

INFORMATION BROCHURE

*According to Annex VI, item 5(a) of
Regulation EU No 347/2013*

PCI 6.20.2 CHIREN UNDERGROUND GAS STORAGE EXPANSION (BG)



PROJECT PROMOTER:
BULGARTRANGAZ EAD

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PROJECT DESCRIPTION

The project for Chiren UGS Expansion (PCI 6.20.2) envisages capacity increase in stages of the capacity of the only gas storage facility on the territory of Bulgaria in order to achieve larger volumes of stored gas, including increased gas reservoir pressure and higher daily average withdrawal and injection rates.

The project aims to:

- increase the active gas volume of up to 1 bcm (now 550 mcm);
- increase the daily withdrawal capacity up to 10 mcm/d and the injection capacity up to 8 mcm/d (currently the maximum daily withdrawal capacity is 3.82 mcm/d, and the maximum daily injection capacity is 3.2 mcm/d).

Achieving these objectives will be possible through the construction of 10 new high flowrate exploitation wells and 3 new observation wells as well as the construction of the necessary above ground facilities and infrastructure.

The project for Chiren UGS Expansion is:

- **Project of Common Interest for the EU:** in accordance with Regulation (EU) 347/2013, priority corridor: North-South gas interconnections in Central Eastern and South Eastern Europe (NSI East Gas).

Investment, included in key European investment plans:

- Part of [Ten Year Network Development Plan 2020 \(TYNDP 2020\)](#), developed by ENTSOG;
- Part of [Gas Regional Investment Plan \(GRIP\) 2019](#) for Central and Eastern Europe (CEE GRIP);
- Part of [Gas Regional Investment Plan \(GRIP – Based on ENTSOG’s TYNDP 2018\)](#) for the Southern corridor region (Southern Corridor GRIP);
- Part of [Ten-Year Network Development Plan of Bulgartransgaz EAD](#).
- **Part of the Energy Strategy** of the Republic of Bulgaria and an integral part of the infrastructure contributing to the concept of gas distribution centre on the territory of the country, together with the infrastructure modernization projects of Bulgartransgaz EAD, the liquefied natural gas terminal near Alexandroupolis and the interconnectors with Serbia and Greece.

- **Priority project for the Three Seas Initiative** acknowledging its importance in terms of security of energy supply for the country and the region.

MAIN PROJECT OBJECTIVES

The implementation of the project for Chiren UGS Capacity Expansion will:

- ❖ **Ensure the security of supply** to Bulgarian consumers and consumers in the countries from the region
- ❖ **Enhance market integration** for a single interconnected regional and pan-European market
- ❖ **Boost market competition**
- ❖ **Encourage gas trade** in the region.



TECHNICAL DESCRIPTION OF THE PROJECT

In order to achieve the objectives of the expansion, works will continue in three areas:

- ❖ Design, construction and commissioning of **new above ground equipment**
- ❖ Design, construction and commissioning of a **new gas pipeline** connecting Chiren UGS with the gas transmission system (VA Butan - Chiren UGS);
- ❖ Design, construction and commissioning of underground equipment – **ten new high flowrate exploitation and three observation wells**



Activities Map

ACTIVITY 1: Design, construction and commissioning of new above ground equipment

Design, construction and commissioning of new above ground facilities on the territory of Chiren UGS will be carried out within the Activity, including a compressor station (CS) with auxiliary equipment to ensure reliable and continuous operation in gas injection and withdrawal mode, a new gas metering station (GMS), other facilities and management systems.

Location of activities: The new facilities are envisaged to be located in the lands of Chiren village, Vratsa Municipality, Vratsa District, close to the existing facilities of Chiren UGS.

Outcomes of the activity:

- ✓ a technical possibility will be created for increasing the working volume of Chiren UGS, with the possibility to store up to 1 bcm of active gas;
- ✓ the necessary new, highly efficient and highly reliable compressor equipment meeting all modern requirements for environmental protection (low level of harmful emissions and noise) will be provided, ensuring the possibility to inject natural gas of up to 8.0 mcm/d;
- ✓ will increase the operational safety, security and reliability of Chiren UGS, as a whole.

ACTIVITY 2: Design and construction of a new gas pipeline in the section VA Butan - Chiren UGS

Design, construction and commissioning of gas transmission infrastructure from VA Butan to Chiren UGS will be carried out within the activity

Characteristics of the gas transmission pipeline route:

- Start location: Existing site of VA Butan from the existing gas transmission infrastructure;
- End location: Underground Gas Storage Chiren.

Technological sites and an optic cable line are envisaged to be constructed in the easement of the gas pipeline. Envisaged technological sites:

- Pigging Facility, Dn 700 at VA Butan;
- Valve assembly with a branch to provide an opportunity to supply adjacent areas in case of a financial, economic and commercial interest;
- Pigging Facility, Dn 700 at Chiren;

Location of activities: The route of the section from VA Butan to Chiren UGS runs through northern Bulgaria and the territory of Vratsa District.

Outcomes of the activity:

- ✓ increasing the capacity abilities of the storage facility from a commercial perspective,
- ✓ greater flexibility, reliability, safety and opportunity for manoeuvres regarding the trading routes and the withdrawal and injection processes
- ✓ better integration of the underground gas storage facility into the overall gas transmission system of Bulgaria and the region;
- ✓ a possibility for gas supply of neighbouring regions in case of financial, economic and commercial interest
- ✓ creating a possibility to use natural gas will allow the replacement of currently used solid fuels, thereby contributing to the reduction of harmful emissions.

ACTIVITY 3: Design and construction of underground equipment

The activity includes design and drilling of ten new exploitation and three observation wells, as well as new gatherings (gas pipelines) connecting the exploitation wells with the above ground equipment, including the compressor station.

Location of activities: In northern Bulgaria, Vratsa District - Chiren structure area (concerning the wells and gas gatherings) and the site of CS Chiren on the territory of Chiren UGS.

Outcomes of the activity:

- ✓ Increasing the natural gas withdrawal capacity of the gas storage facility. This will enable up to 10 mcm of natural gas to be withdrawn daily.

ALTERNATIVE ROUTES/OPTIONS:

In 2009, following a PPA procedure, Bulgartransgaz EAD awarded to the Czech company MND the development of a "New technological design for the operation and expansion of Chiren UGS".

In 2011, Bulgartransgaz EAD approved the technological design, showing the main guidelines for the expansion and operation of Chiren UGS, determining its technical and economic feasibility based on options, preliminary set by Bulgartransgaz EAD at given increased pressures and volumes of the stored gas. The approved option for Chiren expansion is Option III, namely at formation pressure of up to 150 bar, volume of active gas - 1 bcm and daily flow rate of injection and withdrawal up to 8÷10 mcm.

Currently, in implementation of the storage facility expansion, the following survey activities have been carried out:

- ❖ **In 2015, Chiren Reservoir Geo-Mechanical Simulation** was carried out. According to the main conclusion of the conducted study, Chiren UGS has a reliable tightness in order to increase the formation pressure up to 150 bar.
- ❖ **In 2016, Surface Gas Analysis on the Chiren Structure Area assessing the tightness of Chiren UGS** was completed and the analysis found no leaks from the gas reservoir of Chiren UGS.
- ❖ In the period **2019-2020, 3D seismic surveys in the area of Chiren structure** were carried out and a grant of up to EUR 3,900,000 from the Connecting Europe Facility was awarded for those surveys.



The seismic surveys were carried out in 2020 on a total area of about 200 square km. The field 3D seismic data acquisition was completed in August 2020 and in early 2021 [the results](#) of the analysis and interpretation of the acquired data were obtained.

CURRENT STATUS OF PCI 6.20.2: DESIGN AND ISSUANCE OF PERMITS



PRELIMINARY PROJECT TIMETABLE

#	Stage	Start	End
1	Feasibility studies	2009	04/2021
2	Public consultation in line with Article 9(4) of Regulation (EU) 347/2013	02/2021	07/2024

3	Notification on initial actions undertaken according to Article 10(1) of Regulation (EU) 347/2013	07/2021	09/2021
4	Permits issuing process	02/2021	04/2023
5	EIA and approval	02/2021	05/2022
6	Funding (attracting an external CEF funding)	05/2021	12/2021
7	Investment request	04/2021	10/2021
8	CBCA decision (if applicable)	N/A	
9	Final investment decision	12/2021	03/2023
10	Detailed design	05/2021	08/2022
11	Tender procedures for procurement and construction	06/2021	02/2023
12	Procurement and construction	03/2022	06/2024
13	Commissioning	12/2023	07/2024

EXPECTED PROJECT IMPACT

Regarding the environmental legislation requirements, during the implementation of the surveys the following opinions were issued by the Competent Environmental Authority:

- ✓ On 26 June 2014, a notification about the project for carrying out 3D field seismic surveys in the area of Chiren structure was submitted to RIEW Vratsa. Subsequently, the case has been transferred to the Ministry of Environment and Water (MoEW), as two protected areas fall within the boundaries of the area of the surveys of UGS Chiren. "Bozhiya most-Ponora" code BG0000594 and PA "Bozhite Mostove" BG0000487. After investigation by the MoEW, the competent authority issued Opinion No HC3П-273 of 21 August, 2014, stating that no EIA is required and the project can be implemented in compliance with the measures set out in the Opinion.
- ✓ On 7 January 2015, a notification Ref. No HC3П-4/07.01.2015 for carrying out a surface gas analysis on the Chiren structure area was submitted to MoEW. After investigation by the MoEW, the competent authority issued Opinion No HC3П-4/23.01.2015 stating that no EIA is required and the project can be implemented in compliance with the measures set out in the Opinion.

Procedures will be organised concerning all elements of the planned new infrastructure in line with the environmental legislation, if needed.

As a first step of this process, Bulgartransgaz EAD prepares a notification to the public on its investment intentions that are published and announced in the way determined by law.

Aboveground equipment:

A notification to the general public was published on 3 February 2021, on Bulgartransgaz EAD website, Section News, for an investment intention for the construction of new above ground facilities. The notification was also published by the Ministry of Environment and Water, and in line with the procedure the mayor's office of the village of Chiren, Vratsa Municipality was also informed ex officio. A separate announcement for the implementation of the investment proposal was published in the newspaper "Severozapad Dnes" issue 13/16.02.2021. Thus, all interested parties are informed of the forthcoming activities at the earliest stage of their development.

A notification on the investment intention was sent to the competent environmental authority i.e. MoEW, thereby launching the legislative procedure involving the issuance of permits for the planned activities. Letter No БТГ-04-09-17(2)/18.03.2021 of the minister of environment and water determines the applicable procedures that must be carried out in accordance with the Environmental Protection Act (EPA) and the Biodiversity Act (BA). The letter mentions that an environmental impact assessment procedure for the investment proposal (IP), a comprehensive permit procedure covering the existing site of Chiren UGS together with the new expansion and the new above ground facilities to be installed and procedure updating the Safety Report issued to Chiren UGS with the inclusion of the new expansion must be carried out. Regarding BA and the Ordinance on Conformity Assessment, the competent authority has ruled that the investment proposal is not likely to have a significant negative impact on natural habitats, populations and habitats of protected species in the protected areas.

Gas pipeline and wells:

The environmental procedures are to be launched in October 2021.



POSSIBLE ASPECTS OF ENVIRONMENTAL IMPACT

During the construction works all necessary measures will be taken to protect the environment as well as to prevent environmental damage and negative impact on the environment, human health and cultural values due to the generation of harmful emissions on the individual environmental components as a result of implementation of the activities, including:

AMBIENT AIR:

During the preparatory stage of construction, excavation works will be carried out.

The area on which the above activities will be carried out will be from a diffuse source of mainly dust and to a very moderate extent emissions of harmful substances from the exhaust gases of internal combustion engines of the equipment in use.

The intensity of dusting will depend to a large extent on weather conditions during construction works and the season during which the works will be carried out, climate and weather factors (wind, humidity, temperature, and atmospheric stability), the properties of soil particles and many other conditions. A dust reduction measure can be implemented by using the so-called irrigation sprinkler system to maintain sufficient moisture during the dry summer and autumn months in order to reduce the levels of

dust emissions (controlled emissions). In order to prevent the risk of pollution, it is necessary to observe a precise schedule of construction works consistent with the weather conditions, i.e. to allow the natural self-cleaning ability of the atmosphere. For example, in case of windlessness and very polluted air, construction works should be suspended for a certain period so that pollution can dissipate.

The use of the irrigation sprinkler system to maintain sufficient moisture during dry summer and autumn months ensures emission control by reducing dust levels by 80%.

The realisation of the IP is not expected to have a material impact on the quality of the ambient air during the works and the operation of Chiren UGS, since the emissions are insignificant, and the climate and weather characteristics in the region, subject to an assessment, are favourable in terms of the dissipation of harmful substances, discharged in the atmosphere and contribute to reduce the local impact of anthropogenic activities on the components of the environment.

SURFACE WATER AND GROUNDWATER:

The expected amounts of waste water are determined when choosing an option during the design stage. In order to avoid contamination of surface water and groundwater in the area of the site, it is necessary to observe certain measures and technological discipline when carrying out construction activities.

In order to minimize these impacts, proper storage and subsequent treatment of waste generated on site is recommended, as well as the use of construction and transport machinery and equipment in good technical condition, in order to prevent water pollution.

No impact on the body of surface water is expected during the operation of the IP. As mentioned above, Bulgartransgaz EAD has an effective permit to use a body of groundwater to reinject waters – Decision No 12570003 of 16 December 2015, as amended by Decision 2757 of 30 September 2019. The realisation of the IP is not expected to result in a change in the type and quality of the reinjected waters.

LANDSCAPE:

The mitigation measures to be undertaken to prevent damage to the landscape in the area shall include mainly proper clearing of the construction site immediately after the completion of the construction works in the area of the site, as well as compliance with the solutions laid down in the technical design.

SOILS:

Protection of soils in the area during activities implementation is directly related to observance of the technological discipline, including proper storage of the raw materials and materials used for construction and operation. They must be in closed containers,

on an insulated surface, without direct access to soil and/or water. Any potential localized soil contamination during the works and operation can result from accidental spills of lubricants, fuel and solid waste.

FLORA and FAUNA and PROTECTION AREAS of Natura 2000 Ecological Network:

The choice of route options shall respect the principles of avoiding encroachment on the boundaries of protected areas of Natura 2000 National Ecological Network in order to avoid negative impact on the flora, fauna and Natura 2000 sites during construction and operation. Where this is not possible, mitigation measures shall be applied to minimize and/or limit the expected impacts, part of which is to preserve the natural state of habitats and species, to restore, where necessary, the area and natural state of priority natural habitats and species, as well as their populations.

CROSS-BORDER NATURE OF IMPACTS

In accordance with the environmental documents issued to date and in view of the scope of the project, the realisation of PCI 6.20.2 is not expected to have any cross-border impact on the environment.

PUBLICITY OF THE PROJECT AND PUBLIC PARTICIPATION

Public consultations are conducted on an ongoing basis during project implementation through:

- Public consultations on the drafts of the [Ten-Year Network Development Plans of the Company](#), part of which is the detailed information about the projects of common interest. For example, in March 2021, a public consultation regarding the approval of the Ten-Year Network Development Plan of Bulgartransgaz EAD for the period 2021-2030 has been conducted. TYNDP has been published on the Company's website and its consultations are organised as an extensive public debate where all interested parties have the opportunity to take part. TYNDP provides updated information on the parameters and deadlines of the individual activities that would be realised to enable the expansion of the gas storage facility.
- Discussions and consultations with the public concerned in accordance with the effective Bulgarian legal provisions in the field of design and environmental protection, such as the Spatial Development Act, Environmental Protection Act and other legislation relevant to the particular stage of the project. More information in Section [News](#) on Bulgartransgaz EAD website.

- Opportunity for inquiries, information and comments through the project website, prepared and updated in accordance with the Guidelines for transparency and public participation from Annex VI, Regulation 347/2013.

MANUAL OF PROCEDURES:

[Manual](#) of procedures for the permit granting process applicable to projects of common interest in the Republic of Bulgaria is published in line with Article 9 of Regulation 347/2013 by the Ministry of Energy as the competent national authority.

EC INFORMATION PLATFORM

More information on the projects of common interests is available on [the official website of the European Commission \(EC\)](#).

Interactive PCI map - TRANSPARENCY PLATFORM

[The transparency platform](#) is a public information system that provides detailed information on the projects of common interest, including their geographic data, technical description, implementation plan and the benefits they bring to Member States and local communities, as well as the received EU financial support. This information is available to every EU citizen in line with [TEN-E Regulation](#) (Article 18).

CONTACT FORM:

Any comments, questions and recommendations regarding PCI 6.20.2 may be submitted:

- by feedback [form](#);
- to the Company's official e-mail: info@bulgartransgaz.bg

PCI website:

[PCI website](#)