USAID
FROM THE AMERICAN PEOPLE

PHOTO CREDIT: USAID ENERGY POLICY ACTIVITY

BOSNIA AND HERZEGOVINA ENERGY POLICY ACTIVITY

REPORT ON BIH NATURAL GAS NETWORK DEVELOPMENT – 2023 EDITION

JUNE 2023
This publication was produced for review by the United States Agency for International Development.
It was prepared by DT Global.

BOSNIA AND HERZEGOVINA ENERGY POLICY ACTIVITY

REPORT ON NATURAL GAS NETWORK DEVELOPMENT IN BIH AS PER THE BIH ENERGY STRATEGY DEVELOPMENT PLAN – 2023 EDITION

JUNE 2023

Contract No:
72016819C00002

Submitted to:
USAID Bosnia and Herzegovina (BiH) Economic Development Office

Prepared by:
DT Global

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

bcm	billion cubic meters
BiH	Bosnia and Herzegovina
cm	cubic meter
CNG	Compressed Natural Gas
CRO	Croatia
EBRD	European Bank for Reconstruction and Development
EC	Energy Community
ENTSOG	European Network of Transmission System Operators for Gas
EPA	Energy Policy Activity
ESIA	Environmental and Social Impact Assessment
EU	European Union
FBiH	Federation of BiH
IAP	Ionian Adriatic Pipeline
mcm	million cubic meters
PMI	Projects of Mutual Interest
RS	Republika Srpska
SRB	Serbia
TurkStream	Turkish Stream pipeline
TYNDP	Ten-Year Network Development Plan
USAID	United States Agency for International Development

1. INTRODUCTION

Low natural gas consumption in Bosnia and Herzegovina (BiH) is the result of very limited resource access, under-developed transmission and distribution networks, low industrial usage, and higher prices compared to traditional heating fuels (coal and wood). The per capita natural gas consumption rate in BiH is about 60 m^3/year (cubic meter/year, i.e., cm/year), while in Serbia (SRB), it is around 300 cm/year, in Croatia (CRO) 600 cm/year, and within the European Union (EU) 28 Member Countries the average is over 900 cm/year.

This report elaborates the progress achieved in the implementation of natural gas infrastructure projects in BiH. Currently, all actual gas infrastructure projects are identified in the Framework Energy Strategy of BiH 2035;[1] (adopted in 2017), which is used as the main data resource. Additionally, information has been complemented with data provided in the actual Ten-Year Network Development Plan (TYNDP) 2022, issued by the European Network of Transmission System Operators for (ENTSOG) Gas in April 2023.

[1] Framework Energy Strategy of Bosnia and Herzegovina until 2035, 2017. (http://www.mvteo.gov.ba/data/Home/Dokumenti/Energetika/Okvirna_energetska_strategija_Bosne_i_Hercegovine_do_2035._HR_FINALNA.PDF).

2. EXISTING NATURAL GAS INFRASTRUCTURE IN BIH

BiH does not have its own natural gas production and is dependent entirely on gas imports. For over 41 years, from 1979 to April 1, 2021, the only source of natural gas for BiH was from Russia, and it was transported from only one direction: from Russia through Ukraine, Hungary and SRB (Figure 1). However, in November 2018, the Russian company Gazprom, completed the construction of the Turkish Stream pipeline (TurkStream), that runs directly from Russia to Turkey, under the Black Sea. The TurkStream project consists of two pipelines with a capacity of 15.75 bcm/year each (total 31.5 bcm/year). One gas pipeline is intended for the Turkish market and the other for the European market. The European branch of the TurkStream runs from Turkey to Hungary across Bulgaria and SRB (Figure 1). The supply of natural gas from Turkey and Bulgaria via TurkStream commenced in January 2020. Since January 1, 2021, SRB has been receiving all its natural gas via the TurkStream, and since April 1, 2021, so has BiH. Russia remains the only source of natural gas for BiH, however the supply route has changed.

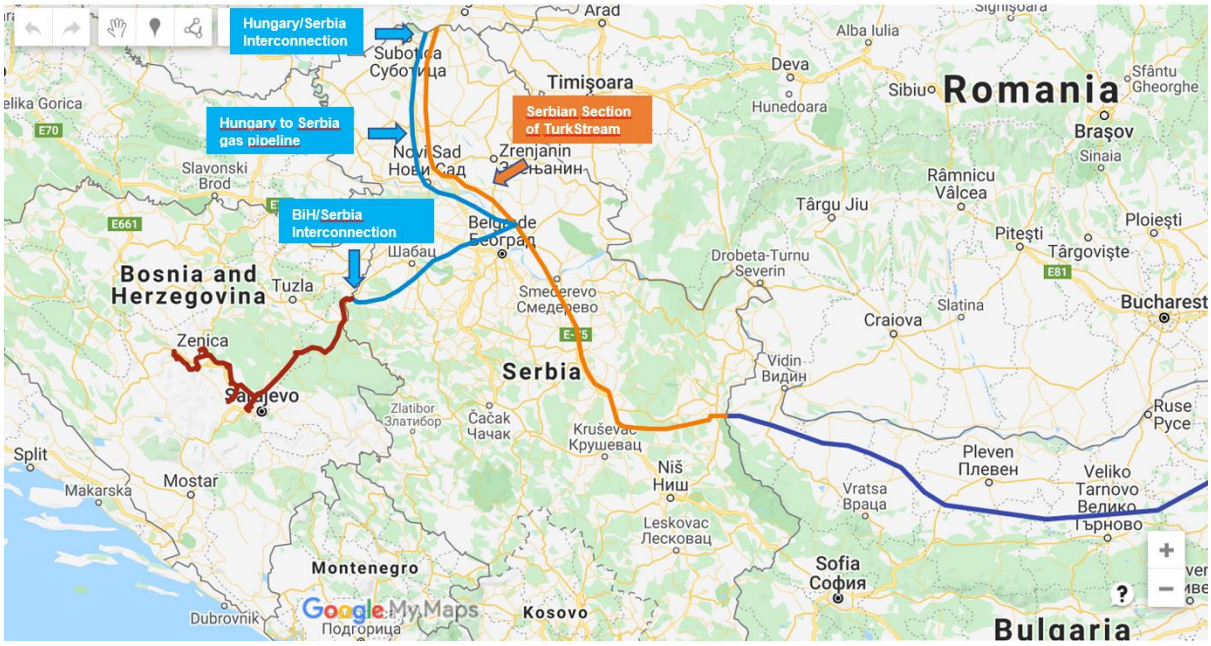

Figure 1: BiH Natural Gas Supply Route

The BiH current gas transmission network is shown in Figure 1. The gas pipeline crosses the SRB/BiH border at Sepak and continues to Zvornik, Kladanj, Sarajevo, Zenica and up to Travnik. BiH started using natural gas in 1979 in Zvornik and Sarajevo, with the construction of Zvornik – Sarajevo gas pipeline (112 km). The main reason for the construction of the natural gas pipeline was to reduce air pollution in Sarajevo by replacing solid fuels with gas, and to supply the Alumina Plant in Zvornik with natural gas. In 1984, the Sarajevo – Zenica gas pipeline (54 km) was built to supply the Zenica Steel Mill with gas. The transmission gas pipeline from Zenica to Travnik (40 km) was added in 2014, and the transmission gas pipeline Šepak - Bijeljina (22 km) has been constructed. Its connection to the main natural gas pipeline is expected soon. The transmission gas pipeline from Zenica to Travnik is currently not being used as there are no consumers in Travnik.

The Sepak – Zvornik – Sarajevo – Zenica – Travnik pipeline diameter is 16 inches. Hand-over contracted pressure at Zvornik is 30 bar. The maximum technical capacity of the gas pipeline at the entry point to BiH is 708.1 mcm/year or 1.940 mcm/day[2].

[2] https://www.gaspromet.com/kapaciteti-sistema-za-gasnu-godinu-g1/

The first section of the gas pipeline from the SRB/BiH border at Sepak to Zvornik (22 km), is operated by the transmission company Gas Promet a.d. Pale (Figure 2, blue line). The second section of the gas pipeline from Zvornik to Kladanj (40 km), is operated by the transmission company Sarajevo-gas a.d. Istocno Sarajevo (Figure 2, yellow line). The third and longest section of the gas pipeline of 184 km (Kladanj – Sarajevo – Zenica – Travnik), is operated by the transmission company BH-Gas d.o.o. Sarajevo (Figure 2, brown line).

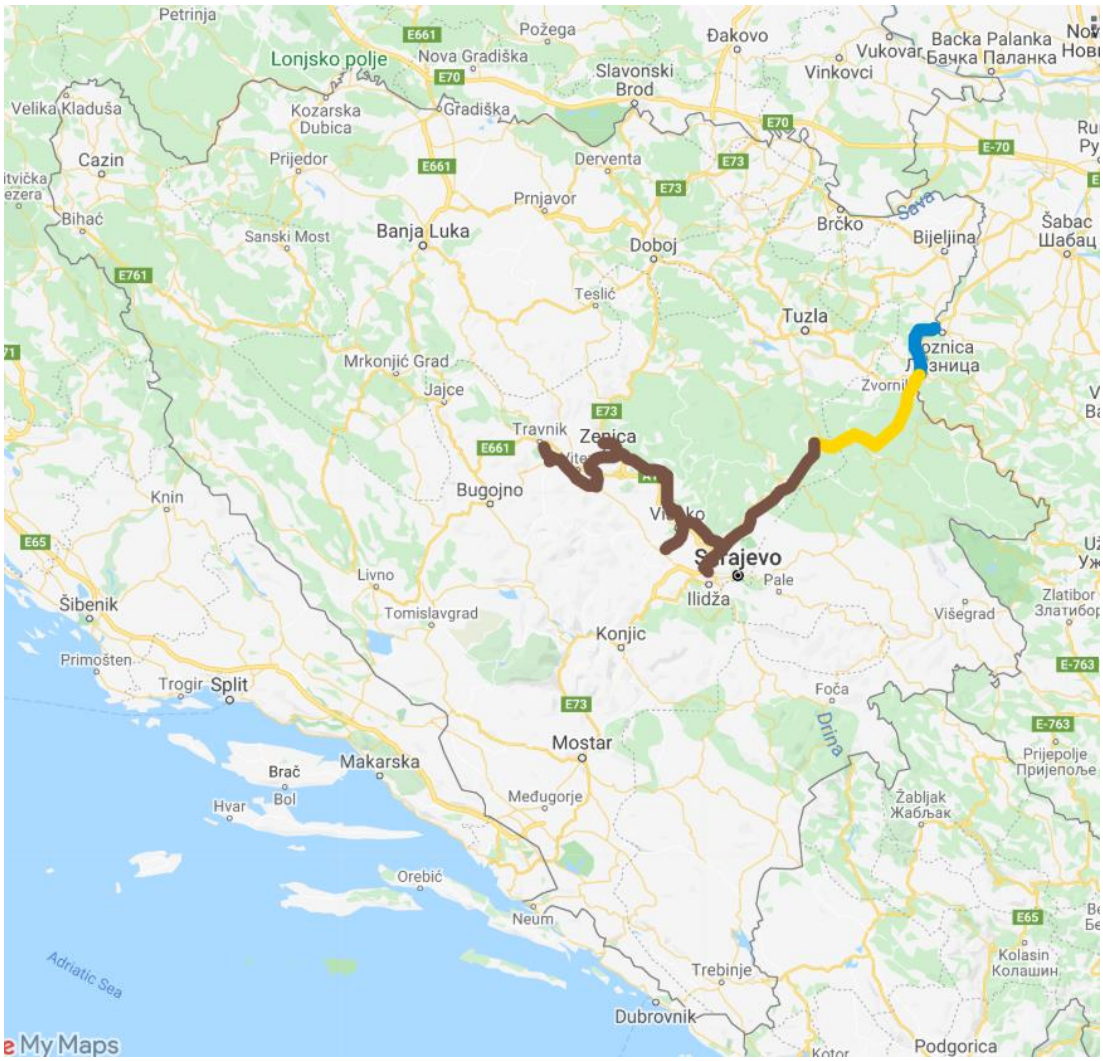

Figure 2: BiH Gas Transmission Network

As it can be seen from Figure 2, most of BiH's territory does not have access to natural gas supply. There are only a few cities with natural gas distribution networks. BiH cities that have operational distribution networks are:

- Sarajevo and Visoko, in Federation of BiH (FBiH); and,
- Istocno Sarajevo and Zvornik, in Republika Srpska (RS).

Additionally, even though the transmission networks reach the cities of Zenica and Travnik, no distribution networks are operational there. According to the 2013 Census,[3] the BiH total population is 3,531,159, and the populations of regions with natural gas distribution networks are as follows:

[3] BiH census 2013, https://www.popis.gov.ba/

- Sarajevo Canton – 413,593;
- Visoko – 39,938;
- Istocno Sarajevo (Istocna Ilidza and Istocno Novo SarajevoEast New Sarajevo) – 25,405; and,
- Zvornik – 58,856.

Accordingly, the total population of regions with distribution networks is 537,792, which makes up only 15.2% of BiH's population. The actual population with access to natural gas supply is even lower, since the distribution networks do not cover the entire territory of the listed regions and thus, not all inhabitants of those regions can connect to the distribution networks. Due to the limited gas network development, BiH's gas consumption rates are extremely low. The per capita natural gas consumption rate in BiH is about 60 cm/year, while in SRB it is around 300 cm/year, in CRO 600 cm/year, and within the EU 28 Member Countries the average is over 900 cm/year.

The low share of population with access to natural gas supply clearly indicates the need for the construction of new distribution networks in the country.

3. PLANNED NATURAL GAS INFRASTRUCTURE PROJECTS IN BIH

In the Framework Energy Strategy of BiH until 2035, a total of 16 natural gas projects were proposed. Their priority levels (indicated as "focus"), and the timeline for their implementation are shown in Table 1[4] below (note: full circle shading means higher priority).

Table 1: Natural Gas Infrastructure Projects in BiH

Level	Gas project	Commercial operation date				Focus
		By 2020	By 2025	By 2030	By 2035	
FBIH	Southern interconnection (Zagvozd - Imotski – Posušje – Novi Travnik / Travnik with branch towards Mostar)		✓			●
	Northern interconnection (Slobodnica – Brod – Zenica)		✓			●
	Western interconnection (Rakovica – Tržac – Bosanska Krupa with section towards Bihać & Velika Kladuša as part of phase I.)		✓	✓		◑
	Western interconnection – extension (B. Krupa – Ključ as part of phase II. and Ključ – B. Petrovac i Pećigrad – Bužim as part of phase III.)			✓	✓	◔
	LNG supply via Port of Ploče by railway or trucks		✓			◑
	Gasification of Gornje Podrinje			✓	✓	◔
	Network expansion Travnik – Gornji Vakuf and Jajce			✓	✓	◔
	Gasification of Orašje			✓	✓	◔
	Underground gas storage Tetima with connection pipeline Kladanj – Tuzla – Tetima			✓	✓	◔
RS	Gasification of Bijeljina	✓				●
	Interconnection with Serbia in the area of Bijeljina (Novo Selo)		✓	✓		●
	Main gas pipeline (Bijeljina - Banja Luka - further)		✓	✓		●
	Gasification of Gornje Podrinje			✓		◑
	Gasification of Trebinje from IAP		✓	✓		◔
	Connection with Croatia (Gradiška and Brod)			✓		◔
BD BIH	Gasification of Brčko District of Bosnia and Herzegovina		✓	✓	✓	◑

● High ○ Low

The projects shown in Table 1 are sorted according to the administrative organization of BiH; the entities: FBiH and RS, and the Brcko District. The implementation of most of the listed projects has not started, as the natural gas companies are still conducting strategic and planning activities. Therefore, this Report will focus on high priority projects for which some implementation activities have started, while projects for which no activities have been undertaken will not be analyzed.

As a reference source, data on gas transmission projects in BiH provided in the current TYNDP, issued by the ENTSOG in April 2023, will be addressed as well.

[4] *Op. cit,* Fn. 1

3.1 FBIH PROJECTS

As shown in Table 1, the priority projects for FBiH are the South and North Interconnections (referred to as "Southern" and "Northern" interconnections in Table 1). The progress of the implementation of these two (2) projects will be described in the following sections, as there have been no significant activities in the implementation of other FBiH projects from the list.

Additionally, two (2) projects which are not shown in Table 1 will be analyzed:

a) Development of the gas distribution network in the city of Zenica; and,
b) Construction of distribution network in towns along the South Interconnection route (Cantons: West Herzegovina, Herzegovina-Neretva, Canton 10, and Middle Bosnia).

3.1.1 SOUTH INTERCONNECTION

Figure 3: New Interconnections in BiH[1]

The South Interconnection (CRO-BiH border) – Posusje – Novi Travnik, with a branch to Mostar, was declared as a project of strategic FBiH importance at the 106th session of the FBiH Government, held on June 15, 2017. The aim of this project is to ensure the security of supply, diversification of supply routes and the development of the gas market in FBiH, thus the FBiH Government declared it as a high priority project. Also, the project received support from the Energy Community (EC) and is included in the EC'slist of Projects of Mutual Interest (PMI)[5].

The South Interconnection is shown in Figure 3.

The South Interconnection will connect the BiH transport network to the Croatian transport network. This connection will be completed upon construction of the Split - Zagvozd section (Figure 4) in CRO by the Croatian transmission system operator Plinacro. The Split - Zagvozd section was planned to be constructed as a part of the Ionian Adriatic Pipeline (IAP). However, currently, the future of the IAP project is uncertain, meaning that Plinacro will have to construct this section of the transmission pipeline without the additional financing that would potentially be available for IAP project.

[5] By the Ministerial Council Decision 2021/11/MC-EnC, amending Decision 2015/09/MC-EnC on the implementation of Regulation (EU) No 347/2013, the adoption of the Energy Community list of energy infrastructural projects every two (2) years has been suspended, pending the adoption by the European Union of a new TEN-E Regulation and its subsequent incorporation and adoption in the Energy Community acquis communautaire. Until the establishment of a new list of Projects of Energy Community interest, the lists annexed to Decision 2020/04/MC-EnC and Recommendation 2020/01/MC-EnC remain valid.

Figure 4: Croatian Section of the South Interconnection

Several important steps in the implementation of the BiH section of the South Interconnection, have been finalized so far:

- Environmental and Social Impact Assessment (ESIA) – completed,
- Environmental Permit – obtained,
- Preliminary Project Design – developed,
- Proposal of the Law on "South Interconnection BiH and Republic of CRO" – developed and awaiting final adoption by the FBiH Parliament.

In February 2020, the European Bank for Reconstruction and Development (EBRD) signed a contract with a consortium of companies led by the Dvokut - Ecro company from Zagreb, CRO, to prepare the ESIA and the feasibility study. The preparation of these studies was financed by the United States Agency for International Development (USAID) with a grant of USD 500,000. The preceding studies (the Pre-Feasibility Study 2013, the Financial Viability Analysis and Cost-Benefit Analysis 2018) were funded by EU grant funds through the Western Balkans Investment Framework and CONNECTA Technical Assistance.

The ESIA was completed in January 2021, and BH-Gas used this study to apply for the environmental permit for the South Interconnection construction in February 2021. On April 13 and 14 of 2021, two public consultations related to the ESIA were held, during which representatives of local and cantonal governments were given the opportunity to express their views on the ESIA findings. On June 16, 2021, the FBiH Ministry of Environment and Tourism issued the Environmental Permit for the South Interconnection.

In May 2020, the Preliminary Design of the South Interconnection gas pipeline in BiH was completed. The development of the Preliminary Design was financed by a grant from the European Commission. The Preliminary Design was developed by an international consortium of companies led by the Mott-MacDonald company from the United Kingdom.

The Law on "South Interconnection Bosnia and Herzegovina and Republic of CRO," has been developed and is currently in the adoption process, which formally began in September 2020. This Law was adopted in the form of a pre-draft by both houses of the FBiH Parliament (December 2020 - January 2021), and then in final draft form by the FBiH House of Representatives (December 2021).

Currently, the law is awaiting final adoption by the FBiH House of Peoples, which would mean entry into force. The law regulates issues of importance for project implementation, such as land expropriation, mandates for faster permitting processes and assistance to cantonal and local governments.

In addition to these activities, in June 2021, BH-Gas submitted a request for issuance of an Urban Permit (planning permit) for the construction of the South Interconnection. This step marked the official start of the permitting procedure with the competent construction ministry, and it precedes the issuance of a Construction Permit. The process for issuance of an Urban Permit is ongoing, as BH-Gas is still collecting the necessary supporting documentation.

In April 2023, the 2022 TYNDP was published by ENTSOG[6]. The newest edition of the TYNDP classifies both sections, including the Croatian section of the South Interconnection (TRA-A-302) and the BiH section of the South Interconnection (TRA-A-851) as advanced projects[7,8].

Key information on the South Interconnection is provided in **Error! Reference source not found.**.

Table 2: South Interconnection – Key Information

Project Name	**South Interconnection pipeline BiH/CRO (Zagvozd – Travnik) with a branch to Mostar**		
Promotor/Partner	**BH-Gas, BiH**		
	Plinacro, CRO		
Country/Entity	**BiH/FBIH Section**	TYNDP TRA-A-851	TYNDP 2018: Less-Advanced TYNDP 2020: Less- Advanced TYNDP 2022: Advanced PMI 2016 Gas_03 PMI 2018 Gas_03 PMI 2020 Gas_03
	Croatian Section	TYNDP TRA-A-302	TYNDP 2018: Advanced TYNDP 2020: Advanced TYNDP 2022: Advanced
Short Description of Project	The construction of this transmission pipeline would enable the gasification of the southern part of BiH and provide a new supply route. If the IAP project is built, this interconnection will provide a new source of natural gas supply; if IAP project is not implemented, the Croatian part of the Project would be extended from Zagvozd to Split (52 km). Plinacro already applied for a construction permit for the Zagvozd – Split pipeline. The gas pipeline is planned to be bi-directional and hydrogen ready.		
From	Zagvozd (CRO)		
Passing Through	Main pipeline: Border (CRO/BiH) – Posusje - Tomislavgrad - Suica – Kupres – Bugojno Branch: Posusje – Siroki Brijeg – Mostar		
Connected to	Novi Travnik (Travnik)		
Natural Gas Source	Russian gas, other sources available to CRO via Slovenia and Hungary, potentially Caspian Region (IAP) and Liquefied Natural Gas terminal Krk		

[6] ENTSOG, The Hydrogen and Natural Gas TYNDP 2022: https://www.entsog.eu/tyndp#entsog-ten-year-network-development-plan-2022, April 2023.

[7] Advanced projects correspond to projects with a commissioning year expected at the latest by December 31, 2028 and whose permitting phase has started ahead of the TYNDP project data collection; or The Front-End Engineering Design has started ahead of the TYNDP project data collection.

[8] The BiH section of the South Interconnection was upgraded to the advance maturity stage in the TYNDP 2022 edition.

Technical Information:	Length:	Main Pipeline in BiH: 114 km Branch to Mostar: 48 km Pipeline in CRO: 21.8 km Total length: 183.8 km
	Diameter:	500 mm (20 inch)
	Capacity:	From BiH to CRO: 38 GWh/day (approx. 1.4 bcm/year) From CRO to BiH: 73 GWh/day (approx. 2.7 bcm/year)
Investment Cost	BiH: main pipeline EUR 71.55 million; branch EUR 28.8 million CRO: EUR 16 million CRO without IAP: EUR 64 million	
Construction Period	TYNDP 2018: BiH section 09/2020-12/2021; CRO section 01/2020-01/2021 TYNDP 2020: BiH section 03/2022-09/2023; CRO section 10/2022-12/2023 TYNDP 2022: BiH section 06/2024-06/2025; CRO section 06/2023-12/2024	
Commissioning Year Expected	TYNDP 2018: BiH section 2023; CRO section 2021 TYNDP 2020: BiH section 2023; CRO section 2023 TYNDP 2022: BiH section 2025; CRO section 2024	
Current Status (BiH)	Pre-Feasibility Study of Gasification of Hercegovina-Neretva Canton, West Herzegovina Canton and Livno Canton, EIHP 2009, Pre-Feasibility Study - South Interconnection of BiH and CRO, COWI IPF Consortium, 2013, Financial Viability Analyses and Cost Benefit Analyses for the Interconnection, Pipeline BiH – HR (Zagvozd – Posusje – Novi Travnik with a Branch to Mostar, Mott MacDonald CONNECTA Consortium, 2018, Contract signed for the Feasibility Study, February 2020, Preliminary Design, Mott MacDonald Consortium, May 2020, Environmental and Social Impact Assessment, January 2021, Environmental Permit, June 2021, Proposal of the Law on "South Interconnection BiH and Republic of CRO" (lex specialis) – developed and awaiting final adoption by the FBiH Parliament, November 2021.	
National Network Development Plan	Strategic Plan and Program of FBiH Energy Sector Development, 2009, Framework Energy Strategy of BiH until 2035, 2017, Framework Energy Strategy of FBiH until 2035, 2017, Program of public investment of FBiH 2023-2025, 2022.	

3.1.2 NORTH INTERCONNECTION

The North Interconnection project is also a high priority project for FBiH. This project follows the route Slobodnica - Brod - Zenica (passing through both FBiH and RS) and is economically the most feasible due to the existence of large population consumption centers along the route. The entry point and the pipeline route are shown in Figure 3. BH-Gas and Plinacro proposed an interconnection with the capacity of 3.6 mcm/day or 1.3 bcm/year; however, presently, the RS government is not interested in an interconnection with CRO with such large capacity and considers the North Interconnection project as a low priority project[9]. Instead of the North Interconnection, the RS supported only the construction of a direct natural gas pipeline from CRO under the Sava River to supply the Brod refinery. The contract for the gas pipeline construction was signed in May 2019, and the pipeline commissioning was performed in June 2021. The pipeline diameter is 400 mm

[9] *Op. cit., fn. 1*, Chapter 5.6.3.

and it can operate with a pressure of 50 bar. According to unofficial information, the Crodux Plin Company from CRO will supply 40 mcm/year to the Oil Refinery Brod.

The Oil Refinery Brod stopped its operation in January 2019. In March 2021, the Refinery was issued a license for trade and supply of natural gas by the RS Energy Regulatory Commission. Based on available information, the Refinery is focused on the production and sale of Compressed Natural Gas (CNG) and by putting a plant into operation it has started to produce, sell and deliver CNG.

There have been no new developments on implementation of the North Interconnection, and all activities are currently at a standstill. The gas pipeline project Brod – Zenica has been newly added to the actual TYNDP list as a less-advance transmission project and is denoted as TRA-N-224[10].

3.1.3 ZENICA DISTRIBUTION NETWORK

A transmission pipeline to supply the steel mill in Zenica from Sarajevo was constructed in 1984, but no other consumers from the Zenica region have been connected to the transmission pipeline since then. In 2009, the Feasibility Study for Gasification of the City of Zenica was prepared and after a decade of inactivity, the Gasification Study Annex was prepared. In 2018, the City of Zenica established its natural gas distribution company – JP Zenicagas d.o.o. The initial phase of project development was to plan the zonal development of the distribution network in such a way that the distribution of natural gas takes place in closed circuit-zones that can function separately from each other[11].

The gasification project also includes the construction of a distribution pipeline for supplying the Cantonal Hospital Zenica. The Preliminary Design for this activity has been completed, and EBRD approved a loan of 10 million EUR to implement energy efficiency measures at the Cantonal Hospital and switch from coal to natural gas-based heating systems. In line with the Preliminary Design, Zenicagas started the construction of the distribution network. In 2020, 5 km of distribution network pipeline was laid, mainly along roads that were being repaved or reconstructed. The supply of the Cantonal Hospital with natural gas was supposed to start in January 2020; however, the project has been delayed.

In 2021, JP Zenicagas d.o.o. procured the conceptual and main project design of the secondary distribution gas network, as part of the gasification activities of the City of Zenica - Right Coast.

On February 3rd, 2022, JP Zenicagas d.o.o. received the Decision on the Urban Planning Consent for the Construction of a Complex Structure for the Gasification of the City of Zenica - a (primary) polyethylene distribution pipeline. Following that decision, during the year 2022, the construction of the preliminary gas pipeline (8 bar; named as Phase I) has been initiated. The works include a 3 km long section that stretches through the central part of the city, the construction of one (1) receiving and regulating station (denoted as PRS in Figure 5, intended for the supply of the Zenica Cantonal Hospital), and two (2) regional regulation stations (denoted as RRS 5 and RRS 6 in Figure 5, intended for supplying two (2) city settlements). These activities are expected to finish by mid-2023.

In the course of 2023, works are being carried out on the construction of the secondary gas network (3 bars) in the business zone of Zenica 1 in a length of 3.8 km with associated connections for end users.

[10] *Op. cit., fn.* 6.

[11] In distribution networks, primary distribution pipelines operate at higher pressures and are connected to secondary distribution pipelines that operate at lower pressures and supply final customers.

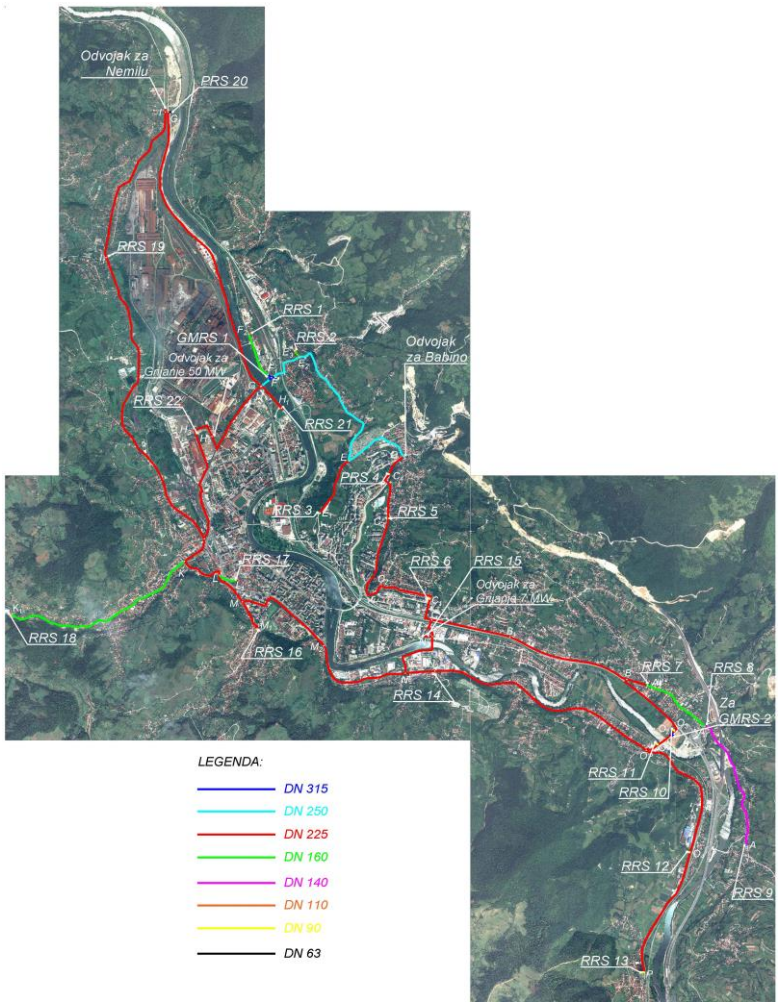

Figure 5: Zenicagas Planned Distribution Network Route

Based on information provided by JP Zenicagas d.o.o, for 2024, the construction of a 3.3 km gas pipeline section, a metering and regulating gas station (denoted as GMRS in Figure 5) with a capacity of 20,000 m³, the connection to the gas transport pipeline of BH-Gas and connection of the Zenica Cantonal Hospital to the natural gas network is planned. These activities are under Phase II of the project and represent the commissioning of the gas pipeline and its connection with the already built gas network.

Additionally, during 2024, the plan is to build a secondary gas pipeline in the newly formed Zenica South Business Zone. It is a network of 3 bar pressure and a length of 4 km, with associated pipelines for commercial entities. Also, the plan is to build a primary gas pipeline with a pressure of 8 bar on the section of Vangradska magistrala, as part of the reconstruction of that particular street. The length of this section is 1 km.

3.1.4 DISTRIBUTION NETWORKS ALONG THE SOUTH INTERCONNECTION ROUTE

Planning for the gasification of the south-western part of BiH started over a decade ago, in 2009, with the development of the Pre-Feasibility Study of Gasification of Hercegovina-Neretva Canton, West Herzegovina Canton and Canton 10. Since then, no serious further steps have been taken in this regard. However, with initiating the development of the South Interconnection project, there is renewed interest in gasification in these areas. The Pre-Feasibility Study from 2009 needs to be updated and used as a basis to plan and design distribution networks.

A Pre-Feasibility Study of Gasification was prepared for the Central Bosnia Canton in 2006. Based on that Study, the Feasibility Study for the Construction of Natural Gas Distribution Systems in the municipalities of Jajce, Donji Vakuf, Bugojno and Gornji Vakuf-Uskoplje was completed in 2016. Both studies need to be re-evaluated and, if necessary, updated and used as a basis to plan and design distribution networks in this canton. A part of the project to gasify the Central Bosnia Canton is listed in Table 1 as "Network expansion Travnik – Gornji Vakuf and Jajce." At that time, as the name of the project suggests, the plan was to supply other towns in the Canton from Travnik, which was already connected to the existing transport pipeline at Zenica. However, with the construction of the South Interconnection, the nature of the project changes significantly and the supply route has been re-directed to Bugojno.

The construction of distribution networks in these four cantons as shown in Figure 6 would provide access to gas for more citizens of BiH, incentivize industry development, reduce air pollution, and increase overall consumption of gas that would help finance the construction of the South Interconnection.

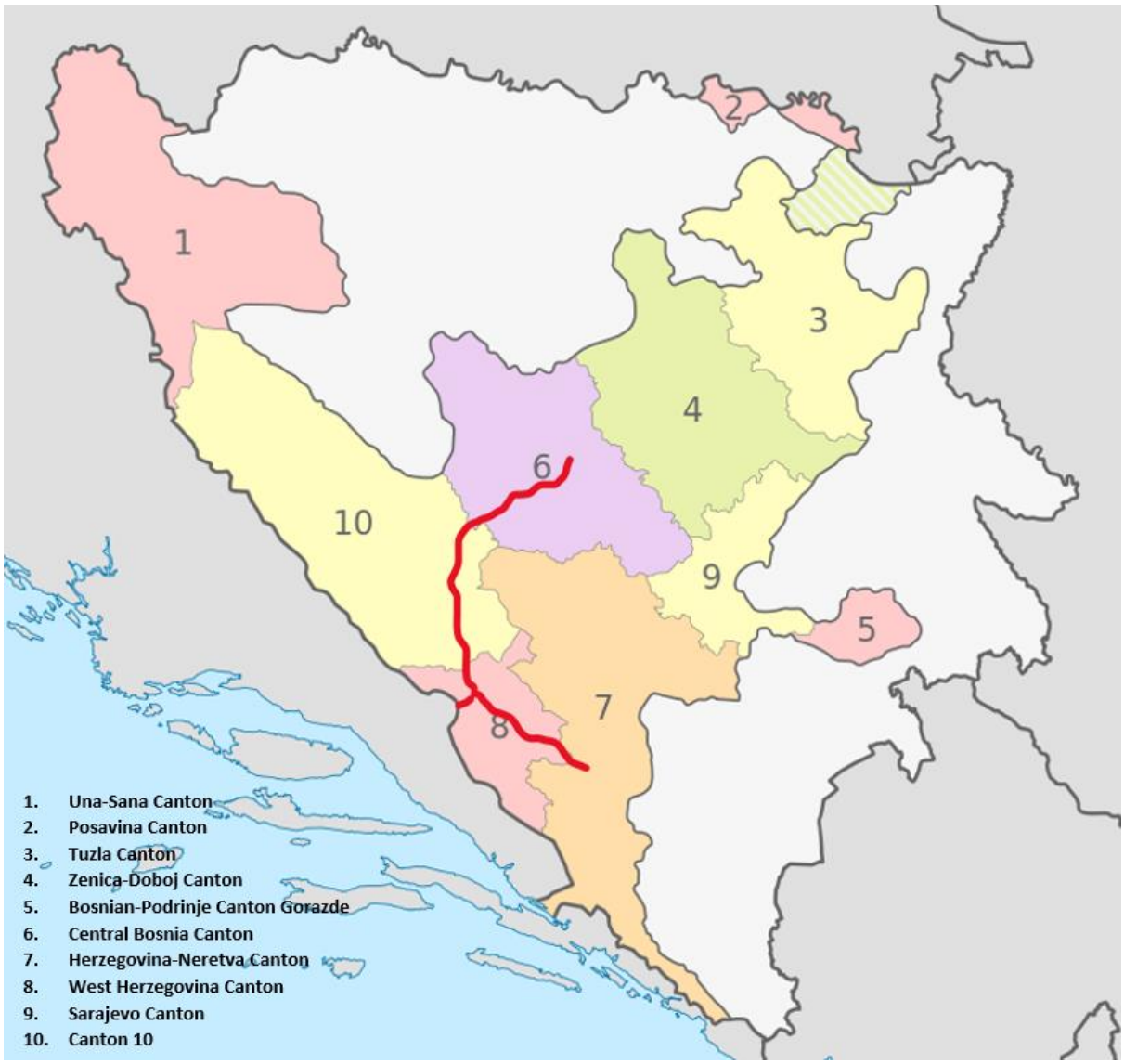

Figure 6: Distribution Networks along the South Interconnection Route

In 2021, BH-Gas reinitiated the discussion about gasification of the four cantons along the route of the South Interconnection. To this end, representatives of BH-Gas and USAID Energy Policy Activity

(EPA), held meetings with representatives of all cantons to discuss the planned route of South Interconnection and possible connection points, and to offer assistance to local authorities in forming natural gas distribution companies and planning for the construction of natural gas distribution networks. Since the Law on "South Interconnection BiH and Republic of CRO" is still awaiting its final adoption, no major steps have been taken on gasification of the four cantons, either.

3.2 RS PROJECTS

As shown in Table 1, the priority projects for RS are as follows:

1. Gasification of the City of Bijeljina;
2. Interconnection with SRB in the area of Bijeljina (New East Interconnection); and,
3. Main gas pipeline (Bijeljina - Banja Luka and further).

Projects listed under bullet points 2 and 3 above are being developed as an integrated project, run by the company Gas-Res from Banja Luka (New East Interconnection with Main Gas Pipeline). The progress in the implementation is described in the following sections.

So far, there have been no significant steps in the implementation of any other RS project from Table 1.

3.2.1 GASIFICATION OF BIJELJINA

Gasification of the Bijeljina project includes the construction of a natural gas distribution network in Bijeljina during the first stage, and construction and connection to the transmission network in the second stage. The project is led by a natural gas company Bijeljina-gas d.o.o. Bijeljina. The owners of Bijeljina-gas company are the City of Bijeljina (20%) and the Serbian state-owned gas company Srbijagas (80%). Srbijagas purchased the Serbian company Novi Sad Gas, which was the previous owner of Bijeljina gas, and took over its ownership stake. With that purchase, Srbijagas continued with investments in the RS gas infrastructure (in 2019, Srbijagas became the largest shareholder of Gas Promet, with a 39.17% stake, when it converted its direct ownership of the pipeline Sepak-Zvornik into Gas Promet shares).

Construction of part of the distribution network in Bijeljina was completed before the transmission pipeline to supply the distribution network was finished. The distribution network in Bijeljina currently consists of around 307 km of pipeline and around 500 connections for potential customers.

The 22 km transmission pipeline from Sepak to Bijeljina has been completed (

Figure 7). This pipeline is scheduled to be connected to the main transmission pipeline soon. It is expected that the filling of the pipeline with natural gas will start a month after the connection of the natural gas pipeline with the main transmission natural gas pipeline.

In August 2022, Bijeljina-gas submitted a request to the Regulatory Commission for Energy of RS for the issuance of a license for performing distribution activities and managing the natural gas distribution system. The request was returned for amendments. However, the applicant failed to submit everything that was requested according to the Rulebook on issuing permits. Consequently, the Regulatory Commission for Energy of RS rejected the request as irregular on November 30th, 2022. On the other hand, based on the application, the Regulatory Commission for Energy of RS issued a license for trading and supply of natural gas to Bijeljina-gas on March 9th, 2023.

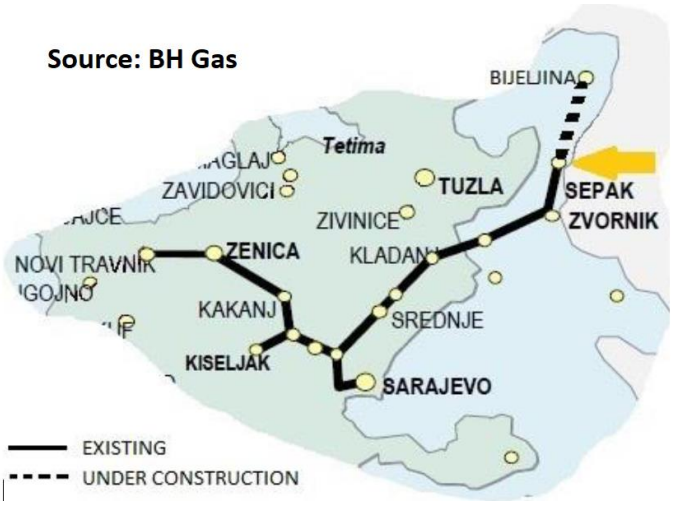

Figure 7: Gas Transmission Network Expansion to Bijeljina

3.2.2 NEW EAST INTERCONNECTION WITH MAIN GAS PIPELINE

The construction of the New East Interconnector is a priority project for RS. The main reason for this investment is related to the fact that the existing interconnection is old, its maintenance costs will keep increasing, and the capacity of the interconnection is not sufficient enough to meet the future needs of RS.

The New East Interconnection starts in SRB, near the town of Indjija, runs to Macvanski Prnjavor at the BiH/SRB border and continues to Bijeljina, where the Main gas pipeline begins. The Main gas pipeline route is Bijeljina - Banja Luka – Prijedor - Novi Grad and is also known as the Sava gas pipeline (

Figure 8 – red line). The pipeline length in SRB is around 95 km and in the RS around 320 km. The pipeline connects most of the major cities in the RS and would enable access to gas supply to the majority of citizens and industries with the RS.

So far, the development of this project is in its early stages. The project promoter has developed the Conceptual Design and is conducting activities to align the route of the gas pipeline with the planned route of highway Corridor Vc, so that both projects run along the same corridor.

On March 16, 2021, an agreement between Gas-Res and Srbijagas was signed for the construction of the New East Interconnection. At the press conference, it was stated that in five (5) years, the RS will be connected to the Balkan Stream. It was also stated that the Preliminary Design of the Main gas pipeline includes a branch from Doboj to Maglaj and further to Zenica, connecting to the existing gas transport system.

The New East Interconnector will connect to the TurkStream's European branch pipeline that runs through Bulgaria and SRB to Hungary. In Bulgaria the branch of the TurkStream pipeline for European markets is called Balkan Stream. The construction of the Balkan Stream pipeline was completed by the end of 2020. Accordingly, from January 1st, 2021, SRB has received all its natural gas via the TurkStream/Balkan Stream; and, from April 1st, 2021, BiH has received all of its natural gas via the TurkStream/Balkan Stream.

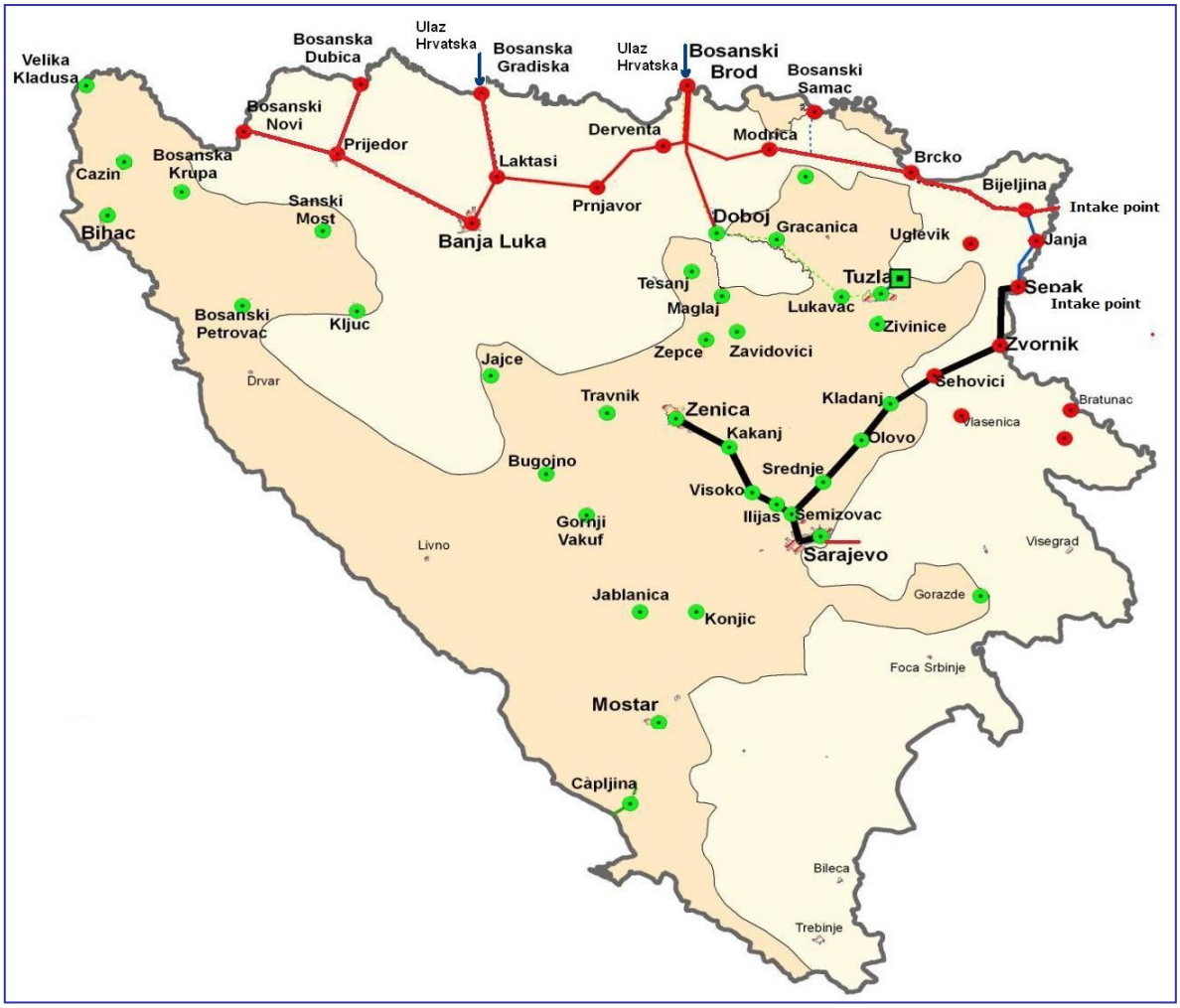

Figure 8: New East Interconnection Gas Transmission Pipeline

The actual TYNDP 2022 does not contain the New East Interconnection project. Key information on the New East Interconnection pipeline is given in Table 3.

Table 3: New East Interconnector – Key Information

Project Name	**New East Interconnection BiH-SRB,** **Gas pipeline Bijeljina – Banja Luka – Novi Grad**
Promotor/Partner	**Gas-Res d.o.o., Republika Srpska, BiH**
	JP Srbijagas, SRB
Legal Basis	Memorandum of Understanding between the Government of RS and Gazprom Eksport Moscow, 2012. Agreement on Coordination of Activities and Technical Co-operation on Implementation of the RS Connection to the South Stream pipeline and gasification of RS between Srbijagas and Gas-Res 2013.
Route in Serbia	Indjija – BiH/SRB border (Novo Selo, near Macvanski Prnjavor) The gas pipeline route in SRB is defined by the Study of Justification for the Construction of the South Stream pipeline on the Territory of Republika Srpska from September 2013. Amendments to the Spatial Plan of the Special Purpose Area of the Transnational South Stream Pipeline have been completed, including the route towards Republika Srpska. The route of the Turkish Stream branch through SRB is almost identical to the route of the South Stream and only minor amendment to the Spatial Plan had to be made.

Route in BiH/RS	Phase I (BiH/SRB border – Bijeljina – Brcko – Modrica – Brod) 145 km. Phase II (Brod – Derventa – Prnjavor – Laktaši – Banja Luka – Prijedor – Novi Grad) 178 km. Preliminary design of the pipeline completed. Identification of land lots for the pipeline Bijeljina – Brcko – Modrica/Vukosavlje in preparation for land expropriation.	
Technical Information	Length:	One-way
		SRB: 95 km
		BiH/RS: 323 km
	Diameter:	20 inch: Indjija – Bijeljina – Modrica/Vukosavlje 16 inch: Modrica/Vukosavlje – Banja Luka 12 inch: Banja Luka – Novi Grad
	Capacity:	BiH: 3.5 million m^3/day
Investment Costs	SRB: 50 million EUR BiH/RS: 135 million EUR	
Expected Commissioning	2025	
Current Status	In SRB, a Feasibility Study was carried out within the South Stream project and the preparation of the Spatial Plan of Special Purpose was started. In Republika Srpska, the route was part of the Amendments to the Spatial Plan until 2025, as well as the Strategy for the Development of Energy of Republika Srpska until 2035. Agreement between Gas-Res and Srbijagas for the construction of the new interconnection (2021).	
Strategic Documents	Energy Strategy of Republika Srpska up to 2030 (2012). Strategy for the Development of Energy of Republika Srpska until 2035 (2018). Framework Energy Strategy of BiH until 2035 (2017). System Development Plan 2020-2029 of Transportgas Srbija (2020).	

CONCLUSION

No significant progress has been reported in the development of natural gas infrastructure projects in BiH in 2022. In general, implementation of all natural gas infrastructure projects in BiH has been delayed and slowed down due to COVID-19 pandemic. But, even after the end of the pandemic, activities in this regard did not intensify.

The "South Interconnection BiH and Republic of CRO," as the major gas transmission pipeline project in FBiH, is still waiting for the prepared Proposal of the Law on "South Interconnection BiH and Republic of CRO" to be adopted by the FBiH Parliament to secure financing and initiate activities on the terrain. In the course of one year, some progress has been evidenced in the construction of the preliminary and secondary gas distribution networks in Zenica.

In RS, activities related to the gasification of Bijeljina city are coming to an end. In March 2023, the Regulatory Commission for Energy of the Republic of Srpska has issued a Decision on the issuance of a license for trading and supply of natural gas to the Bijeljina-gas company.

U.S. Agency for International Development

www.usaid.gov