outlet temperature of gas from the MRS according to the actual dew point temperature of the outside air, thus preventing the formation of condensate and in winter also its freezing on the safety and regulation equipment, therefore preventing improper operation of the equipment. Based on detailed knowledge of the legality of the heating system and the functionality of the subject equipment, it was achieved that by regulating the gas temperature according to the dew point temperature of outdoor air ensures the minimum required temperature of heated water in the boiler part and the minimum required gas outlet temperature from the MRS and thus also lower heat losses. So far, the heating system has been modernised at 44 MRSs, which have higher flows at the annual level in order to increase gas savings, and the Plinovodi company will continue with its modernisation in the future and thus increase the energy efficiency of the gas transmission system.

In terms of ensuring energy efficiency, the Plinovodi company took advantage of the possibility of using the electrical equipment of the gas transmission system in connection with the electricity network. To ensure reliable operation of the systems and subsystems, a spare diesel generator was installed at both Plinovodi's compressor stations, which provides backup power supply to the compressor station in the event of a power failure in the distribution network. In accordance with the Electricity Supply Act, the ELES d.o.o. company as an operator of the combined transmission and distribution electricity network provides system services, including the provision of adjusting electricity consumption and managing distributed generation to carry out a system service of the manual process for frequency recovery. Plinovodi thus takes part in the respective service, it carried out the necessary equipment upgrade and signed a contract with the power aggregator under which it responds to the requirement of electricity production by remotely starting back-up diesel units.

To increase energy efficiency, Plinovodi built two small photovoltaic power plants at the Company's head office in Ljubljana (2011, 2023) and one small photovoltaic power plant at the Maribor Maintenance Centre (2024). The electricity generated is a contribution to energy efficiency, available to Plinovodi also in the coming years.

For cogeneration of heat and electricity (CHP) on the transmission system, a pilot project of installing a CHP plant at the MRS Maribor, which is located within the Maribor Maintenance Centre, was carried out by the TSO. Thus, at the MRS Maribor, the entire heat produced from the CHP plant is used to provide technological heat for the operation of the MRS Maribor, a major part of the electricity produced from the CHP plant is used to cover the needs of the Maribor Maintenance Centre for electricity, while the remaining part of the produced electricity is taken over and purchased into the network of the distribution system operator by the Borzen company on the basis of a signed contract on the provision of support as a guaranteed purchase of electricity with the Borzen company.

In the context of microproduction, connections of biomethane production devices to distribution networks or gas transmission systems on gas networks in Western Europe, in particular, are expanding. The Plinovodi company monitors the intensity of the connection of biomethane, green hydrogen and synthetic gas production devices in Europe and supports the first projects that are being prepared in Slovenia.

5.6.3 The activities of the TSO in the processes of decarbonisation in the Republic of Slovenia and in the field of the use of alternative gas energy products

The TSO is monitoring the processes of decarbonisation towards the fulfilment of the objectives of the low-carbon society. Gas will play an important role in the processes of decarbonisation due to lower greenhouse gas emissions in comparison with the fossil fuels. Therefore, the TSO is encouraging the

connection of devices for cogeneration of heat and electricity, as well as the use of gas connectors in the transport sector. It also promotes the use of gas heat pumps to increase energy efficiency and relieve the electricity system.

The TSO also monitors and engages in the development in the field of application of gas transmission systems for transmission of alternative gaseous fuels (e.g., biomethane, synthetic methane, hydrogen) or the storage and transmission of surpluses of renewable energy sources in the form of alternative gaseous fuels. The TSO monitors the interest in domestic production of renewable gases. According to the interest shown, the TSP will adequately upgrade and prepare the transmission system for the injecting process and operation with renewable gases (Chapter 4). Given the national and EU climate objectives and commitments, it is expected for the interest in domestic production and injection of renewable gases to increase; the biggest challenge will be hydrogen that has a great impact on the security, integrity and operation of the transmission system. Due to specificities introduced by hydrogen into the transmission system operation, the TSO will mainly focus on the hydrogen in preparing the transmission system for renewable gases.

In the process of decarbonisation, the share of renewable energy sources is going to increase in the energy balance sheets. In the future, it will be necessary to take advantage of natural opportunities of obtaining alternative sources of gas as well. The TSO monitors the development of technologies and legislation in the field of injection and transmission of alternative gaseous fuels. The legislation of the entire European Community has not been prepared yet, but there are already several guidelines, standards, and laws at the level of individual Member States. The TSO monitors the development of the EU regulations and legislation at the level of the European Community as a whole, and on the basis of which it will adequately prepare the transmission system to anticipated permissible shares of hydrogen in transmission systems of EU Member States and thus provide a smooth transition and monitoring of the gas or gas mixtures and hydrogen from the neighbouring countries. Moreover, the NEPN also provides for the increase in the share of renewable gas energy in the gas infrastructure, thereby renewable energy sources become accessible to a wide circle of users.

5.6.4 Investments and actual measures for cost-effective improvements in the network infrastructure

The TSO monitors the energy efficiency by tracking environmental indicators within the framework of the established Environmental Management System according to the ISO 14001 standard. In addition to the comprehensive management of the environmental aspects of Plinovodi's activities, the system also includes cost control and efficient use of resources. Environmental indicators are set up to express the environmental and economic performance of business processes as clearly as possible, while the TSO through individual investments provides for even better exploitation of energy products based on the performed analyses of environmental indicators. The measures for cost-effective improvements are linked to regular periodic evaluation of the following environmental indicators in the company Plinovodi: consumption of gas for own use, and cooling and heating of business premises, flue gas emissions, noise emissions, water consumption, electricity consumption and generation, heat energy consumption, fuel consumption, flue gas quantity, carbon footprint of the company, and the amount of disposed waste. To provide additional optimisation of energy consumption, the TSO introduces an energy management system.



6 European dimension of gas supply

6.1 Intensive development and upgrades to gas transmission systems in EU countries

Regulation (EU) 2023/435 of 27/ 02/ 2023 amending Regulation (EU) 2021/241 regarding the “REPowerEU” measures in recovery and resilience plans specifically addressed investments aimed at contributing to the following goals:

1. Improving energy infrastructure and facilities to satisfy the immediate needs of reliable gas supply, including liquefied natural gas (LNG), in particular to enable supply diversification in the interest of the Union as a whole,
2. Eliminating internal and cross-border bottlenecks in transmitting and distributing energy.

After a change in supplies caused by the war in Ukraine, a series of important gas pipeline projects was carried out in the EU states to provide reliable supply; these projects enabled access to supply sources also in significantly changed conditions, and necessary transmission capacity for supplying all EU countries was provided. Already on 01/ 10/ 2022, with an upgrade of the Šempeter cross-border metering and regulation station the connection transmission capacity between Italy and Slovenia was increased from 2.5 million Nm³/day to 3.4 million Nm³/day.

In 2024, projects to increase system resilience and supply reliability in the event of disturbances or disruptions of supply sources continued in the EU countries. The construction of new capacity of LNG terminals in Germany (Wilhelmshaven and Stade) continues, a new LNG terminal in Alexandroupolis started its operation, while a new Ravenna LNG terminal started its operation in the first quarter in Italy. There are also several strategic projects taking place in Italy to increase the capacity of gas infrastructure for transmission from south to north and for gas storage. In Croatia, the project to increase the capacity of the LNG terminal on the island of Krk from 2.9 billion Sm³/year to approximately 6.1 billion Sm³/year and the project for the construction of the Zlobin-Bosiljevo gas pipeline continue. Plinovodi resume the necessary upgrade of the transmission system to provide supply reliability, while at the end of 2024 the upgrade of Ajdovščina compressor station was completed with the third compression unit, the Company continues with the construction of the cross-border metering and regulation station in Vrtojba to increase transmission capacity at the connection between Italy and Slovenia.

6.2 Development of exchanges with other countries

To mitigate serious threats to the supply reliability, in 2022, the EU adopted the Regulation (EU) 2022/1369 within the REPowerEU plan to reduce demand for gas by 15%. In March 2023, it decided to extend the respective reduction by the Regulation (EU) 2023/706, whereby it also took into account an urgent need for re-filling storage facilities and other intensified situation in the market, for example due to poor availability of electricity from hydro-power plants and nuclear energy.

In accordance with the Council Regulation (EU) 2022/1369, the EU Member States reduced total gas consumption by 18% (approx. 10 bcm) between August 2022 and December 2023 (17 months). The goal was at least 15% reduction compared to their average gas consumption in five consecutive years before the respective Regulation came into effect. The figure below shows the change of gas consumption since the beginning of the implementation of the Council Regulation (EU) 2022/1369 on coordinated demand-reduction measures. 21 Member States reached the objective of 15% voluntary reduction.³⁶

³⁶ https://www.astrid-online.it/static/upload/f8f6/f8f6f926-0941-4ba0-ae71-0e8cfd47434f_en.pdf

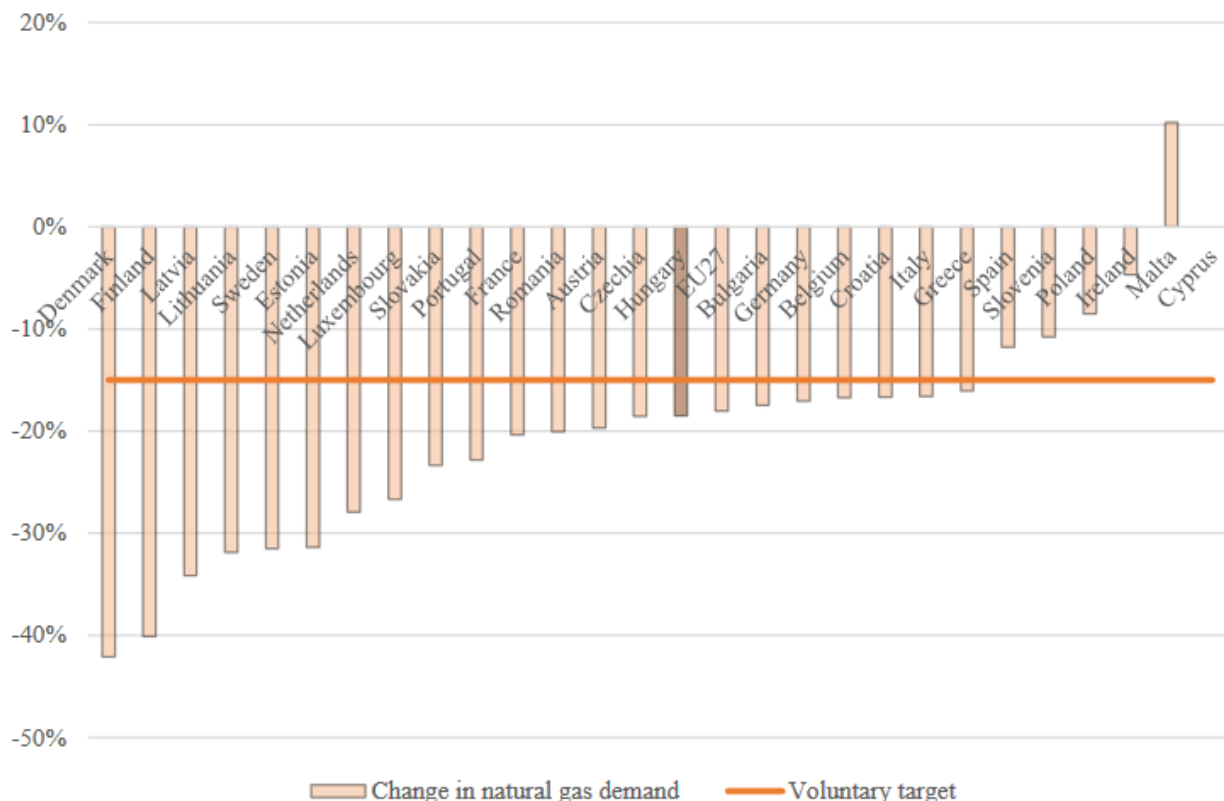


Figure 43. Change in demand for natural gas between August 2022 and December 2023 compared to the same period of a 5-year average by Member States

As per estimates of quarterly reports of the European Commission for 2024³⁷, the gas consumption in the EU continued a decreasing trend in the second quarter of 2024. The year-on-year gas consumption reduced by 6% compared to the second quarter of 2023 and by 14% compared to the second quarter of 2022. In the second quarter of 2024, the EU consumed 61 bcm of gas in total, i.e. 3.8 bcm less than a year before in the second quarter of 2023, and 10 bcm less than in the second quarter of 2022.

As shown in Figure 44, the year-on-year gas consumption reduced in 16 Member States by between 29% (Portugal) and 1% (Germany), while the consumption in nine Member States increased by between 5% (Slovenia) and 29% (Greece). More than 20% drop in consumption was reported in Portugal (29%) and Croatia (22%), the smallest one-digit reduction was recorded in Germany (-1%), Ireland (-2%) and the Netherlands (-4%).



Figure 44. Year-on-year change in the gas consumption in the Member States in the second quarter of 2024

³⁷ https://energy.ec.europa.eu/document/download/26ae2fd9-4a52-44fe-a1fc-1583656a7218_en?filename=New%20Quarterly%20Report%20on%20Gas%20markets%20Q2%202024_final.pdf

6.3 Supply of gas to EU countries and access to gas sources

Although the EU still depends on the import of fossil fuels, it constantly diversifies its gas suppliers. The Russian invasion of Ukraine and filling energy storage capacities put the supply diversification higher on the list of EU priorities.

Although the diversification is a long-term and expensive process requiring investments in the infrastructure (new gas pipelines, LNG terminals, etc.), the results are already visible. Since the Russian invasion of Ukraine, the gas import from Russia to the EU reduced significantly. This was mainly compensated with strong increase LNG import, in particular from the USA.

The import from Russia reduced from 137 billion cubic meters in 2021 to 31.6 billion cubic meters (bcm) in 2024. This was mainly compensated with an increasing share of other partners. The import from the USA increased from 18.9 bcm in 2021 to 56.2 in 2023. The import from Norway increased from 79.5 bcm in 2021 to 87.7 in 2023. The import from other partners increased from 41.6 bcm in 2021 to 62 in 2023.

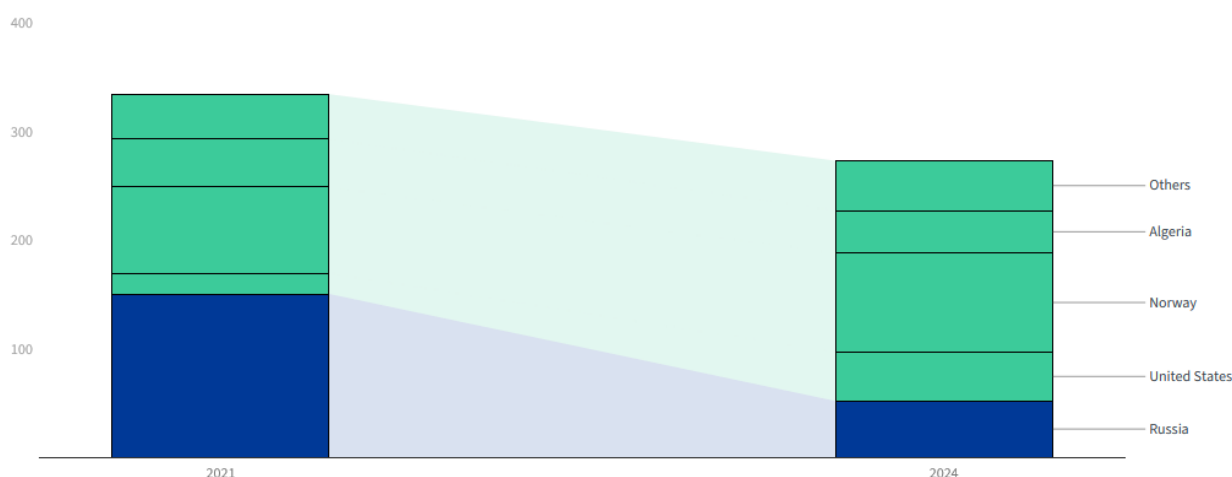


Figure 45. Indication of changes in gas supply from major partners in EU between 2021 and 2024³⁸

After the Russian invasion of Ukraine in February 2022, the share of Russian gas by pipelines in the total import of energy into the EU significantly decreased from 41% in 2021 to approximately 11% in 2024. In gas through pipelines and LNG together, Russia presented less than 19% of the total gas import to the EU. The drop was possible in particular due to a string increase of LNG import and general reduction of gas consumption in the EU. It was replaced in particular LNG from the USA, which provided 45% import of LNG in the EU in 2024, and reliable gas import by pipelines from Norway (50% compared to 30% in 2021), North Africa (18%) and Azerbaijan (7%).

The global supply of LNG in 2025 is expected to somewhat increase due to the increase in production and capacity of liquefaction in LNG exporting countries. This will reduce the pressure on global gas markets and together with historically high gas reserves and subdued demand cause lower prices in European markets. The largest LNG exporting countries in 2024 were the USA, Australia and Qatar. Global liquefaction is expected to increase even more as new plants in the USA, Qatar and Australia will begin their operation in the coming years.³⁹

³⁸ <https://www.consilium.europa.eu/en/infographics/eu-gas-supply/>

³⁹ https://energy.ec.europa.eu/topics/oil-gas-and-coal/liquefied-natural-gas_en

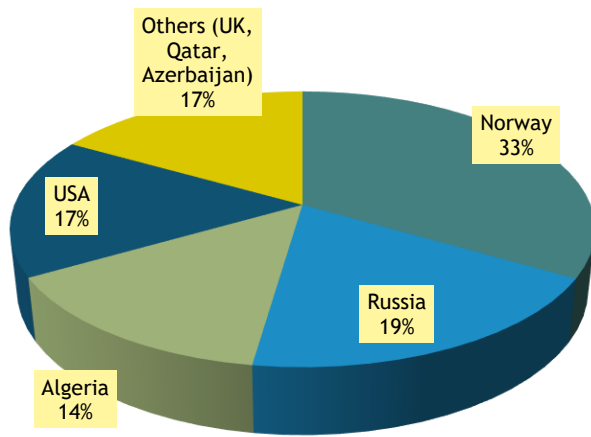


Figure 46. Sources of gas supply to EU countries (2024)

Norway and the USA were the major suppliers of gas in 2023. Norway provided more than 33% of the total gas import into the EU, followed by the USA with 17%. Additional suppliers are Algeria, the United Kingdom, Azerbaijan and Qatar. Compared to 2023, the gas import from Russia increased slightly.

Data source:
European Commission⁴⁰

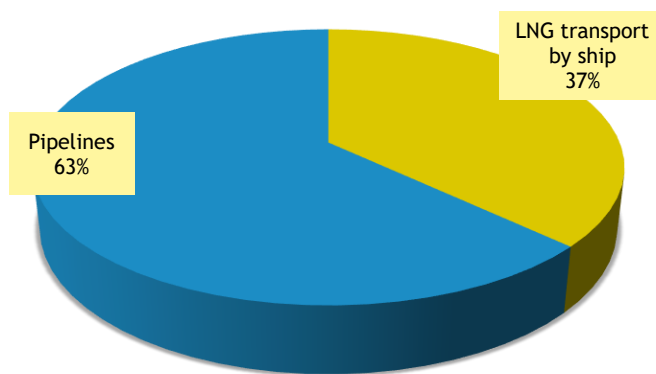


Figure 47. Transport of imported gas for EU countries (2024)

In 2024, the EU imported approximately 122 billion of cubic meters (bcm) of LNG, which was approximately 37% in the total import of gas into the EU. Compared to 2023, the import of LNG in 2024 slightly reduced (by approximately 5%). The increased import of LNG contributed to the reduction of the EU dependence on Russian gas.

Data source:
European Commission⁴¹

6.4 REGULATION (EU) No. 2022/869 on guidelines for trans-European energy infrastructure

The new Regulation (EU) 2022/869 of the European Parliament and of the Council on guidelines for trans-European energy infrastructure that entered into force on 30 May 2022 repealed the Regulation (EU) No. 347/2013 that was a basis for our cooperation within European organisations (ENTSOG, the European Commission, etc.) for the past 9 years and for applications to calls for co-financing projects by the EU.

New rules of the Regulation (EU) 2022/869 should contribute to the modernisation, decarbonisation and connection of cross-border energy infrastructure of Member States, thus facilitating the EU in achieving goals of climate neutrality by 2050. The revised regulation should also provide market integration and their competitiveness and reliability of supply in the future.

⁴⁰ <https://www.consilium.europa.eu/en/infographics/eu-gas-supply/>

⁴¹ https://energy.ec.europa.eu/topics/oil-gas-and-coal/liquefied-natural-gas_en



New rules, inter alia, eliminate the support to new projects associated with natural gas and oil, and also mandatory sustainability criteria will be introduced for all projects. The procedures of issuing permits and approvals should also be more simple and rapid. The revised rules enhance the role of renewable sources with regard to all assets, also in smart gas networks. Opportunities emerge for unbinding cooperation in planning marine networks.

The Regulation on trans-European energy networks (TEN-E) supports cross-border projects that should connect energy networks of Member States and support the inclusion of renewable energy sources. It specifies corridors throughout the EU to defined priority investment areas.

The revised regulations lays down 11 priority corridors focusing on:

- Electricity,
- Off-shore grids,
- Hydrogen and electrolysers.

Three priority thematic areas are defined as well:

- Introduction of smart electricity grids to improve the efficiency of electricity networks,
- Cross-border network for carbon dioxide that would provide capturing and storing CO₂,
- Smart gas networks focused on renewable and low-carbon gas sources.

The TEN-E Regulation stipulates a legislative framework, the aim of which is the planning of energy infrastructure to select projects of common interest (PCI) and projects of mutual interest (PMI) and less complex and more rapid implementation of the respective projects. It determines an open, transparent and inclusive process for determining special projects of common interest required to establish these priority corridors and areas, as well as special projects of common interest developed by the EU with third countries and which contribute to energy and climate objectives of the EU for 2030 and its objective to reach climate neutrality by 2050.

The TEN-E Regulation stipulates a set of measures to provide timely implementation of PCI and PMI projects, including:

- Enhanced transparency and improved public consultation;
- Accelerated and stream-lined procedure for issuing permits, including a binding time limit of three and a half years for this procedure;
- One national competent body that operates as a “one-stop” point for authorisation procedures;
- Single contact point for off-shore grids for renewable energy sources;
- Improved regulatory treatment with cross-border allocation of costs based on net benefit and regulatory initiatives and
- Eligibility of an application for financial aid under the Connecting Europe Facility in the form of grants.

6.4.1 The list of PCI and PMI projects

Through the Commission Delegated Regulation of 28 November 2023 amending the Regulation (EU) 2022/869 of the European Parliament and of the Council on the list of projects of common interest (PCI) and projects of mutual interest (PMI)⁴², the European Commission established the first list of projects of

⁴² https://eur-lex.europa.eu/resource.html?uri=cellar:8343d7e8-8de6-11ee-8aa6-01aa75ed71a1.0013.02/DOC_1&format=PDF

common interest of the Union (PCI) and projects of mutual interest in accordance with Regulation (EU) 2022/869 of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure¹ (TEN-E).

Projects of common interest (PCI) are key projects of energy infrastructure that are crucial for completing the European internal energy market and contribute to the mitigation of climate change, in particular achieving energy and climate objectives of the European Union for 2030 and its objective of climate neutrality no later than 2050, and to the provision of mutual connection of energy grids, energy security, markets and systems and competition that is beneficial to all Member States, as well as to affordability of energy.

Projects of mutual interest are key projects of energy infrastructure that the EU is promoting in cooperation with third countries.

In accordance with Article 3(4) of the TEN-E Regulation, the Commission must adopt a delegated act every two years in which it determines a list of projects of common interest and projects of mutual interest of the EU. The EU list is based on regional lists of proposed projects of common interest/projects of mutual interest prepared and adopted by regional groups established with the TEN-E Regulation.

The Delegated Regulation is adopted as an annex to the TEN-E Regulation and, with its adoption, the Delegated Regulation (EU) 2022/5642, which includes the fifth list of projects of common interest of the EU (Articles 2-10, Articles 12, 13, 14, and annexes I through IV and Annex VI to the Regulation (EU) No 347/2013) is repealed.

The first list of PCI and PMI projects is adopted within the scope of revised trans-European networks with energy regulation (TEN-E) that phases-out the support to fossil fuel infrastructure and focuses on cross-border energy infrastructure of the future. It includes projects of common interest (PCI), which are projects in the territory of the EU, and, for the first time, projects of mutual interest (PMI), which connect the EU with other countries. The Commission is expected to provide that projects will be quickly completed and could contribute to doubling capacity of EU network up to 2030 and achieving the objective of 42.5% of renewable energy.

Out of 166 selected PCI and PMI:

- More than a half (85) are projects in the field of electricity, off-shore and smart electric grids, whereby it is expected that a large number will be completed between 2027 and 2030.
- For the first time, hydrogen and electrolyser projects (65) are included; they will have an important role in providing the integration of energy systems and decarbonisation of the EU industry.
- The list includes also 14 projects of CO₂ projects that will create a market for capturing and storing carbon in line with the objectives.

A new, second list of PCI and PMI projects is in the preparation and is expected to be published by the end of 2025. Within the scope of the procedure to select projects, Plinovodi, together with neighbouring gas transmission system operators, issued application for projects, namely for two hydrogen corridors: Croatia - Slovenia - Austria, H₂ corridor and Italy - Slovenia - Hungary H₂ corridor.

6.5 ENTSOG

The establishment of the European Network of Transmission System Operators for Gas (ENTSOG) was required by Regulation (EC) No. 715/2009. The ENTSOG was founded on 1 December 2009 with the objective of accomplishing the following tasks: to facilitate the formation and operations of a single



European internal market and cross-border trading in gas, as well as to ensure optimum management, coordinated operation and technical evolution of the European gas transmission system by preparing and proposing adequate network codes.

The company Plinovodi is one of the founding members of the ENTSOG. Its current membership structure is: 43 European TSOs and 1 associated partner (Switzerland - Trans Adriatic Pipeline AG) from 27 EU Member States and 9 observers from Europe (Albania, Bosnia and Herzegovina, Moldova, Norway, Ukraine, North Macedonia, and Switzerland - Swissgas, Erdgas Ostschweiz AG, FluxSwiss Sagl, Transitgas AG).

The central task of the ENTSOG is to prepare network codes, the EU ten-year development plan, the "Winter Outlook" and "Summer Outlook" reports, to inform the interested public, bring together TSOs and cooperate in the preparation of 3-year regional investments plans within the EU.

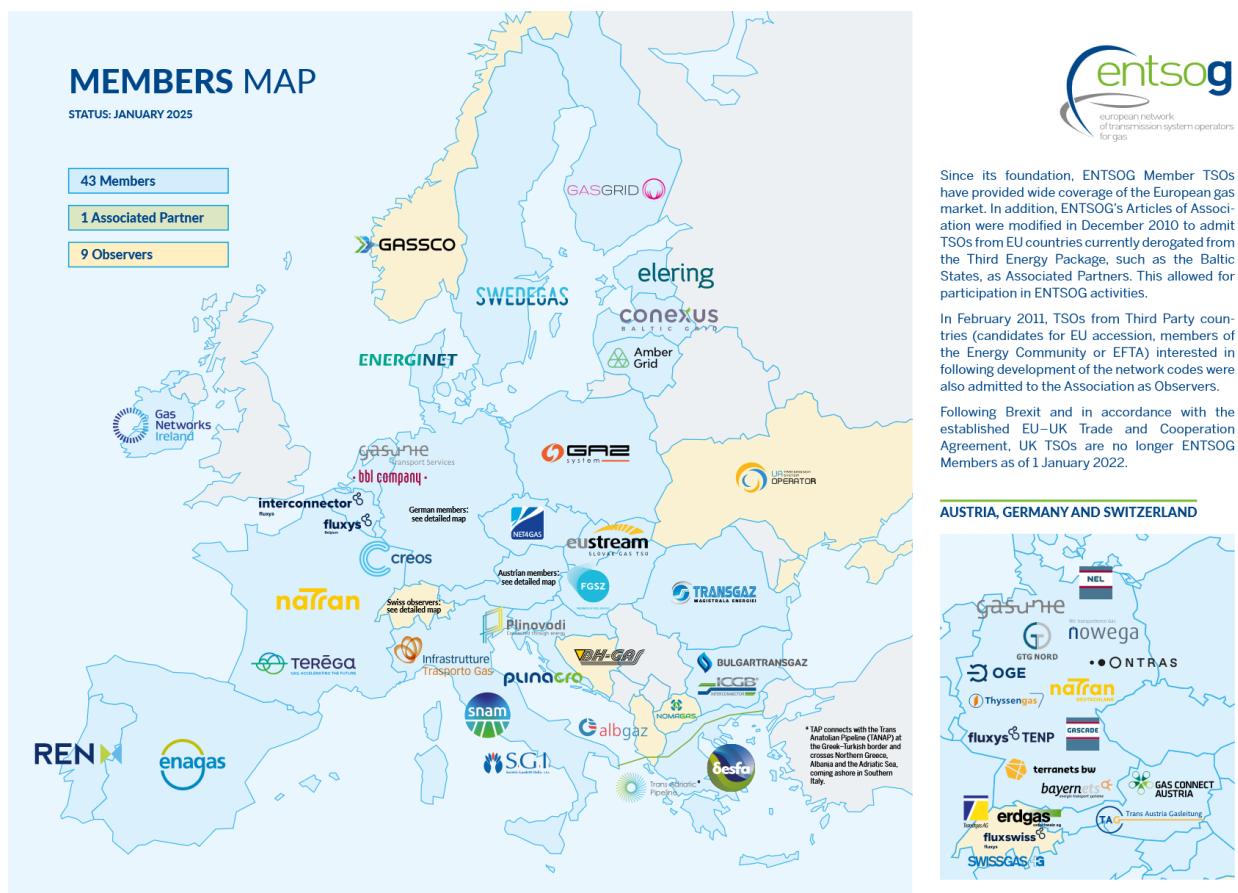


Figure 48. Members of the ENTSOG (January 2025)

6.5.1 TYNDP

One of the central objectives of the TYNDP (the Ten-Year Network Development Plan - TYNDP) is to provide an overview of trans-European infrastructure, thereby detecting potential gaps in future investments. The European 10-year development plan aims to cover a wider dynamic of the European gas market in relation to supply potential, market integration and security of supply.

The ENTSOG publishes the 10-year development plans on its website:

<http://www.entsog.eu/publications/tyndp>. In accordance with the requirements of the Regulation (EC) No. 715/2009⁴³, the TYNDP is prepared every two years.

When preparing the European TYNDP, the company Plinovodi has been cooperating with the ENTSOG since the preparation of the first plan in the year 2010. Thus, the projects of the Slovenian TSO are summarised in the European TYNDP and coordinated with the national 10-year development plans. The TSO ensures that the European TYNDP takes into account all projects that are listed in the national 10-year development plan and that can be qualified as affecting the European gas infrastructure. When preparing the national 10-year development plan, the TSO always ensures that the forecasts of estimated transmitted quantities and booked transmission capacities are coordinated. With the coordination of the development plans, the transparency and impartiality in the development of gas transmission infrastructure can therefore be assured.

The basis for registering projects in the ENTSOG TYNDP is their involvement in the national development plan. As a rule, we apply projects of international significance that interconnect with the neighbouring transmission systems in the TYNDP.

The most recent 7th edition of the European 10-year development plan - TYNDP 2022 was published on 29 September 2023. There is a new 8th edition of TYNDP 2024 being prepared and is expected to be finalised and published in the second half of the year.

The list of projects of Plinovodi d.o.o. Included in the ENTSOG TYNDP 2024:

- TRA-N-390 Upgrade of Rogatec interconnection (M1A/1 Interconnection Rogatec)
- TRA-N-112 R15/1 Pince - Lendava - Kidričevo
- TRA-N-389 Upgrade of Murfeld/Ceršak interconnection (M1/3 Interconnection Ceršak)
- H2T-N-1356 Italy-Slovenia-Hungary H2 corridor
- H2T-N-1237 Croatia-Slovenia-Austria H2 corridor
- H2E-A-442 SLOP2G
- TRA-N-94 CS Kidričevo, 2nd phase of upgrade
- TRA-N-99 M3/1a Šempeter - Ajdovščina
- OTH-N-1201 Reduction of transmission system methane emissions

6.6 European Hydrogen Backbone

In 2020, the Plinovodi company joined the European Hydrogen Backbone initiative. The initiative comprises the majority of transmission system operators from the European Union, inter alia, Open grid Europe, Gasunie, NaTran, SNAM, etc. It also includes all transmission system operators of neighbouring countries.

The main objective of the initiative is to study possibilities of safe, uninterrupted and cost-efficient hydrogen transport via the pipeline network reserved solely for hydrogen. Such solution also provides for a certain level of integration of the existing gas network with the hydrogen network and increases a total adaptability of the system and the maximum use of recoverable gases.

In accordance with the Hydrogen Strategy for a Climate-neutral Europe adopted by the European Commission in 2020, the production and consumption of hydrogen in Europe will significantly increase.

⁴³ REGULATION (EC) No. 715/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No. 1775/2005



The European Commission makes targeted assumption concerning the use of the so-called green hydrogen which is a renewable energy source since it is produced with surpluses of renewable electricity. In the transitional period, the use of blue hydrogen was also possible (i.e. hydrogen produced from gas by extracting and environmentally sound storage of CO₂).

Green hydrogen is also very environmentally-friendly energy carrier, since heat and water are main products of its combustion. It is possible to directly generate electricity in the fuel cells. Hydrogen or synthetic methane produced from hydrogen can be stored in large quantities and for a longer period (season) at affordable prices. This is one of the main challenges of climate neutral energy, since the surplus production of renewable energy sources must be synchronised in some parts of the year with large needs of energy in other parts of the year (in particular in winter).

European documents expect the start of using hydrogen in industry, namely in sectors where carbon footprint is hard to reduce by using non-gas technologies (e.g. metalworking industry and glass industry).

Based on studies, the initiative to establish the European Hydrogen Backbone found that it would be possible to upgrade the existing gas transmission infrastructure in order to establish the European hydrogen pipelines with over 50% coverage. This would also significantly reduce the costs of establishing a dedicated network, while also the speed of its construction would be increased. New gas transmission network would have to be constructed only in the areas with no existing pipework. One of major concerns of the respective initiative is cross-border harmonisation of plans and dynamics for developing potential hydrogen networks.

The analysis from 2022 “Five Hydrogen Corridors for Europe” identifies five hydrogen corridors that will presumably connect regions outside the EU that will generate the surplus of green hydrogen with those regions with higher green hydrogen consumption (Germany and other countries in the Central Europe). The most significant corridors for Slovenia are from Africa via Italy into the Central Europe, and from the Eastern Europe (Romania, Ukraine, etc.) into the Central Europe. Also additional green hydrogen supply to Slovenia could run from the respective corridors.

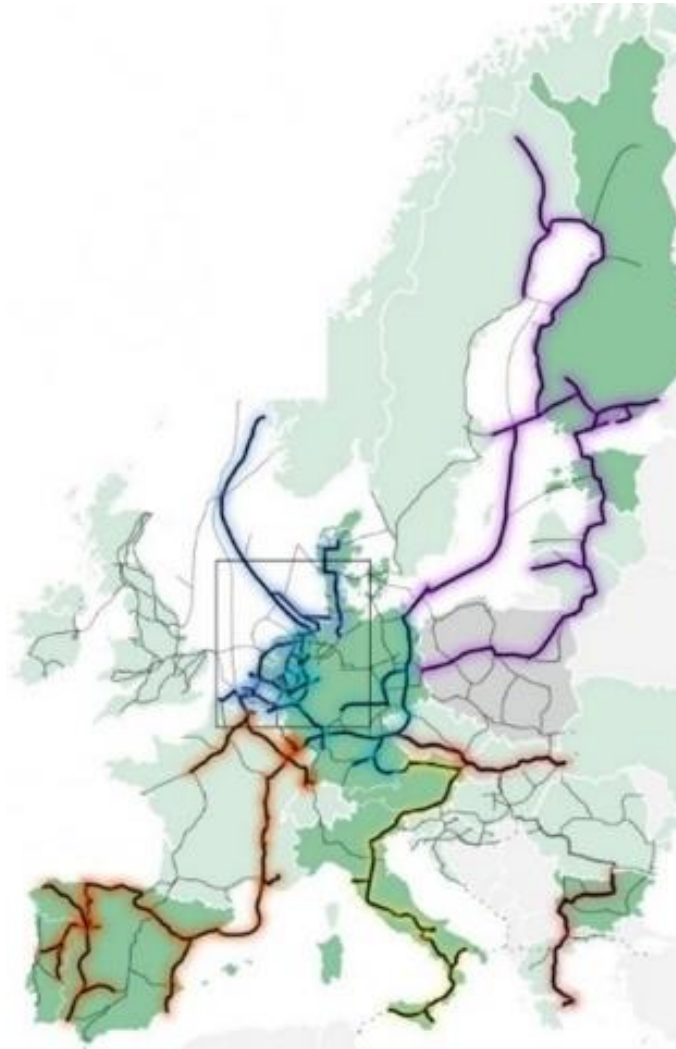


Figure 49. The European Hydrogen Backbone according to EHB projections (5 supply corridors marked in colours; highlighted parts already have a status of EU projects of common interest (PCI))

The majority of large gas pipelines in 5 supply corridors obtained a status of PCI and is included in the European Ten-Year Network Development Plan (for hydrogen), prepared by ENTSOG since the establishment of the ENNOH organisation.

6.7 ENNOH

In accordance with the Regulation on the internal market for gas from renewable energy sources, natural gas and hydrogen, the initiators from the majority of Member States (incl. Plinovodi) have initiated the procedure to establish the European Network of Network Operators for Hydrogen (ENNOH).

In performing its tasks under the EU law, ENNOH operates with a view to establishing a properly operating and integrated internal hydrogen market and contributing to efficient and sustainable achievement of objectives set out within the scope of the climate and energy policy, in particular by efficiently integrating hydrogen from renewable energy sources, and increasing energy efficiency while maintaining hydrogen network security. ENNOH will also draw up EU network codes and ten-year development plans for hydrogen networks.

In 2024, future founders of ENNOH submitted a draft of Articles of Association of the organisation and other required documents to the European Commission and ACER. Based on the ACER opinion, the European Commission will prepare a response to the submitted documents in 2025. Founders of ENNOH



will then correct and amend the respective documents and formally establish the organisation. At the same time, there are also preliminary activities to carry out tasks imposed on the ENNOH organisation by the European legislation.

ANNEXES

ANNEX 1 - Presentation of all investments

#	Name of investment	Purpose	Type of investment	Purpose of investment	Type of gas	Area of influence	Phase of execution	Technical characteristics	Planned start of operations	Estimated and preliminary inv. value (in EUR '000)
A1	Loop to Zreče									
	Second stage R21AZ Oplotnica - Zreče	Expansion of the pipeline system	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, , L = 5.3km, D = 150mm, OP = 50 bar	after 2028	3,002
	Third phase P21AZ1 Oplotnica - Slovenska Bistrica	Expansion of the pipeline system	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, , L = 8.9km, D = 150mm, OP = 50 bar	after 2028	5,098
A2	R51a Jarše - Sneberje	Increase of the operational security with the system loop	Pipeline	Increase of the operational security	Natural gas	Internal grids	In preparation	New construction, , L = 2.5km, D = 300mm, OP = 30 bar, DMRS Jarše	after 2028	2,130
A3	R51b TE-TOL Fužine/Vevče	Increase of the operational security with the system loop and the possibility of connection of DSO to MOL	Pipeline	Increase of the operational security	Natural gas	Internal grids	Under construction	New construction, , L = 4.5km, D = 300mm, OP = 30 bar, MRS Dobrunje	2027	5,875
A4	R51c Kozarje-Vevče	Increase of the operational security with the system loop and the possibility of connection of DSO to MOL	Pipeline	Increase of the operational security	Natural gas	Internal grids	FID	New construction, , L = 17.5km, D = 300mm, OP = 30 bar, MRS Kozarje	after 2028	16,042
A5	Dravograd - Ruše - Maribor									
	Stage one: Dravograd - Ruše	Increase of the operational security with the system loop and the possibility of connection of new municipalities	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 45km, D = 250mm, OP = 50 bar	nd	nd



	Stage two: Ruše - Maribor	Increase of the operational security with the system loop	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 10km, D = 250mm, OP = 50 bar	nd	nd
A6	Kalce - Godovič - Žiri - Škofja Loka Stage two: Godovič - Žiri - Škofja Loka	Increase of the operational security with the system loop and the possibility of connection of new municipalities	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 29km, D = 150mm, OP = 70 bar	nd	nd
A7	Škofja Loka - Medvode - Ljubljana	Increase of the operational security with the system loop	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 15km, D = 200mm, OP = 50 bar	nd	nd
A8	Laško - Hrastnik - Radeče	Increase of the operational security with the system loop	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 22km, D = 200mm, OP = 50 bar	after 2028	65,927
A9	R12A M1 - Lenart - MRS Gornja Radgona	Increase of the operational security with the system loop and the possibility of connection of new municipalities	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 30km, D = 250mm, OP = 70 bar	nd	nd
A10	Šoštanj - Dravograd	Increase of the operational security	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 24km, D = 200mm, OP = 70 bar	nd	nd
A11	M4 Podčetrtek section	Increase of the operational security with the displacement of pipeline	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 4km, D = 400mm, OP = 50 bar	nd	nd
A12	M2 Trnovlje section	Increase of the operational security with the displacement of pipeline	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, , L = 2km, D = 400mm, OP = 70 bar	nd	nd
A13	M5 Vodice - Jarše - Novo mesto									
	Stage two: Jarše - Grosuplje	System pipeline; the expansion of the transmission system with the possibility of connection of municipalities and the	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, , L = 12km, D = 400mm, OP = 100 bar	after 2028	14,400

		increase of the operational security								
	Other stages: Grosuplje - Trebnje - Novo mesto	System pipeline; the expansion of the transmission system with the possibility of connection of municipalities and the increase of the operational security	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, L = 54, D = 400mm, OP = 100 bar	after 2028	33,190
A14	M6 Ajdovščina - Lucija	System pipeline; the expansion of the transmission system with the possibility of connection of municipalities and the increase of the operational security	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	Under construction	New construction, L = 45.9 km, D = 400 mm, DP = 70 bar; L = 17.5 km, D = 200 mm, DP = 25 bar; L = 5.5 km, D = 150 mm, DP = 70 bar	2026-2029	62,115
A15	Management Centre	Facility, development of information systems, digitalisation, and content upgrade	Gas pipeline facility	Increase of the operational security	Natural gas	Internal grids	FID		after 2028	6,800
A16	Backup Management Centre	Facility, development of information systems with equipment at the back-up site	Gas pipeline facility	Increase of the operational security	Natural gas	Internal grids	In the planning phase		after 2028	2,400
A17	Data transmission network - Phase 2	Upgrade, replacement of the existing TC connection	Gas pipeline facility	Increase of the operational security	Natural gas	Internal grids	Under construction	Data transmission network and connections	after 2028	1,962
A18	R45 Novo mesto - Bela Krajina	System pipeline; the expansion of the transmission system with the possibility of connection of municipalities and the increase of the operational security	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, L = 39 km, D = 400 mm, OP = 50 bar, MRS Črnomelj, MRS Metlika, MRS Semič Capacity 3.15 GWh/d (0.298 M Sm3/d)	nd	nd
A19	R25A/1 Trojane - Hrastnik	System pipeline; the expansion of the transmission system with the possibility of connection of new users								



	Stage one: Trojane - Trbovlje	Increase of the operational security	Pipeline	Increase of the operational security	Natural gas	Internal grids	In preparation	New construction, L = 16km, D = 400mm, OP = 70 bar	after 2028	28,500
A20	R29 Jesenice - Kranjska Gora Stage two	System pipeline; the expansion of the transmission system with the possibility of connection of DSO and the increase of the operational security	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, L = 25km, D = 200/250mm, OP = 50 bar	nd	nd
A21	R42/1 Anže - Brestanica	Expansion of the pipeline system	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In preparation	New construction, L = 4.5km, D = 400mm, OP = 50 bar, MRS Brestanica	after 2028	6,223
A22	R42/1 Brestanica - Radeče	Increase of the operational security	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, L = 28km, D = 400mm	nd	nd
A23	Research and innovation projects	Innovations on gas transmission infrastructure	Gas pipeline facility	Increase of the operational security	Natural gas	Internal grids	In the planning phase		nd	nd
A24	Relocation of part of the P29134 gas pipeline in the Kranj area	Increase of the operational security	Pipeline	Increase of the operational security	Natural gas	Internal grids	In preparation	L = 700 m, D=200mm, DP=50 bar	after 2028	1,100
A25	Transmission pipeline system Šneberje - Šentjakob	Increase in operational security and connection of user	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	L= 1.9km, D=250mm, DP=30bar	nd	nd
A26	Maribor - Melje connection with a system loop for MOM	Increase of the operational security with the system loop MOM	Pipeline	Increase of the operational security	Natural gas	Internal grids	In preparation	L= 2.0km, D=250mm, DP=20bar	2028	2,224
A27	Reconstruction of M3 at section CS Ajdovščina – Miren with branches	Adjustment to the operational parameters of the Italian TSO's transmission system (73.9bar)	Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase	New construction, L = 11 km, D = 500 mm, OP = 73.9 bar, initial capacity 25.40 GWh/d (2.4 M Sm3/d)	nd	nd

A28	BMCS Vrtojba	Adjustment of the two-way operation regime to the operating parameters of the Italian TSO transmission system	Gas pipeline facility	Increase of the operational security	Natural gas	Internal grids	Under construction		2026	9,360
A29	R23-R23B loop (Celje-Štore-Laško)	Increase of the operational security with the system loop	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	L=3 km, D=200 mm, DP= 50 bar	after 2028	4,600
A30	M4/1 Male Rodne - Anže	Increase of the operational security	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	L=33 km, D=600 mm, DP= 70 bar	nd	nd
A31	M3/1a Šempeter - Ajdovščina	System line to increase operational security by enhancing cross-border transmission capacity from the western direction. Provision of adequate transmission capacity in the event of a shortfall from the eastern supply direction, and also harmonisation with the existing capacity and operating pressures of the Italian transmission system, the integration into the gas pipeline corridors.	Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase	New construction, L = 30 km, D = 1100 mm, OP = 100 bar, capacity 340 GWh/d (32.126 M Sm ³ /d)	after 2028	62,598
A32	System and equipment for controlling methane emissions	Establishment of the system to detect and control methane emissions in the transmission system	Gas pipeline facility	Increase of the operational security	Natural gas	Internal grids	Under construction		2026 and after 2026	2,140
B1	MRS Brestanica; R42/1 Anže - Brestanica	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In preparation	MWPB, adaptation of MRS, new construction of MRS	after 2028	2,000
B2	MRS Miklavž na Dravskem polju	Connection of DSO	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2026	67
B3	MRS Velika Polana	Connection of DSO	Gas pipeline facility	connection	Natural gas	Internal grids	FID	Existing MRS	nd	nd
B4	R25A/1 Second stage Trbovlje - Hrastnik with MRS Hrastnik and MRS Podkraj	Connection of three final users	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	Under construction	New construction of pipeline	2027	6,596
B5	MRS Duplica	Change in connection for DSO	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2027	280



B6	MRS Kamnik-Center	Change in connection for DSO	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2027	280
B7	MRS Sava with a pipeline	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2027	3,785
B8	MRS Verovškova/KEL	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	after 2028	973
B9	MRS Koto	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2026	984
B10	MRS Dobrunje	Connection of DSO	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2026	488
B11	MRS Emona	Connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	FID	MWPB, adaptation of MRS	nd	105
B12	MRS Donit	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2027	479
B13	MRS Impol	Capacity increase for final user	Gas pipeline facility	connection	Natural gas	Internal grids	FID	MWPB, adaptation of MRS	2026	nd
B14	MRP LTH Castings	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2027	496
B15	MRS Draženci	Connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In preparation	New construction MRS	2026/2027	1,310
B16	MRS Sežana, MRS Kozina, MRS Dekani, MRS Koper, MRS Izola, MRS Lucija	Connection of DSO in municipalities of Sežana, Hrpelje-Kozina, Koper, Izola, Piran; connection with the system pipeline M6	Gas pipeline facility	connection	Natural gas	Internal grids	Under construction	New construction MRS Sežana, MRS Kozina, MRS Dekani, MRS Koper, MRS Izola, MRS Lucija	2026-2029	5,056
B17	MRS Litostroj Power	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	FID	New construction MRS	2027	490
B18	MRS Lek Lendava	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In preparation	MWPB, new construction of MRS	2026/2027	3,270
B19	MRS Lek Mengeš	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	MWPB, adaptation of MRS or new construction of MRS	nd	nd
B20	MRS Stražišče	Change in connection of DSO	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd

B21	MRS Gorenje NO	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In preparation	MWPB, adaptation of MRS	2026	35
B22	MSR Drnovo	Change in connection of DSO	Gas pipeline facility	connection	Natural gas	Internal grids	In preparation	MWPB, adaptation of MRS	2026	609
B23	MRS Tekoma Marguč	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In preparation	New construction MRS	2027	433
B24	MRS Trnava	Connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B25	MRS Loče	Connection of DSO	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B26	MRS ACB Vransko	Connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B27	MRS Belinka	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B28	MRS Cerklje	Connection of DSO in the Municipality of Cerklje	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
	R297B Šenčur - Cerklje	Expansion of the pipeline system	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, , L = 2.9km, D = 200mm, OP = 50 bar	nd	nd
B29	MRS TET in TET branch (connecting pipeline)	Connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction of MRS and gas pipeline, L = 0.6km, D = 200mm, OP = 70 bar	2027/2028	2,310
B30	MRS Marjeta	Connection of DSO in the Municipality of Starše	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	MWPB, adaptation of MRS	nd	nd
B31	MRS Ribnica	Connection of DSO and/or final users in the Ribnica Municipality	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B32	MRS Lakonca	Connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B33	MRS Nasipi Trbovlje	Connection of final user and DSO	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	MWPB, new construction of MRS	nd	nd
B34	MRS Lendava/Petišovci	Connection to the production of gas	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd



B35	Supply to users and other connection projects	Connection of new users with mobile systems, connection of filling stations for compressed gas and adjustment of existing connection points	Gas pipeline facility	connection	Natural gas	Internal grids	In preparation	New construction of mobile handover systems, MWPB, new construction of MRS	2026-2035	6,000
B36	MRS Banovci, MRS Šoštanj, MRS Panonia biogas, MRS Centrex LNG, MRS Keramix, MRS Majšperk, MRS Kidričevo, MRS Galvateh	Connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	MWPB, new construction of MRS	nd	nd
B37	MRS Braslovče, MRS Šmartno ob Paki, MRS Moravče, MRS Labore, MRS Pesnica, MRS Sveti Tomaž, MRS Svilanit, MRS Horjul, MRS Podčetrtek, MRS Borovnica, MRS Boštanj, MRS Opekarna (Straža), MRS Cerknica, MRS Videm, MRS Vitanje, MRS Kozje, MRS Moste, MRS Liboje, MRS Brezovo, MRS Puconci, MRS Hajdina, MRS Ilirska Bistrica, MRS Lukovica	Connection of DSO and/or final users	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	MWPB, new construction of MRS	nd	nd
B38	MRS Živila, MRS Panvita Gornja Radgona, MRS Papirnica Radeče, MRS Muflon Radeče, MRS Pekarna Klasje Velenje, MRS Štore, MS Kandija, MRS Solkan, MRS	Change in connection of final user	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	MWPB, new construction of MRS	nd	nd

	Iskra, MRS Arcont Gornja Radgona, MRS Ravne, MRS Vevče, MRS TIM Laško, MRS Zdravilišče Laško, MRS TUS NTU									
B39	MRS Ježica, MRS Tacen, MRS Unior Zreče, MRS Krško, MRS Zdraviliški trg	Change in connection of DSO	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	MWPB, new construction of MRS	nd	nd
B40	MRS TOŠ	Connection of thermal energy plant	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
	R52 Kleče - TOŠ	Expansion of the pipeline system	Pipeline	Expansion of the pipeline system	Natural gas	Internal grids	In the planning phase	New construction, L = 5.1 km, D = 250 mm, OP = 70 bar, MRS TOŠ, capacity 6.99 GWh/d (0.660 M Sm ³ /d)	nd	nd
B41	MRS Oplotnica, MRS Škofljica/lg, MRS Komenda, MRS Brezovica/Log Dragomer, MRS Dobropolje, MRS Velike Lašče, MRS Sodražica, MRS Kočevje, MRS Postojna, MRS Pivka	Connection of DSO	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B42	MRS Grosuplje, MRS Ivančna Gorica, MRS Trebnje, MRS Mirna Peč, MRS Mirna	Connection of DSO; connection with the system pipeline M5	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B43	MRS Semič, MRS Metlika, MRS Črnomelj	Connection of DSO; connection with the system pipeline R45	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction MRS	nd	nd
B44	Gas transmission connection MRS Dekani - Port of Koper	Connection of the Port of Koper to supply port mechanisation	Gas pipeline facility	connection	Natural gas	Internal grids	In the planning phase	New construction	nd	nd



C1	CS Ajdovščina extension Stage two	Evacuation of the natural gas from the LNG terminal at Krk and from the IAP project (Ionian Adriatic Pipeline)	Compressor station	Increase of the operational security	Natural gas	Internal grids	In the planning phase	Two compressor units with total power of up to 20MW Connection to M3/1	nd	nd
C2	Reconstruction of M3 at section CS Ajdovščina – Miren with branches	Adjustment of the two-way operation regime to the operating parameters of the Italian TSO transmission system	Pipeline	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, L = 20 km, D = 500 mm, OP = 100 bar, capacity 62.99 GWh/d (5.952 M Sm ³ /d)	nd	nd
C3	R15/1 Pince - Lendava - Kidričevo									
	BMCS Pince	Bi-directional connection of the Hungarian and Slovenian transmission systems	Gas pipeline facility	Increase of the operational security	Natural gas	Cross-border investment	In preparation	New construction of a gas pipeline facility with metering and control lines.	after 2028	5,993
	Stage one: Pince - Lendava		Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In preparation	New construction, L = 9.5 km, D = 500 mm, OP = 100 bar, capacity 49.0 GWh/d (4.5 M Sm ³ /d)	after 2028	10,420
	Stage two: Lendava - Ljutomer		Pipeline	Expansion of the pipeline system	Natural gas	Cross-border investment	In the planning phase	New construction, L = 21.5 km, D = 500 mm, OP = 100 bar, capacity 49.0 GWh/d (4.5 M Sm ³ /d)	after 2028	25,024
	Stage three: Ljutomer - Kidričevo		Pipeline	Expansion of the pipeline system	Natural gas	Cross-border investment	In the planning phase	New construction, L = 43.5 km, D = 600 mm, OP = 100 bar, capacity 49.0 GWh/d (4.5 M Sm ³ /d)	after 2028	48,759
C4	Upgrade of interconnection Ceršak (M1/3 interconnection Ceršak)	Adjustment of operating parameters of the Austrian and Slovenian transmission systems and the provision of reverse flows within the bi-directional gas route Austria-Slovenia-Croatia	Pipeline	Expansion of the pipeline system	Natural gas	Cross-border investment	In the planning phase	New construction, L = 160 m, D = 800 mm, OP = 70 bar, capacity 217.9 GWh/d (20.28 M Sm ³ /d)	after 2028	8,400

C5	CS Kidričevo - stage 2 of extension	Improvement of operating parameters in M1/1 and M2/1 in the framework of the bi-directional gas route Austria - Slovenia - Croatia	Compressor station	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, up to three compressor units with total power of up to 30MW	after 2028	94,325
C6	CS Vodice II	Improvement of operating parameters in M2, M2/1, M3, M3/1, M5, M10 in the framework of the bi-directional gas route Italy - Slovenia - Hungary and bi-directional gas route Austria - Slovenia - Croatia	Compressor station	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction, up to three compressor units with total power of up to 30MW	nd	nd
C7	BMCS Vrtojba, extension	Adjustment of operating parameters of the Italian and Slovenian transmission systems and the increase of reverse flows due to the evacuation of the natural gas from the LNG terminal at Krk and from the IAP project or the corridor for the transmission of large volumes IT - SI - HU	Gas pipeline facility	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase		nd	nd
C8	M3/1b Ajdovščina - Kalce	Adjustment of operating parameters of the Italian and Slovenian transmission systems and the increase of reverse flows due to the evacuation of the natural gas from the LNG terminal at Krk and from the IAP project	Pipeline	Expansion of the pipeline system	Natural gas	Cross-border investment	In the planning phase	New construction, L = 24 km, D = 1100 mm, OP = 100 bar, capacity 340 GWh/d (32.126 M Sm ³ /d)	nd	nd
C9	M3/1c Kalce - Vodice	Adjustment of operating parameters of the Italian and Slovenian transmission systems and the increase of reverse flows due to the evacuation of the natural gas from the LNG terminal at Krk and from the IAP project	Pipeline	Expansion of the pipeline system	Natural gas	Cross-border investment	In the planning phase	New construction, L = 47 km, D = 1100 mm, OP = 100 bar, capacity 340 GWh/d (32.126 M Sm ³ /d)	nd	nd
C10	M8 Kalce - Jelšane									



	First phase: Kalce - Postojna	Increase of the operational security, expanding the network and cross-border transmission	Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase	New construction, L = 60 km, D = 1200 mm, OP = 100 bar, MRS Postojna, MRS Pivka, MRS Ilirska Bistrica, Capacity 414 GWh/d (39.118 M Sm ³ /d)	nd	nd
	Second phase: Postojna - Jelšane									
C11	R67 Dragonja - Izola	Interconnector with the Croatian TSO	Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase	New construction, L = 10 km, D = 300 mm, OP = 50 bar, capacity 5.1 GWh/d (0.480 M Sm ³ /d)	nd	nd
Upgrade of interconnection Rogatec (M1A/1 Interconnection Rogatec)										
C12	First phase: Extension of BMCS Rogatec	Increase of the operational security	Gas pipeline facility	Increase of the operational security	Natural gas	Cross-border investment	In preparation		after 2028	4,300
	Second phase: Construction of the cross-border pipeline	Expansion of the pipeline system	Pipeline	Expansion of the pipeline system	Natural gas	Cross-border investment	In the planning phase	New construction, L = 3.8km, D = 800mm, OP = 100 bar	after 2028	12,800
C13	M9a Lendava – Kidričevo and KP Kidričevo - stage 3 of extension	Cross-border transmission - extension of the bi-directional gas route Italy-Slovenia-Hungary	Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase	New construction, L = 73 km, D = 1200 mm, OP = 100 bar, up to five compressor units of the total power up to 80MW, capacity 1,030 GWh/d (97.397 M Sm ³ /d)	nd	nd
C14	M9b Kidričevo – Vodice and CS Vodice I	Cross-border transmission - extension of the bi-directional gas route Italy-Slovenia-Hungary	Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase	New construction, L = 117 km, D = 1200 mm, OP = 100 bar, up to four compressor units of the total power up to 60MW, capacity	nd	nd

								1,030 GWh/d (97.397 M Sm ³ /d)		
C15	M10 Vodice - Rateče	Cross-border transmission	Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase	New construction, L = 82 km, D = 1400 mm, OP = 100 bar, capacity 1,003 GWh/d (94.823 M Sm ³ /d)	nd	nd
C16	M6 Interconnection Osp	Interconnector with the Italian transmission system	Pipeline	Increase of the operational security	Natural gas	Cross-border investment	In the planning phase	New construction, L = 1.2km, D = 600mm, OP = 70 bar	nd	nd
C17	CS Kidričevo - stage 3 of extension	Improvement of operating parameters R15/1	Compressor station	Increase of the operational security	Natural gas	Internal grids	In the planning phase	New construction up to three compressor units with total power of up to 2MW/unit	after 2028	15,451
Italy - Slovenia - Hungary H2 corridor										
D1	R15/1 Pince - Lendava - Kidričevo	New pipeline for the transmission of hydrogen from the SI-HU border to CS Ajdovščina, including the new BMCS Pince for new H2 IP-SI-HU.	Pipeline	Increase of the operational security	Hydrogen	Cross-border investment	In the planning phase	L=75 km, P= up to 100 bar	2035	nd
	Reconversion of the existing pipeline section (CS Kidričevo - BMCS Rogatec)	The reconversion of the existing pipeline from CS Kidričevo to BMCS Rogatec, including the necessary updates of the existing BMCS Rogatec to allow measurements and regulation of the hydrogen flow.	Pipeline	Increase of the operational security	Hydrogen	Internal grids	In the planning phase	L=20 km, P= up to 70 bar	2029	nd
	Reconversion of the existing pipeline section (BMCS Rogatec - MRS Vodice)	The reconversion of the existing pipeline from BMCS Rogatec to MRS Vodice.	Pipeline	Increase of the operational security	Hydrogen	Internal grids	In the planning phase	L=109 km, P= up to 70 bar	2029	650



	M3/1 Vodice - Šempeter	New pipeline for transferring hydrogen from MRS Vodice to the SI-IT border (BMCS Vrtojba), including necessary upgrades to BMCS Vrtojba and MRS Vodice to allow measurements and regulation of hydrogen flow.	Pipeline	Increase of the operational security	Hydrogen	Cross-border investment	In the planning phase	L=101 km, D= 800 mm, P=100 bar	2035	nd
	CS Ajdovščina	Additional compressor unit and necessary upgrades at the location of the existing CS Ajdovščina.	Compressor station	Increase of the operational security	Hydrogen	Internal grids	In the planning phase		2035	nd
	CS Kidričevo	New hydrogen compressor units at the location of the existing CS Kidričevo.	Compressor station	Increase of the operational security	Hydrogen	Internal grids	In the planning phase		2035	nd
Croatia - Slovenia - Austria, H2 corridor										
	Upgrade of the Ceršak interconnection (first phase)	Upgrade of the existing BMCS Ceršak to allow measurements and regulation of hydrogen flow and establishment of cross-border point for hydrogen, including 160m long pipeline section from the BMCS to the national border.	Pipeline	Increase of the operational security	Hydrogen	Cross-border investment	In the planning phase		2029	nd
D2	Reconversion of the existing pipeline section (BMCS Ceršak - BMCS Rogatec) (first phase)	Reconversion of the existing pipeline from BMCS Ceršak (SI-AT Ip) to BMCS Rogatec (SI-CRO IP).	Pipeline	Increase of the operational security	Hydrogen	Internal grids	In the planning phase	L=58 km, D=800 mm, P=70 bar	2029	800
	CS Kidričevo (second phase)	Additional compressor unit and necessary upgrades at the location of the existing CS Kidričevo.	Compressor station	Increase of the operational security	Hydrogen	Internal grids	In the planning phase		2035	nd
	Upgrade of the Rogatec interconnection (second phase)	Upgrade of the existing BMCS Rogatec to allow measurements and regulation of hydrogen flow, including 3.8km long pipeline section from the BMCS to the national border.	Pipeline	Expansion of the pipeline system	Hydrogen	Cross-border investment	In the planning phase		2035	nd

D3	Analyses, studies and testing with the gases from the renewable energy sources	Analyses and studies of the transmission network and its parts for the acceptance of renewable gases and testing to determine the acceptable shares, volume and composition of renewable gases in the gas transmission system for safe, reliable and effective operation of the gas transmission system.	Gas pipeline facility	Increase of the operational security	Gas of renewable or fossil origin	Internal grids	In the planning phase		2026 and after 2026	604
D4	Hydrogen and renewable gas transmission system preparation projects	Location analysis and planning of transmission pipeline system upgrades for the preparation for injection and operation with hydrogen and renewable gases. Mobile connection unit for injecting hydrogen and execution of a hydrogen test centre. Pilot projects.	Gas pipeline facility	Increase of the operational security	Gas of renewable or fossil origin	Internal grids	In the planning phase		2026 and after 2026	2,650
D5	SLOP2G	Gas transmission part of the project to connect the gas and electricity sectors	Gas pipeline facility	Increase of the operational security	Gas of renewable or fossil origin	Internal grids	In the planning phase		nd	nd
D6	R25D-H Šoštanj - Šentrupert	Drawing up scientific bases for planning and siting the new pipeline for transferring up to 100% hydrogen from Šoštanj to Šentrupert via injection into the M2/1 transmission pipeline.	Pipeline	Increase of the operational security	Hydrogen	Internal grids	In the planning phase		after 2028	850
D7	R25A/1 Stage two: Trbovlje - Hrastnik - Podkraj	Construction of hydrogen pipeline with a connection of TET energy locations (Lakonca) and Steklarna Hrastnik with the purpose to supply Steklarna Hrastnik with hydrogen	Pipeline	Increase of the operational security	Hydrogen	Internal grids	In the planning phase		nd	nd
D8	Short and connecting hydrogen pipelines	Drawing up scientific bases for planning and siting new short hydrogen pipelines to transmit 100% hydrogen to provide the start and establishment of hydrogen production and the connection of production with a consumption location	Pipeline	Increase of the operational security	Hydrogen	Internal grids	In the planning phase		According to the expressed interest	nd



		where injecting hydrogen into the transmission system is not possible due to a risk of exceeding the maximum concentration.								
D9	M5/R51 reconversion	The reconversion of the existing pipeline from BMCS Rogatec to MRS TE-TOL, including the necessary updates of the existing facilities at transmission gas pipeline to allow measurements and regulation of the hydrogen flow.	Pipeline	Increase of the operational security	Hydrogen	Internal grids	In the planning phase	L=15.2 km, D=400 mm, P=50 bar L=3,2 km, D=250, P=50 bar	2029	250
D10	R21AZ reconversion	The reconversion of the existing pipeline from the Konjiška vas branch to Oplotnica, including the necessary updates of the existing facilities at transmission gas pipeline to allow measurements and regulation of the hydrogen flow.	Pipeline	Increase of the operational security	Hydrogen	Internal grids	In the planning phase	L=7.1 km, D=150 mm, P=50 bar	2029	100

NOTE (applies to the entire Annex 1):

The TSO reserves the right to change the investment values if the parameters of the projects that affect the assessment change. For projects for which the estimated investment value is marked with nd, the processing rate on 01/01/2025 does not allow the preparation of the estimated investment value.

ANNEX 2 - Presentation of aggregated values of investments

		Number of investments	Estimated and preliminary values of investments (in EUR '000)
Type of investment	Pipeline	59	427,673
	Compressor station	7	109,776
	Other facilities, equipment and installations	55	60,554
Purpose of investment	Expansion of the pipeline system	19	217,207
	Increase of the operational security	58	356,451
	Connections	44	24,345
Type of gas	Natural gas	103	592,099
	Hydrogen	15	2,650
	Gas of renewable or fossil origin	3	3,254
Area of investment influence	Internal grids	99	419,709
	Cross-border investments	22	178,294
	Investment of common European interest	0	0
Phase of	Investments in the planning phase	84	401,878



	Investments in preparation	15	73,470
	Final investment decisions (FID)	15	29,551
	Investments under construction	7	93,104



Abbreviations

CEE	Central Eastern Europe
CNG	Compressed natural gas (CNG)
D	Pipeline diameter
MS	Member States
DP	Design Pressure
NSP	National spatial plan adopted
NSP(p)	National spatial plan in preparation
DS	Distribution system
EC	European Commission
ENTSOG	European Network of Transmission System Operators for Gas
EU	European Union
EZ-2	Energy Act (Official Gazette of the Republic of Slovenia, No 38/24)
FID	Final Investment Decision
GRIP	Gas Regional Investment Plan
IAP	The Ionian Adriatic Pipeline project
CD	Conceptual designs
CS	Compressor station
L	Pipeline length
Lf	Load factor
LNG	Liquefied Natural Gas (LNG)
BMCS	Border metering and control station
CM	City municipality
MS	Metering station
MRS	Metering and regulation station
NEP	National energy programme
nd	No data available
DSO	Distribution system operator
TSO	Transmission system operator
PCI	Project of Common Interest
Cc	Connection contract
DMRS	Distribution metering and regulation station
TPP	Thermal power plant
Ca	Connection approval
TE-TOL	Ljubljana Thermal Power and District Heating Plant
TOŠ	Šiška District Heating Plant
TYNDP	Ten-Year Network Development Plan



Legal notice

The Ten-Year Gas Transmission Network Development Plan for the 2026 – 2035 period has been prepared pursuant to the rules of the profession and based on the data acquired by the company Plinovodi d.o.o. in good faith. The development plan contains predictions and analyses made by the company Plinovodi d.o.o. based on the data collected in this way.

The data and material contained in the Development Plan are of informative nature and have been prepared for the purposes of the said document. In the event of further use of the data and information contained in the document, these must be verified with due diligence that they are up to date and relevant.